

cEVU

Report Working Group 2: Policies

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0. Introduction

This report describes the viewpoints that were developed by the cEVU Policies Working Group, which act as the first part in the “Manual for a collaborative European Virtual University” of the cEVU project. The viewpoints are the result of critical consideration by project partners of existing documents that were produced in research, studies and other projects, as well as results of direct investigation of cEVU project partner institutions.

Although it was the ultimate goal of the cEVU project to study the various aspects of “our” collaborative European Virtual University, to investigate its feasibility and conditions, and if possible come with first drafts of a blueprint, doing so implied that many options and their consequences had to be considered. In different settings and combinations, these options may lead to various cEVUs, which are very distinct from each other. The study has led us also to a number of recommendations. Those are of course influenced by the inexplicit ideas of what “our” cEVU could be, but hopefully they are sufficiently generic to be valid in other settings as well.

Whether such cEVU will be initiated by the project partners and which format it will take can not yet be predicted. It certainly will still take the necessary time, argumentations and negotiations before that is decided and realisation is started up. In the meantime some of its functions can and will be implemented in the networks that have participated in the project.

1. Challenges and perspectives for strategic change in Higher Education

As an outcome of a Socrates funded project, CRE concluded in a study of 1996¹ (further elaborated in 1998²) that information and communication technologies (ICT) constitute one of the challenges universities have to cope with. At the same time, the use of ICT in education must be considered as a strategic element to provide an effective response by universities to the various challenges they are confronted with.

Not surprisingly, ICT in education has been put forward during the June 2000 Lisbon Summit of the European Union as a key factor of the Union’s overall strategy towards digitalisation and global competitiveness, and both Higher Education and the European Commission have identified e-learning as an essential strategic element, especially to further stimulate and enable learning in a lifelong learning context and to support the development of European citizenship.

The HECTIC report³ identified a great number of challenges and change requirements which university leaders will have to address. They have been grouped under the headings of cultural/managerial, technological and educational. A further distinction is made between challenges of a more strategic nature and those affecting implementation of (almost any) strategic decision in this context. The report then analyses whether universities are “equipped”

¹ Association of European Rectors (CRE) (1996) Restructuring the University. Universities and the Challenge of New Technologies. Geneva: Association of European Universities.

² Association of European Rectors (CRE) (1998) Restructuring the University. New Technologies for Teaching and Learning. Guidance to Universities on Strategy. Geneva: Association of European Universities.

³ Higher Education Consultation in Technologies of Information and Communication. Final report “European Union Policies and Strategic Change in Universities”, april 2002 <http://www.flp.ed.ac.uk/hectic/hecticreport.pdf>

to tackle strategic issues effectively and whether European (and national) authorities create the right conditions for implementation of their political objectives. In both cases the result of thorough analysis is: not really.

Its main findings can very roughly be summarised as follows:

- Classic university paths leading to first and possibly second level academic titles are likely to resist to innovation for a considerable number of years, whereas third cycle and continuing education are more likely to introduce innovative approaches to learning provision
- Most European Universities have not yet positioned themselves strategically in an appropriate “market niche”, taking into account the challenges of e-learning
- When stepping down from global observation to daily practices, it becomes clear that a great number of minor inconsistencies in the chain of interdependencies make it very difficult for university leaders to respond fully, and in the speed required by external authorities, to the challenges they have to face
- A flexible approach with constant and committing participation of all involved parties (from within Higher Education institutions as well as from university associations and networks and from external authorities) will be needed; hence the need to create mechanism for dialogue between the European Commission (and through it national and regional authorities) and Higher Education

The full report is of course richer and much more detailed, part of it will be taken up further in this document under item 6 (Policies).

Especially with respect of the European Commission’s role in this framework, the European ODL Liaison Committee⁴ concluded:

1. “The present Programme structure is not capable of ensuring the uptake of interesting bottom-up project results and otherwise obtained innovations in the mainstream of European educational practice. The structure itself should not be blamed for that but the cause is that insufficient attention has been given to the fact that implementation of major political objectives needs other, more top-down oriented process developments for which adequate stimuli do not exist now, neither at the national nor at the European level. (N.B. in addition to bottom-up activity!).
2. Within the present Programme structure so many complicating factors have been introduced that careful evaluation and revision, after redefinition of the objectives, seems to be inescapable”.

2. cEVU versus institutional developments

2.1. The institutions viewpoints: results of an investigation

To collect the partner institutions’ viewpoints, a questionnaire was developed (see Annex) and distributed within the Working Group. The questionnaire was not intended to provide statistically representative responses about the institutional viewpoints, but rather to collect the variety of institutional attitudes towards virtual instruction and learning as the result of networked collaboration. What follows is consequently to be considered as a field study that indeed reflects many differences in ideas, but also similarities that indicate existing or emerging trends. The reactions have been used to discuss possible models of collaboration, and to evaluate the relevance of larger study outcomes (e.g. the CHEPS

⁴ ODL Liaison Committee “A Framework for European Commission Programme Funding; Analysis, Recommendations and Proposal for Discussion”, released 4 February 2002 on <http://www.odl-liaison.org>

ones, see further) in a cEVU-environment. The various outcomes are summarised in what follows.

