

Towards the Development of a Framework for Promoting Best Practice in Virtual Campuses

Thomas Connolly and Mark Stansfield
University of Paisley
Scotland, UK
mark.stansfield@paisley.ac.uk

Antonio Cartelli
University of Cassino, Italy

Athanassios Jimoyiannis
University of Peloponnese, Greece

Hugo Magalhães
Sociedade Portuguesa de Inovação,
Portugal

Katherine Maillet
Institut National des Telecommunications,
France

Abstract

Despite a significant growth in the development of virtual campuses (VCs) across the EU in recent years, the findings from a European Commission DG Education and Culture workshop in 2005 on VCs highlighted a number of concerns relating to VC projects and initiatives across the EU. It was felt that many VCs suffered from a low profile resulting in little support at senior levels, thus hampering their development, as well as having very little contact and interoperability with each other. If eLearning and VC initiatives are to be sustainable within the European Union, then it is vital that stakeholders understand how new models of teaching and learning transform the institution and how they can be used to enhance the flexibility and inclusiveness of the European education system. This paper reports on the work of a European Commission DG Education and Culture co-financed project PBP-VC Promoting Best Practice in Virtual Campuses which is aimed at providing a deeper understanding of the key issues and critical success factors underlying the implementation of VCs. The paper will outline a tentative model of issues underpinning best practice in VCs derived from an initial literature based investigation of existing VC initiatives within Europe. In addition, the project is working towards developing a practical framework to help guide the process of creating best practice in VCs, as well as raising awareness of issues and approaches to creating sustainable VCs.

Key words: Virtual Campuses; eLearning; Best Practice

Introduction

Over the past decade, eLearning has evolved and developed at a rapid pace so much so that it is a commonly accepted and increasingly popular alternative to traditional face-to-face education (Gunawardena and Mclsaac, 2004; Connolly *et al.*, 2007). The demand for higher education is expanding exponentially throughout the world, a situation widely attributed to the changing nature of employment, where a job for life is no longer the norm, and to the arrival of the 'knowledge-driven society'. With increased student numbers and increased pressure on higher education resources there is a drive to improve efficiency and management of the administrative elements of learning, teaching, and assessment. Virtual Learning Environments (VLEs) and online assessment systems integrated into other management information systems are regarded as being capable of improving efficiency and decreasing some costs.

eLearning provides a valuable means for learners to participate in learning regardless of geographic location (place-independent) theoretically 24 hours a day (time-independent), thus providing access to lifelong learning which may not otherwise be possible. In addition, eLearning can provide anonymity of characteristics such as gender, race, age, social status and special needs which can reduce the feeling of discrimination and provide equality of social interaction among learners (Connolly and Stansfield, 2007a; 2007b). It was these benefits that led to the development of many virtual universities and campuses across the world, particularly during the 1990s. However, eLearning developments and virtual university/campus initiatives were hindered by much of the hype and unrealistic expectations that plagued them in the mid-late 1990s. This contributed to the failure of a number of high profile eLearning and virtual campus initiatives across the world (e.g. California Virtual University, Danish Virtual University). If eLearning and virtual campus initiatives are to be sustainable then it is vital that stakeholders understand how new models of teaching and learning transform the institution and how they can be used to enhance flexibility and inclusiveness.

Virtual Campuses within the European Union

Within the context of the eLearning programme, the EACEA (2004) state that European virtual campuses refers to:

“cooperation between HEI in the field of eLearning regarding: design of joint curricula development by several universities, including agreements for the evaluation, validation and recognition of acquired competences subject to national procedures, large-scale experiments of *virtual mobility* in addition to physical mobility and development of innovative dual mode curricula, based on both traditional and on-line learning methods”.

The board definition put forward by the EACEA involved many issues from partnerships between traditional and/or distance universities and HEI in view of offering joint certificates for undergraduate and/or postgraduate levels to cooperation with learning support services. Also included in the definition are collaborative activities in strategic education or research areas through cooperation involving a wide range of different stakeholders such as researchers, academics, students, management, administrative and technical personnel. The EACEA clearly state that ‘virtual campus’ should in no way be confused with eLearning platforms.