2.1.1. Attitude towards e-learning

With respect to the universities' attitude towards e-learning the following aspects were investigated:

- position of the university towards e-learning: *e-learning is mainly used for on campus teaching*
The majority of the universities replied that e-learning was used for on campus teaching, only marginally for ODL and almost non existing in/for adult education. With a single exception, e-learning is not used as an alternative for delivering continuing education. Most universities use e-learning tools in combination with conventional teaching (e.g. providing course materials in electronic format to students, offering electronic communication and/or collaboration tools to teachers and students, enriching course contents with additional links on the web). The term "blended learning" is sometimes used by them to describe their use of e-learning constructs; leading some Working Group members to making the remark that this term should not be avoided to describe an actual situation, which is still the beginner's model, but to reserve it for the description of an optimised model.
- target groups for e-learning: *no convergence in target groups*
Answers vary between universities, indicating undergraduate / graduate / postgraduate / continuing education, or combinations of these education levels.
- Is an e-learning policy available: *yes*
All universities pretend to have a policy, but most omit to give reference to publications on their policy.
- Is an e-learning strategy available: *sometimes*
Most universities claim to have a policy, but no strategy. If there is one, it is only partially available, although several universities claim to prepare a full strategy plan
- The level of impact of e-learning in the university: *limited*
The level of impact at full university level is limited: the autonomy of faculties and departments restrict in most universities this impact to the "lower" level(s). As a consequence, the position of e-learning may vary considerably within a given university from faculty (department) to faculty (department).

2.1.2. Implementation path for e-learning

If universities have a policy, 90% of them leave the implementation up to the faculties/departments. This can be interpreted in a positive (richness of diversity) as well as a negative way (difficulty of convergence for full scale implementation). So, the question remains how the implementation should be organised as to make its effects useful for academics and students?

It should be remarked that even if universities don't claim to have a strategy or/nor a policy, they implicitly do have them, either in the tacit rejection of e-learning in favour of conventional teaching or the "laissez-faire" attitude of the central university management with respect to regulation.

- Availability of basic (technical) conditions: *available*
- Timing and sequence of implementation: *divergent reactions*
Some universities have strict timing schedules others have a flexible timeframe. Some don't have a timeframe at all, because such timeframe cannot be decided at

central level, as the autonomy of departments allows them to have their own timing. It is not clear why some universities organise the implementation on the university level while others do it on department level (tradition, management culture, quality assurance policy, etc?).

- Is networking with respect to e-learning part of a policy: *yes*
Networking is taken up in most universities as part of the university policy, although it is not clear what type of networking is meant in the replies. For a lot of universities, the major part of their “business” and funding takes place on national level and that should be taken into account while designing a cEVU, e.g. in the expectations with respect to intensity and timing of international networked collaboration: even national initiatives show very slow progress (e.g. the implementation of national digital university initiatives and their realization), not in the least due to decreasing national funding for such collaboration initiatives.

2.1.3. Problems encountered and possible solutions

If problems are reported, they are only marginal and no possible solutions are given for them.

2.1.4. Characteristics of a cEVU

Partner universities would like or dislike the following characteristics/functions for a cEVU:

- Common services/support: *not really demanded, although some universities find common services interesting.*
- Support for virtual student mobility: *yes, every university is interested*
Mobility will be extended by the use of ICT:
 - it can be used to virtually “attend” preparatory or follow-up courses, connected to the ones that will be taken during physical mobility,
 - it would enable the student to virtually attend courses at the home university that are scheduled during the stay abroad,
 - it could provide access to interesting courses that are not available in the own university as e.g. elective course within the student’s curriculum.

However, some universities warn that virtual mobility could also kill physical mobility

- Central facilitator: *especially for technology watch and (to a lesser extent) mediation in virtual student mobility*
- Conditions for participation in EVU: *no or no clear answer*
Maybe universities are struggling in answering these questions right now because no central strategy has been developed; leaving decisions often to decentralized levels. Departments who have invested or are investing a lot of money in e-learning may not accept the central level to make university-wide decisions. Such decisions would affect the amount of funding that goes to faculties and departments; it would destroy the forerunners’ differential advantage as it would offer similar benefits to those catching up without having to invest at a similar level; it would force opponents of e-learning to engage and thus conflict with the “academic freedom” of individual teachers.

2.1.5. Conclusions of the investigation

Even though the partner institutions are to be considered as forerunners in the implementation of e-learning, one should be aware of the differences between institutions: they are different in structure, in available infrastructure, in academic culture (including the accepted decision capacity of central and decentralised bodies), in pedagogical approach, etc.

For a cEVU to be operational, it will be necessary to have:

- Institutional policies that enable and favour this kind of (transnational) networked collaboration (within eventual autonomy of faculties and departments; comparable to what exists as institutional networks and disciplinary networks);
- Basic requirements to which a partner university has to respond (level of involvement, diversity of involvement, minimal infrastructure and communication capability of the infrastructure, ability and willingness to learn);
- Commitment of the university but also of the academics that will have to turn the collaboration into an operational reality.

The cEVU should not focus on the development of contents, but on the provision of services (e.g. about IPR and copyrights, technology support and standardisation, technological forecast, eventually common purchase policies, etc.). A problem will be that in the actual situation universities do like such services as long as they have not to pay for them. A possible solution might be found in a distributed model, in which each partner contributes at a similar level to these services in kind, instead of having to pay in cash for external services. Although attractive, such solution is instable as it depends from availability of the necessary services within the collaborating partnership, the willingness of instances within the partner universities to provide them to “external” clients (implying an increase of workload and expenditure without eventually having a direct compensation for the operational people), and the acceptance (mutual trust) that every partner is providing a similar input, without actually calculating it.

2.2. Bologna and cEVU⁵

The Bologna process is at the same time an opportunity and an obstacle for the development and implementation of a cEVU.

2.2.1. Bologna as an opportunity for a cEVU

The aim of the Bologna process is to create a European Higher Education Area (EHEA) with the following objectives:

- facilitation of interuniversity mobility,
- promotion of the co-operation between universities,
- increasing employability through scientific and professional competency building in a lifelong learning context,
- enhancing competitiveness and attractiveness of European Higher Education.

This EHEA must be supported by national higher education policies of the member states, which create the framework for diversification of programmes, the harmonisation of structures, national quality systems and international accreditation.

⁵ As based on a presentation given by Piet Henderiks, European Affairs, International Relations, K.U.Leuven during the EUNITE SC meeting, K.U.Leuven, 23 January 2003

The institutional level should respond to the objectives of the EHEA according to its own mission and within the national framework.

Succeeding in the Bologna process implies co-ordinated involvement of all policy levels: the European one with the Council of Ministers of Education, the national one with the Minister of Education and Parliament as well as national Rectors' Conference(s), and the institutional one at both central and decentralised decision levels involving all stakeholders (students, staff, professional organisations, research bodies, society). It results in top down as well as bottom up reform processes of a very complex nature, and careful preparation is consequently essential.

It is obvious that various objectives of the EHEA can be supported by a cEVU:

- its virtual mobility schemes will extend and complement the physical one;
- it will promote interuniversity and cross-border co-operation through joint development of courses and materials, sharing and exchange of courses and learning and teaching materials;
- its distance learning offers will facilitate scientific and professional competency in a lifelong learning context;
- it may enhance sound competition between institutions and thus contribute to the competitiveness and attractiveness of its educational partners.

To further develop these advantages and especially to co-ordinate actions between various instances of cEVUs (plural), it should be recommended that a European *virtual* Higher Education Area (EvirtHEA) be implemented, dealing with the specificity of virtual instruction and learning as well as taking care that activities within the EHEA and EvirtHEA are complementary and – as far as possible – transparent for the users (teachers, students, lifelong learners, staff).

2.2.2. Bologna as an obstacle for a cEVU

At the same time however, the Bologna process is also hindering the development of such cEVU (and a EvirtHEA at its background). The necessary reforms that the Bologna implementation requires at especially the institutional level are creating so much extra work load for staff and teachers, that they lack the time that should be invested in the creation and development of such new networks of collaboration. It has to be expected that the foundation and development of the full potential of cEVUs will probably have to wait until Bologna is on track.

3. Motivation for and aims of a cEVU

Universities cannot avoid engaging in e-learning, both for on-campus students and as a means for distributed learning. Particularly the Web has the capability of making education virtually "borderless" in a globalising world. According to the CVCP-HEFCE report "The Business of Borderless Education: UK perspectives"⁶, engaging in such borderless education can be supported by the following motivations:

- Attempting to enhance student learning within current course structures
- Seeking to reduce costs through globally delivered and standardised programmes
- Encouraging a greater awareness of the needs of the 'customers' for learning as a way of explicitly privatising the funding and operation of the university system

⁶ CVCP-HEFCE, The Business of Borderless Education: UK perspectives. Summary Report. London: The Committee of Vice-Chancellors and Principals of the UK, 2000.

- Addressing the concern which some companies express about the quality of graduates from current universities
- Providing a more effective structure for operating company-based lifelong learning
- Enabling mass 16+ education to be achieved
- Bringing back a ‘golden age’ of university learning where, freed from the ‘tyranny’ of having to attend lectures, students will be able to acquire limitless information from the Internet supplemented by tutorials and small group learning.

The Working Group finds these motives primarily linked to technology use than to beneficial collaboration within a university network for virtual education, with the exception of the two motives put in italics: collaboration *can* lead to cost reduction of the joint production and sharing of materials (sharing resources, having the development restricted to one entity instead of multiplied in each university, sharing of services) and better access through collaboration to expertise that is available but scattered in many institutions and organisations throughout Europe *may* provide a more effective structure for lifelong learning, whether it is company based or not.

The EVC (European Virtual Campus) Taskforce of EUNITE put additional (and for a cEVU more central) motives forward⁷.

3.1. Internationalisation – virtual mobility

cEVUs can become a powerful instrument for the internationalisation of studies at participating (and in general European) universities, and for realising the ambitions of mobility within Europe expressed in the Bologna declaration by European ministers of education.

Although student mobility is increasing, not every student will be able to spend a part of his or her studies at another European university. By distance learning, however, students can take part in courses at all of the other universities in the partnership without leaving their home university. Conversely, exchange students can keep in touch with their home university, and even take courses at home, while studying abroad. As it was already indicated above, this virtual mobility can also prepare and follow-up physical mobility to enrich the latter and make it more effective and fruitful. More over, such virtual campus will also enable flexible combinations of rather traditional distance learning and technology supported presence learning (e.g. through videoconferences).

3.2. Transnational knowledge pool for top expertise

A cEVU can facilitate ‘virtual mobility’ not only for students, but also for teachers. It is slowly becoming excepted that the concept of a university as an academic surrounding in which outstanding experts in all domains of science and technology are collected within a single institution (the ultimate goal of all larger universities), is no longer possible. Providing (direct) access to top expertise for researchers, students and teachers will only possible in the future when top specialists in various disciplines pool and provide expert knowledge as support for academic teachers, researchers and students. Having direct access to such knowledge pool(s), including the access to their providers, will enrich the working environment of the academic communities of Europe and contribute to Europe’s position in a competitive global market.

Where such collaboration is to be found already in research environments, it is not present yet for educational purposes, as it conflicts with the traditional attitude of teachers

⁷ Internal document EUNITE

suffering from the “not invented here” syndrome as a powerful measure for evaluating quality. It should be recommended that actions be undertaken to raise awareness for the necessity of this kind of collaboration, and to study the practical models that construct such knowledge pools and their access.

3.3. Sharing and joint development of educational materials

A typical phenomenon of universities is that each teacher develops the own (lectured) courses. Collaboration between teachers that lecture the same subject (e.g. in different faculties) is still more an exception than the rule. Although this kind of “duplication” can and is defended with pedagogical arguments (the course should be adapted to the curriculum in which it functions and to the characteristics of the learners for whom it is intended), from an economical viewpoint it is a waste of effort and means.