At a European Commission consultation workshop held in Brussels on 23rd November 2004 entitled “The ‘e’ for our universities – virtual campus” (EACEA, 2004), one of the working groups proposed three definitions emphasising different aspects of a virtual campus. These were the:

- Collaborative perspective, denoting ICT-based collaboration of different partners supporting both learning and research in a distributed setting;
- Enterprise (economic) perspective, denoting an ICT-based distributed learning and research enterprise;
- Networked organisation perspective, denoting an environment which augments and/or integrates learning and research services offered by different partners.

The working group also highlighted the point that virtual campuses and ICT-based learning organisations are not limited to Europe and that benefits such as time differences, cross-cultural exposure and increased market share provide institutionalised transcontinental learning communities in which a scooping or shared practice project should be addressed.

Since 2004 there have been some twenty EACEA eLearning co-financed Virtual Campus projects that cover a wide range of areas such as teacher training, architecture, European languages, advice and support services, virtual mobility, reuse of digital teaching materials, economics of eLearning, comparative urban studies and biomedical engineering.

At a European Commission workshop held in Brussels on 11th October 2005 to explore the issues associated with virtual campuses, the need for a critical review of existing projects in this area was identified (EACEA, 2005). The workshop identified a range of issues that affected the successful implementation and deployment of VCs and their long term sustainability. It was felt that VCs generally have very little contact and interoperability with each other due to a:

- General lack of awareness about other VCs;
- Lack of self-promotion/dissemination by VCs;
- Cross-cultural and linguistic barriers to communication.

The two main recommendations were that:

- (i) There should be support for the undertaking of a systematic critical review of existing VC Projects. Within this recommendation it was stated that the theme of the review should be the valorisation of projects and sharing of know-how, the creation of a firm basis and positive environment for the development of VC projects, practical issues as well as obstacles and enabling factors should also be studied as well as the involvement of new players in mixed consortia with more experienced partners. Also highlighted within this recommendation was the provision of assistance for VC projects in the area of self-evaluation.
- (ii) There should be the support for project proposals which demonstrate the successful expansion of virtual campuses, supporting the dissemination of replicable solutions for establishing VCs and establishing a community of decision makers involved in setting up VCs. Within this recommendation, it was considered that successful applicants should be able to demonstrate some experience of running a successful VC within a consortium.

The PBP-VC Project: Promoting Best Practice in Virtual Campuses

The PBP-VC project is a two year Education Audiovisual & Culture Executive Agency co-financed project aimed at providing:

- A deeper understanding of the key issues and critical success factors underlying the implementation of virtual campuses;
- A published practical framework to help guide the process of creating best practice in virtual campuses;
- Published examples of best practice, case studies and use case scenarios;
- Raised awareness of the issues and approaches to creating successful and sustainable virtual campuses;
- Raised awareness of how institutional transformation can be brought about by the development and application of new models of teaching and learning for virtual campuses;
- Raised awareness of how the successful implementation of virtual campuses contributes to the Bologna process and enhances the curricula and the quality of courses.

The PBP-VC project involves working with key stakeholders throughout the European Union in order to investigate best practice in virtual campuses. The findings from PBP-VC are aimed at helping institutions and other key stakeholders understand the issues surrounding virtual campus projects and the conditions necessary to help them progress to a strategic level and thereby achieve institutional transformation.

If eLearning and virtual campuses are to be sustainable, this presents a number of key economic, social, pedagogic and technological challenges that learning providers must address. Specific issues such as ensuring that eLearning provides for cost effective and sustainable learning are vital to ensuring long term success. The issue of how eLearning is costed and funded is vital for many educational institutions across the world with limited resources. There are challenges in addressing the needs of learners from diverse backgrounds whose cultural experiences might be different from the dominant educational culture which underpins their online course. This is particularly relevant within the context of the international delivery of online courses and franchising or joint partnership agreements between educational institutions in different countries and continents in the creation of virtual campuses.

Much of the relevant data, results, conclusions and recommendations in relation to best practice gathered from numerous eLearning and virtual campus projects that relate to institutional transformation brought about by new models of teaching and learning are scattered across numerous publications held within a wide range of individual organisations, and which are not easily accessible to the wider community. In addition, there is a vast number of websites and portals relating to individual projects with little cross-reference between them. As a result, the impact of important lessons gained from these projects and initiatives can be seriously diminished due to a lack of valorisation of previous and existing work and the sharing and transfer of know-how in order to create a firm basis and positive environment for the development of future eLearning and virtual campus initiatives.