3.4. The European dimension in global learning

One of the most important arguments for a cEVU initiative, is its capability of strengthening and defending the European academic culture. ‘Global content providers’ (e.g. some large US universities, as well as commercial providers) tend to flood the market with pre-packed courses. There is a need for counterbalancing forces, building on and defending the European academic culture.

3.5. Broadening the supply of ODL courses, thus supporting lifelong learning and the transition from Bachelor to Master degrees

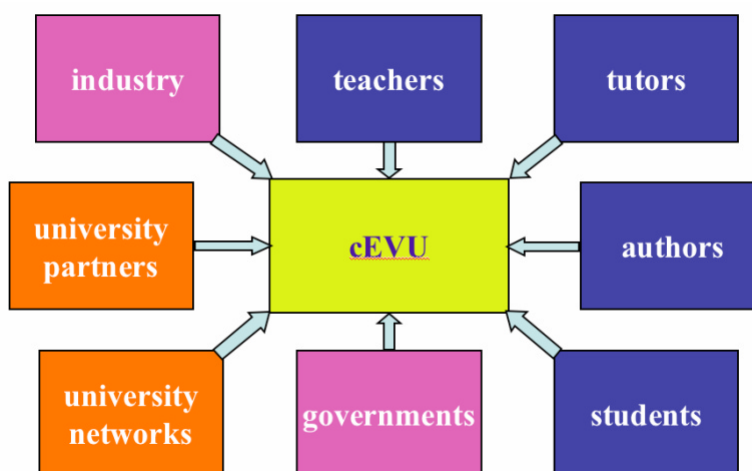
At a growing number of universities there are already a number of (open and) distance learning courses available on the web, and as universities are developing such e-learning courses for their on campus students, they will increasingly become also available for distance learners. But the supply could be considerably enlarged within a given institution if similar courses could be exchanged between partner institutions to make them available to students (e.g. as elective courses) on the same conditions as comparable courses from their home university. It can even be thought of to develop through this collaboration preparatory packs that enables access to e.g. Master degrees for holders of non university Bachelor degrees or for an easier shift to a Master degree that has not been prepared by an appropriate Bachelor’s one.

3.6. Commercial delivery

The cEVU collaborative environment could also be regarded as a gateway for the commercial marketing and delivery of university courses to paying clients, e.g. employers who need to update the skills and the knowledge of their staff, or even individual students from countries outside the European Union. This is in line with the motives that were mentioned in the CVCP-HEFCE report, but as already said above the commercial delivery should be considered as a secondary aim of a cEVU.

4. Target group and stakeholders for a cEVU

As in all education-oriented activity, the final target group of a cEVU are students, learners. However, the stakeholders include a far group, which can be represented in the following figure (in which governments ultimately represent the society at large):



The importance of these stakeholders will vary according to the various issues that are addressed: on the policy level these will be primarily the universities, university networks, local/national governments and European Union/European Commission; with respect to pedagogy the focus is rather on students and teachers; for technical aspects about all the named stakeholders play a more or less essential role; etc.

Stakeholders are consequently not only “consumers” of a cEVU, but act often in the double role of provider as well as receiver. Students for instance receive not only instructional materials but create these also in a technological environment (by taking up roles that are conventionally assigned to teachers and tutors, by finding and communicating additional learning resources), and similarly some services can be shared by the collaborating institutions with each other.

5. Models and scenarios

Models and scenarios for a cEVU can be found or may be inspired by existing ones. Various resources have been discussed by the Working Group on Policies.

5.1. CHEPS⁸ model

An international comparative survey, carried out by CHEPS, investigated which scenarios are emerging with respect to the use of ICT in higher education and how future developments can be predicted and strategic choices made⁹. It identified four possible scenarios

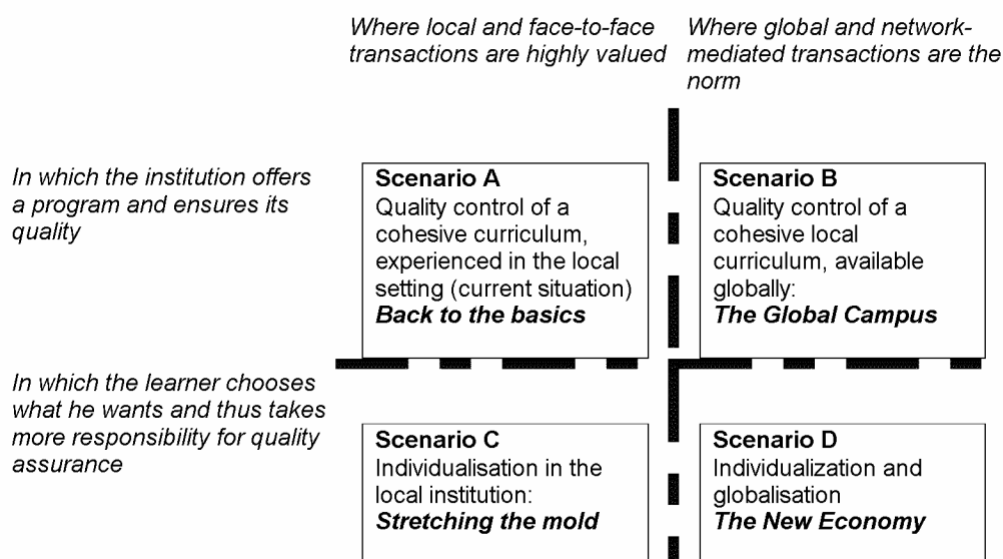
5.1.1. Four possible scenarios

The study identifies four possible institutional scenarios, and their key variables.

⁸ Centre for Higher Education Policy Studies, University of Twente cf. <http://www.utwente.nl/cheps/>

⁹ Betty Collis Marijk van der Wende, Wim de Boer, Petra Boezerooy, Gerard Gervendink Nijhuis, *Models of Technology and Change in Higher Education, An international comparative survey on the current and future use of ICT in Higher Education*, presentation held at “The New Educational Benefits of ICT in Higher Education” Rotterdam, 2 September 2002

Scenarios of the future in which flexible learning will be part of a setting ...



Scenario A: Back to Basics is the current dominant situation for many traditional higher education institutions. It is also the case that many universities are starting to experiment with distance participation in their established programs. This could lead to

Scenario B: The Global Campus.

Scenario C: Stretching the Mould relates to increased flexibility with or without changing the underlying pedagogical model within the institution. Many traditional universities are now moving toward some format of this scenario, by offering more flexibility for participation within their pre-set programmes.

Scenario D: The New Economy is the most radical scenario; examples of this scenario are not available today, although it is increasingly considered as the direction for the future.

5.1.2. Major results

The major results of the study can be summarised as follows:

1. Change is slow, and not radical (called “Stretching the Mould”)
 - No revolutionary changes in universities and their education, a “business as usual” approach is being taken
 - Main activities are situated on-campus; universities provide primarily campus based learning settings
 - Student demand are however changing towards more flexibility
 - Competition and co-operation between institutions are both nationally oriented
 - Nevertheless, institutions are gradually (and usually slowly) “stretching the mould” (they change their procedures and models as a process of change from within)
2. ICT in teaching and learning is widespread, but remains part of a blend in which lectures still are dominant

- ICT use in education is not replacing traditional on-campus settings, rather complementing them
- Perceived effectiveness of ICT is between neutral and positive³. Instructors are gradually doing more, but with no reward (and they less concerned about and hopeful about technology than decision makers and support staff)
- Instructors use ICT rather efficiently
- Instructors are neutral about the amount of time that ICT use takes
- They get some support
- But there are no incentives!

4. With regard to international comparisons, the countries are more alike than different

5.1.3. Recommendations from the CHEPS report

- Each institution should develop a strategic plan relating to the relative importance to the institution of the different types of learners in the post 2005 period.
- Institutions should now look to integrating their various information and management systems in order to support more flexibility in the future.
- The Web-based course management systems now common in higher education need to evolve to a new generation, where emphasis on tools for re-use and tailoring are key features.
- Institutions should make a clear plan for facilitating their evolution toward a future scenario.

Recommendations for the specific university

1. Set the target
2. Become more systematic about Stretching the Mould
3. Stimulate new tools that relate to Stretching the Mould

5.1.4. Comments from the working group on the CHEPS model

The working group appreciates the transparency of the four dimensional scenario matrix as being presented by CHEPS. It could be useful for administrators and academics who engage in strategic planning of educational innovation and elearning. In addition, a couple of remarks have to be made in order to support robust strategic planning and scenario writing.

First of all, an important function seems not to fit in between the scenarios A and B: face-to-face education at a distance. Use of video facilities, more or less integrated in a web environment, is an effective tool for education.

Secondly, relating to the main actor groups in establishing international co-operation in education, it has to be taken into consideration that the respective scenarios are driven by different forces. Administrators, a substantial population in the CHEPS study, are in a lot of European systems of higher learning relatively powerless with respect to innovation in education. In the university culture leading academics are in fact in the driving seat, although from a formal point of view the rector (president) or at faculty level a dean is “pushing the buttons”.

Students are as well a driving force for innovation in many European higher education systems. It is not easy to project their influence on the changing models in universities,

and studies overlook their perspectives and expectations. This is also the case for the CHEPS study.

Academics may have a range of motives to engage in educational innovation. Still, in view of lacking extra resources and a continuously growing demand pressure, one can easily imagine that many academics show a rather conservative attitude when responding to a survey about their future use of IT in education. The “Stretching the mould” scenario is then an easy choice.

Finally, the CHEPS study is constructed from an education development point of view. Timing and dynamism that can be expected from academics with regard to change would probably show different scenarios if a research viewpoint had been taken. Education and research are – certainly in conventional universities – closely linked to each other; not in the subject content of education, but also collaboration between academics for their education is often an extension of already existing contacts within research networks.

Although the “Stretching the mould scenario” (C) reflects a certain reality, the Working Group members are at the same time more optimistic – evolution of the actual situation towards scenarios B and D could be a realistic option – and pessimistic: the anticipated timing of the CHEPS study reflects too much a decision makers viewpoint. When studying university policy papers one gets the impression that change will happen within a couple of years, reality is that in practice it will take far more time. Also the observation that academics use ICT efficiently and have a neutral to positive attitude about the amount of time that ICT use takes should be nuanced according the Working Group. Practice shows that academics need sufficient (central or decentralised) support and often complain about the time ICT use in education takes (materials development and student support).

5.2. EVC (European Virtual Campus) models

Other models are more paying attention to the collaboration of universities to create virtual education and virtual campuses for the purpose. The already mentioned EUNITE EVC Taskforce identified three possible models.

5.2.1. European University Model

This model is the most comprehensive and ambitious model, which should offer a range of services and courses, jointly developed and delivered by the participating institutions. The model can have a major impact on academics and students and the network should be seen as a collective venture of the institutions. Eventually it should serve all of its customers, traditional as well as non-traditional by using either a centralised or decentralised platform in which the activities can take place. Commercial exploitation will be aimed at the outside world by offering courses to external students or selling web based courses to other universities and use the European University to appeal to potential students. It is not directly necessary to ask for fees internally, although measures should be taken to retain an even distribution of consumers and producers within the network.

This model would call for a high commitment on the administrative level as well as on the academic level. Furthermore it needs substantial investments in technical facilities

as well as in personnel and time. If commitment can be established and investments can be generated, the network could eventually become a major institutional player in Europe as well as worldwide.