Whilst technology might be leading change at a rapid pace, it could be argued that too little attention is being paid to exploring the new forms of pedagogy made possible by eLearning and virtual campuses. It is vital that effective staff development is provided within educational institutions so that online tutors and developers change the way they think about teaching and learning and how to employ emerging technologies to enhance learning. eLearning and virtual campuses are only as good as the people who provide and deliver the learning experiences and support. Having the most up-to-date and innovative technologies in itself will not guarantee success and learner satisfaction.

There is an urgent need for an in-depth, systematic critical review of previous and existing best practice in relation to eLearning and virtual campuses in relation to how new models of teaching and learning contribute to institutional transformation from the perspective of the different stakeholders in order to provide a consolidated information resource that can help decision-makers in both the public and private sector formulate clear recommendations for future development and how to address key institutional transformation issues in a strategic and sustainable way. This will be crucial to achieve stakeholder buy-in, as well as the development of effective economic models that will support and sustain real public-private partnerships in the creation, development and management of eLearning and virtual campus initiatives.

Towards the Development of a Best Practice Framework for Virtual Campuses

As part of the initial work carried out by the PBP-VC project, a literature-based investigation was conducted into the 2004, 2005 and 2006 EACEA co-financed Virtual Campuses projects. The investigation involved looking at papers, reports and web-based content

relating to the projects. As a result an initial set of issues which might underpin best practice were identified and these were further developed and are shown in figure 1.