However, even in this model each participating institution would retain its own identity. A European virtual university should not be seen as a centralised system imposing a compulsory standardisation of curricula and teaching practice. The degree to which this model would imply a centralised administrative structure cannot be decided now. The organisation of such a European virtual university and its infrastructure will have to evolve gradually.

5.2.2. European Forum Model

The main objective of this model is to bring academics, policy makers and students together in a virtual environment. The actual outcomes of such a model will be highly dependent on the willingness of academics and students to interact (in a social as well as a scientific/academic way). The focus of the network should be on streamlining this process by creating different virtual locations for people with different interests.

This model causes any loss of autonomy for the individual institutions, nor does it need excessive investment in the starting phase. However, a strong commitment should eventually evolve on the work floor level. Therefore, in this model, the most energy must be spent on accompanying the process of cooperation and the streamlining of interaction. Instead of a virtual university, this model should be seen as a collection of academic communities, with success or failure being highly dependent on commitment and willingness within a certain community.

5.2.3. Broker Model

In this model the EVC functions mainly as an intermediate agency between producers and consumers of courses. Collaborating partner universities can be providers and use the agency to market internally their suitable courses to other partners or externally to education institutions and training organisations (including companies). Brokerage may include delivery services, and even certification services if the providing partner demands so. Although not directly expected, the partners can also be consumers of courses that are externally bought in through actions of the agency on the partner(s) request.

The model's main advantage is that it can give students (traditional as well as non-traditional) the opportunity to access web-based courses of participating universities. It is primarily dependent on the ICT development of the individual institutions, and the synergy created in the network will be less extensive compared to the other models.

In this model the virtual campus should be designed in a portal mode; it will thus primarily be a technical instrument for access. The model is not directly dependent on institutional commitments for cooperation, it is more reliant on the willingness and ability of the individual teacher to develop web based courses. It will consequently need limited investments in coordination and process support. The decision about the suitability of courses to fit in the curriculum of the receiving university remains fully with the responsible bodies of the university. In addition, the network can be widened

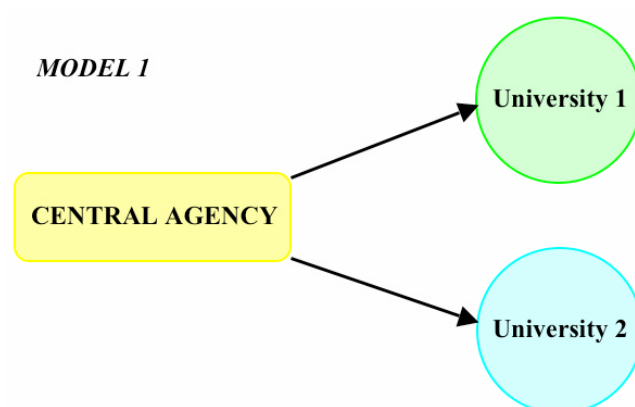
through admittance of universities all across Europe. Access in this model should be open for internal as well as external students.

The three models are not mutually exclusive, and it is quite possible to envisage a successive development from the Broker model to the European University one.

5.3. Models proposed by prof. Gössling

Within the Working Group, Claus Gössling introduced 3 models for collaboration. In each model the two universities represent a larger number of institutions that are involved in the collaboration. The cEVU is constituted by a Central Agency and the participating universities.

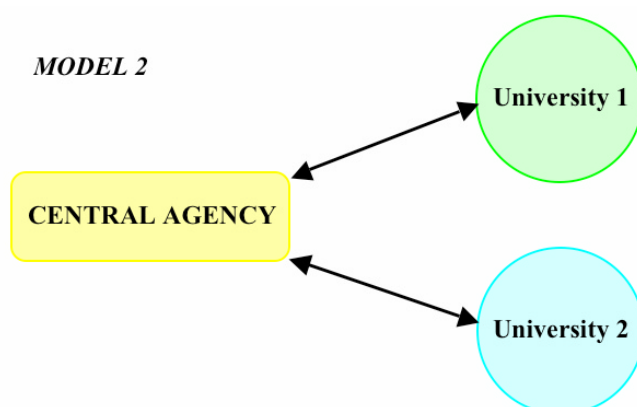
5.3.1. Gösslings model 1



In a first model of collaboration the Central Agency plays a dominant role: it registers the students, offers the courses (even full programmes), awards the credits (and eventually certificates) and monitors the activities of student support. Students stay however at “their” universities and have no direct contacts with the Central Agency. This model directly takes over a number of functions of the participating universities and implies therefore that these universities hand in (at least part of) their autonomy. It is similar, though not identical to the “European University” model described above. While it implies loss of autonomy, the Working Group does not believe that this model has a chance to be accepted on a European level at the moment. It could nevertheless be useful for very specific studies (disciplines) that are jointly created by the partner institutions.

The agency will need a large staff and strong central governance to operate properly.

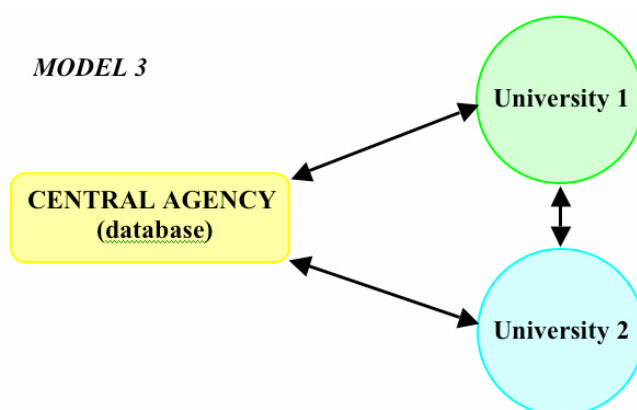
5.3.2. Gösslings model 2



The agency has less influence. The responsibility of courses stays at the universities, the registration and certification also. The relations between the central agency and the universities are more bilateral than unilateral like in the first model. Universities offer useful products, which are presented by the agency to interested partners. To ensure this usability, the products will be more at a modules level than at course or programme level. The agency takes care of practical issues such as the use of standards (to enable transportability), financial issues, external marketing, maintenance, sustainability of the collaboration. The agency will consequently need a large central staff to cover all its functions.

The universities have more contacts with the agency than with each other.

Gösslings model 3



The central agency is primarily a repository of materials and know how. It also stimulates the collaboration and supports the exchange between universities. However, the concrete actions are situated at interuniversity level, which means that the universities keep the initiative and maintain fully their autonomy.

The staff of the central agency can be limited.

5.3.3. Some final comments

Like in the case of EUNITE's EVC models, these different models can coexist in function of level (e.g. a type 1 model could be used for European Ph.D. programmes,

but a type 2 or 3 model might be better suited for undergraduate studies) and faculty cultures (e.g. some collaborations in which students take courses from two universities on an exchange bases could lead to double diploma's and function at a type 2 level, where in other faculties such collaboration is excluded).

Whether a model is accepted may also depend from the nature of the “Central Agency”: if this is a new creation, then it is likely that its function and influence will be limited; things may however be very different if on the contrary it is an existing entity (e.g. research collaboration network) of which the functions are extended.

5.4. Implications of models

The overview of models lead inevitably to the conclusion that Europe will see the establishment of cEVUs of various nature (and even within several of these cEVUs various models may co-exist). The choice for the model(s) will largely depend on the intentions of the collaborating partners, the diversity of cultures and characteristics (size, state of establishment, diversity of education subjects and levels, fame, etc.) of collaborating institutions, previous experiences with collaboration in other contexts, etc.

The choice for one or another model may also be influenced by the implications of some of the models for different aspects connected to the collaboration: technology, pedagogy, governance, IPR, language management, accreditation and quality, financial issues. Outcomes of other working groups within the cEVU project were therefore discussed by the Policies Working Group. A summary of their outcomes is provided hereafter.

5.4.1. Technology (Working Group on Digital Platforms)

Since the first digital platforms were developed, an important shift has taken place from “technicality” to “functionality”, in better agreement with pedagogical insights, and pushing towards openness and flexibility. Whereas till recently an e-learning platform was understood as only an LMS platform, the working group proposes that in fact two kinds of platform are needed, an LMS and an LCMS:

- The Learning Management System LMS is in charge of managing the education, and especially the learners and teachers, the material and digital means they need, the planning and communication tools, and the follow up of the training;
- The Learning Contents Management System LCMS is in charge of managing the contents, and especially their specification, production, publication, maintenance and reuse.

In order that LMS and LCMS could communicate, the communication protocols need to be standardised.

Learning materials have to be developed and structured in such a way that regular maintenance is possible and that the reusability of these materials is optimized. In a collaborative virtual university, different digital platforms will be used, which enhances the need for contents that are made and even designed in a standardised way. The digital platforms in use at the different universities need, in view of the collaboration between them, to respond to technical standardisation and interoperability. Educational contents are always put in a format; more precisely in a

technological format as well as in a pedagogical format. Also these formats will show heterogeneity:

- Heterogeneity of technological format means that some will be made in HTML (some for Internet Explorer, some for Netscape or others), others are in PDF, Macromedia Flash, Microsoft Word or PowerPoint, etc.
- Heterogeneity of pedagogical format means that some are used to provide expositive courses, others are used to provide more active or constructivist pedagogy, some full distance learning, other mixed distance and on attendance courses, etc.

Forcing to a standardisation at this level is not feasible. Suggestions can be made that assist in dealing with this heterogeneity. For technical aspects it is recommended to dissociate the storage format from the publishing formats, and to set up software tools that automatically transform content from their storage format to one or more publishing format. XML provides structuring and powerful solutions to represent contents in a logical and neutral format. It is the best candidate for being a (nearly) universal storage format.

The pedagogical format is less classifiable, but also here recommendations can be made: use solutions such as the Content Aggregation Model from SCORM, EML from Open University of the Netherlands, PS/LU model¹⁰ from the University of Technology of Compiègne (France)

5.4.2. Pedagogy

Current developments of online pedagogy in the field of net-based teaching and learning show a fragmented and heterogeneous picture. In the cEVU consortium there is a remarkable range of variations and non-simultaneity of developments both between universities and within the different institutions themselves. This heterogeneity not only exists in technologies and their embedment into different organisational structures. It also applies to implicit respectively explicit educational conceptions.

There are no uniform, coherent educational theories, models or concepts. It is nonetheless possible to distinguish some consensus on what could be called “educational beliefs” or even better “educational options”, basic pedagogical principles that offer an understanding and solid fundament for intensifying the cooperation

1. shift from teaching to learning
2. student - centred approach
3. construction of learning environments and learning advice
4. active learning and learning strategies
5. self-organised and self-directed learning
6. competences
7. interactive and collaborative learning
8. international communication
9. authentic situated learning
10. problem-oriented, case-oriented and guided enquiry-oriented learning

¹⁰ For “Pedagogical Schema & Logical Unit”, developed in “Eléments pour la conception industrialisée des supports pédagogiques numériques, Stéphane Crozat, PhD thesis, Université de Technologie de Compiègne, France, 2002.”, and used in SCENARI LCMS (www.spul.utc.fr).

If these educational options are taken as leading principals, it is not useful to construct pedagogical models as prerequisites for the design of learning environments as e.g. learning platforms, learning systems, teaching and learning arrangements. The whole spectrum of media-based options for teaching and learning is still too much in development. The working group choses a more pragmatic approach, beyond granted technical environments and media designs, by describing educational functions.