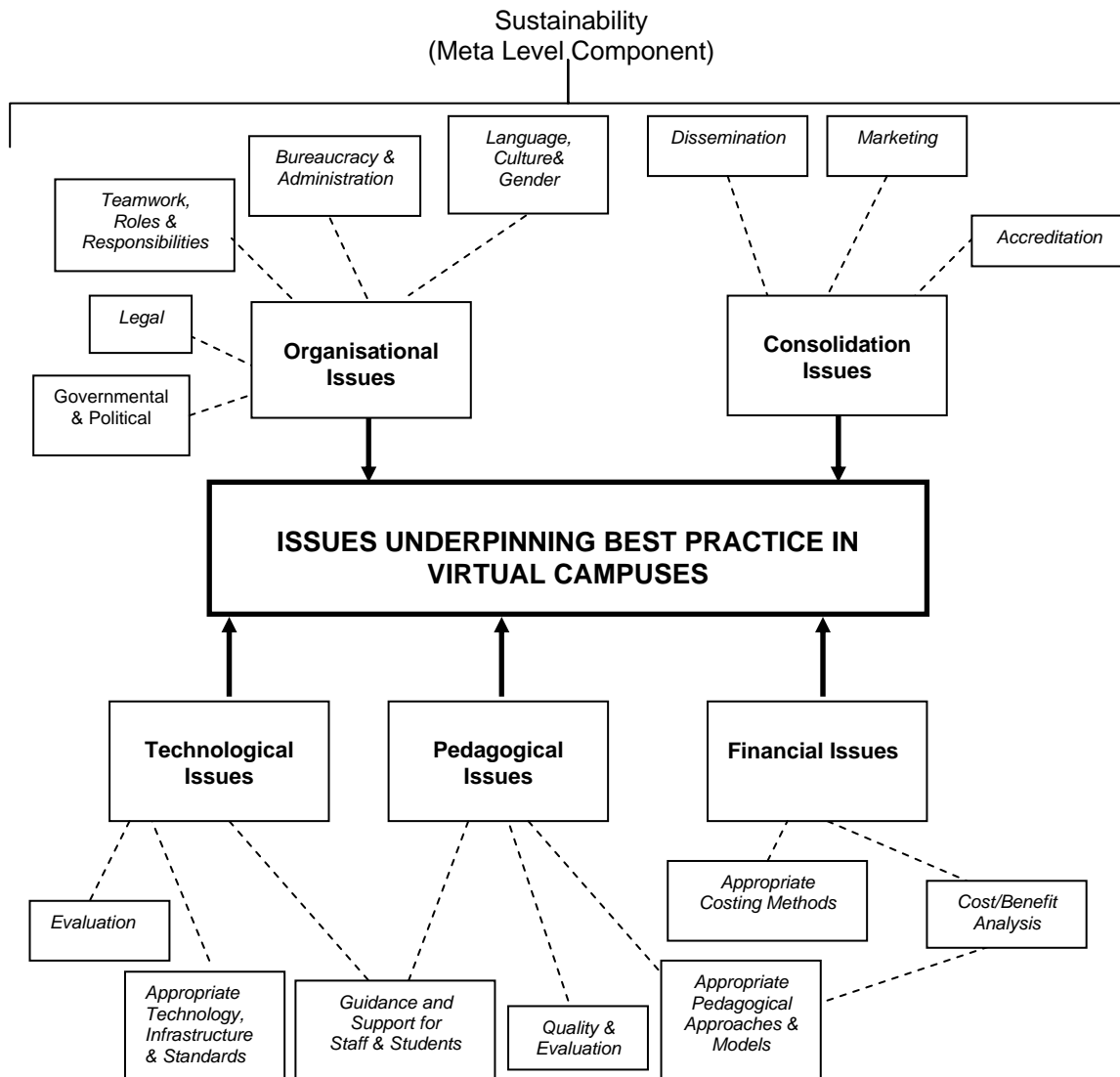


Figure 1: A tentative model of issues underpinning best practice in virtual campuses

The tentative model in figure 1 comprises five main areas that can be viewed as being interrelated:

Organisational Issues

Initial investigation into the VCs suggests that these appear to play an important role in success and underpinning best practice and in many ways can be the most difficult issues to address since they comprise largely human/'soft' elements. Such issues include bureaucracy and administration that can differ markedly among VC partners and cause significant problems in attempting to provide seamless, coherent educational experiences and exit awards, particularly when a programme is delivered between numerous partners across international boundaries. A number of VCs highlighted this as being a difficult issue that had to be addressed early on in the development of a VC. Also related to this issue is differing government, political and legal systems which can affect important concerns such as copyright in terms of publishing and the ownership of materials and courses that have been

developed. The problem of language and culture was highlighted by some VC projects in relation to many of the programmes having to be delivered in English which could be the second or third language of some of the staff and students. In addition, certain institutions and subject areas may have a cultural resistance to eLearning and the concept of virtual campuses which may lead to problems in the uptake and successful completion of programmes. Also included within organisational issues are the problems relating to effective teamwork and agreeing on roles and responsibilities and ensuring that all partners work well together in achieving the outcomes of the VC project. This adverse affect of this issue can be reduced in situations where the project partners have worked with each other on previous projects and initiatives in which effective teamwork has already been established within the partnership.

Technological issues

This issue can be problematical in situations where it might be difficult for the partners to initially agree on the adoption of common platforms and software, particularly if certain institutions adopt different VLEs. This can also cause problems in the integration of other functions such as student record and accounting systems. Many of the VC projects highlighted the importance of providing sufficient guidance and support to both staff and students in the use of the VC platforms and technologies. Some VCs noted that it was often staff who appeared to have the greatest difficulties in learning to use new technologies. Also identified as being an important issue was the need to frequently evaluate and monitor the use of the VC platforms to ensure that staff and students were using them in the most effective way. In addition, some VC projects noted that through evaluation there were able to determine which where the most popular VC functions which sometimes where not always the ones that the developers might have intended.

Pedagogical Issues

The choice of appropriate pedagogical models and approaches underpinning VCs is of great importance since it has a big impact on the educational experience of the students in which problems in this area can affect student retention. Therefore, it is vital that the pedagogy underpinning a VC supports and enhances the students' experience in learning a particular subject area. Providing proper guidance to students can be an important factor in underpinning success and retention, with some VC projects identifying peer support among students being part of good practice. Also underpinning pedagogical issues is ensuring the quality of the teaching materials developed and evaluating them on a regular basis.

Financial Issues

Whilst all the projects received significant funding from the EACEA to enable them to develop their virtual campuses and run them during the course of the funding period, issues relating to finance are important, particularly if a VC project is to be encouraged to run and become sustainable beyond the EACEA funding period. To enable this to take place appropriate costing methods and effective cost/benefit analysis is vital if a VC is to become self sufficient. Therefore, appropriate pedagogical approaches and models have to be adopted that attract students to enrol on virtual campus programmes and also attract funding in terms of fees from students and institutions. Apart from projects such as the eLene-EE project, very little work has been conducted into determining the true costs and benefits of providing eLearning programmes and running virtual campuses and whether they can be self funding and financially sustainable.

Consolidation Issues

It is important that the benefits achieved from the development and running of a virtual campus are not lost once the formal EACEA funding period has elapsed. Therefore, consolidation issues reflect the kind of activities that can help achieve this such as developing adequate marketing and dissemination plans in order to continue to promote the benefits of a particular virtual campus at targeted groups of key stakeholders such as

students, government bodies and companies in order to attract continued income to allow activities and programmes to continue running. A number of VC projects highlighted the need to gain accreditation from professional bodies relating to their particular subject area in order to attract fee paying students to their programmes, as well as gain increased standing within their professional community.

Within figure 1, sustainability is shown as a meta-level component since appears to overarch all of the issues rather than being a separate issue on its own. It could be argued that for a virtual campus to exhibit best practice then the concept of sustainability should run throughout all the aspects of VCs (i.e. organisational, technological, pedagogical, financial and consolidation).

Conclusions

PBP-VC is still in its first year of the two year project and the initial literature based investigations have proved to be a very useful starting point in the development of a framework to promote best practice in virtual campuses. In addition to investigating EACEA co-financed VCs, the PBP-VC project is also investigating non-EACEA financed VCs within the European Union, as well as VCs outside the EU (e.g. North America, Asia, Africa). The next phase of the PBP-VC project is to conducted indepth face-to-face research with specific VC projects in order to learn more about the issues that underpin best practice, as well as sending out detailed questionnaires to VC projects within the EU, as well as internationally. A detailed framework for best practice will be developed and refined as a result of this indepth research in which case studies and use case scenarios will also be developed. The results of the PBP-VC project will be widely disseminated both within the EU as well as across the globe. It is hoped that the work of the PBP-VC project will generate interesting and lively debate among different stakeholders (e.g. students, tutors, decision-makers, government bodies, professional bodies) which will contribute to better understanding and practice, and thus sustainable success for virtual campuses.

Acknowledgements

The authors would like to thank the EACEA VC projects for their initial help to the authors in providing materials and directing them to relevant content and in particular they would like to thank Olga Lappi-Hokka (eTTCampus), Mikael Sjöberg (eLene-EE), Isabel Pérez (MASSIVE), Yuri Kazepov (E-urbs), Orhan Kipcak (VIPA) and Christoph Brox (eduGI).

References

Connolly, T.M. and Stansfield, M.H. (2007a) From e-learning to games-based e-learning: using interactive technologies in teaching an IS course, *International Journal of Information Technology and Management*, Volume 26, Numbers. 2/3/4, pp. 188-208.

Connolly, T.M. and Stansfield, M.H. (2007b) Games-Based E-Learning: Implications and Challenges for Higher Education and Training, in *Social Implications and Challenges of E-Business* (Ed: F. Li). IGI Global: Hershey. pp.42-56.

Connolly, T.M., MacArthur, E., Stansfield, M.H., and McLellan, E. (2007) A Quasi-Experimental Study of Three Online Learning Courses in Computing, *Computers & Education*, Vol. 49, Issue 2. pp. 345-359.

EACEA (2004) The 'e' in Our Universities – Virtual Campus: Organisational Changes and Economic Models”, *Report on the Consultation Workshop*, 23rd November 2004, Brussels.
http://ec.europa.eu/education/programmes/elearning/doc/workshops/virtual%20campuses/report_en.pdf

EACEA (2005) “Virtual Campuses”, Report on Consultation Workshops, 11th October 2005, Brussels.
http://ec.europa.eu/education/programmes/elearning/doc/workshops/virtual%20campuses/report_2005_en.pdf

Gunawardena, C.N. and Mclsaac, M.S. (2004). Distance Education. In D.H. Jonassen (Ed.), *Handbook of research for educational communications and technology (2nd edn)*, Mahwah, NJ: LEA, pp. 355–396.