Function 1: authoring and representation

Function 2: moderation and facilitation

Function 3: working with tools and cognitive tools

Function 4: supporting learning strategies

Function 5: evaluation, self-steering, control and self-control

These different teaching and learning situations require specific settings and environments, which somehow have to be designed, produced and integrated into virtual learning environments. The working group has tried to collect all the different pedagogical variables, which can be used for the creation of ICT based education. After an initial enthusiasm there seems to be a common agreement that the new technologies do not only offer advantages; teaching and learning in virtual learning environments is restricted by the constraints that are incorporated within the nature of technology itself.

A. technology and digital platforms

The pedagogical variables in terms of concepts and ideal learning scenarios should influence the institutional policy related to the integration of e-learning into the institution. The pedagogical variables should also regulate within the technical boundaries the designs of the virtual classrooms. All actors related to the integration of ICT in higher education have to understand electronic learning as institutional commitment. There should be full support of university policy for e-learning. The compatibility of the earned degrees with traditional degrees should be guaranteed.

B. hypermedia content and presentation

C. media and ICT

D. teachers, learners and ICT: whole new role for teachers

This framework should be worked out towards (a) concrete e-learning pedagogy (pedagogies). This could not be realised within the limits of the project time and means. On the basis of available literature and own experiences (both in research and education) of the participants, the working group provided job aids, clustered around the following topicsl:

- preparation
- tasks
- materials
- flow of activity
- feedback and support
- overall advice for policy makers
- management university

5.4.3. Organisation (governance)

Governance is directly connected to the model that will be chosen for the cEVU, and need to be completely different depending on the choice. What follows is a proposition of governance that is situated in a relatively light central structure with a safe-guarded maximum of autonomy at the side of the partner universities. The partner are bound by

a Memorandum of Understanding as the basic philosophy that supports a more formal Consortium Agreement(s) that regulates concrete collaboration issues such as IPR and Copyrights or procedures for joint course development and for exchange and sharing of courses. This structure is close to Gösslings model 2 and the European Forum model (EVC), and responds to a transition of scenario B to C (CHEPS).

Within this model a central function is assigned to a Steering Committee, with backup of a Scientific and a Technical Committee, and supported by ad hoc working groups for special issues. In EUNITE it is realised in a somewhat particular way, in that the Scientific Committee's task is spread over two committees: a Programme Management Committee and a Pedagogical Committee (the last dealing with pedagogical issues connected to the collaboration). The text that follows¹¹ is in the typical phrasing of an legal agreement, since it has been excerpted from an existing Consortium Agreement.

1. Steering Committee (SC)

The *Parties* have established a *SC* composed of one duly authorised representative of each *Party* appointed by the rector of the respective *Party*.

Each *Party* shall have the right to replace its representative and/or to appoint a proxy, after having informed the others in writing. Each *Party* shall use all reasonable endeavours to maintain the continuity of its representation.

The *SC* shall elect a chairman and a secretary from amongst its constituent members.

The *SC* shall meet at least quarterly in principle or at any other time when necessary at the request of the chairman or of one of the *Parties*. Meetings shall be convened by the chairman, through the secretary of the *SC* with at least one month prior notice.

Minutes of the meetings and subsequent agendas shall be transmitted to the representatives of the other *Parties* without delay. The minutes shall be considered as accepted by the *Parties* if, within fifteen (15) calendar days from receipt, no *Party* has objected in a traceable form to the chairman or secretary.

The *SC* shall be in charge of the overall direction and the strategic issues of *CEVU*. The *SC* shall take responsibility for the successful running of all *CEVU* related activities.

To that end, *SC* shall be responsible for - although not limited to - the areas which are summarised below:

(a) reviewing and proposing to the *Parties* models for funding, budget transfers and other financial arrangements relevant to *CEVU*. Final decisions on financial and budgetary issues must be voted for on a unanimous basis,

(b) the acceptance of new members to *CEVU*. Final decisions on new members to *CEVU* must be voted for on a unanimous basis,

(c) making final decisions regarding acceptance or withdrawal of *Material*,

¹¹ The organisational structure that is proposed here is a proposition that has been developed by the IPR (EUNITE/cEVU) working group in their Consortium Agreement, Section 3.

(d) making proposals to the *Parties* for the review and/or amendment of the terms of the *Consortium Agreement*. Final decisions on amendments to the *Consortium Agreement* must be voted for on a unanimous basis, and

(e) agreeing on joint press releases by the *Parties* with regard to the *CEVU*.

In voting, each *Party* shall have one vote. A meeting cannot be constituted without a quorum of *Parties* being present. A quorum consists of minimum of 5 representatives of the *Parties*. Unless explicitly provided to the contrary, decisions shall be taken by the majority of the votes of the *Parties* present or represented by proxy at a meeting. Where decisions are to be taken unanimously, all *Parties* must be represented at the meeting.

2. Scientific Committee (ScC)

CEVU shall have a *Scientific Committee* that will consist of representative(s) designated by the *SC* amongst the *Parties* having executed the present *Consortium Agreement*, which will resolve a variety of quality assurance issues as defined and remitted by the *SC*.

For example the *ScC* may propose guidelines and procedures for the submission, the selection, the (educational) value, the updating and the withdrawal of material which is offered through *CEVU*. The *ScC* may provide guidelines for the *Recipient(s)* on the correct utilisation of *Materials* from the *Provider(s)* including but not limited to acknowledgement of moral rights. Upon approval of these guidelines and procedures by the *SC*, the *ScC* will undertake to implement the above. Subject to the provisions of the License Agreement, the responsibility for authorising changes in relation with material offered to *CEVU* will remain within the remit of the *ScC*.

3. Technical Committee (TC)

CEVU shall have a *Technical Committee* that will consist of representative(s) designated by the *SC* amongst the *Parties* having executed the present *Consortium Agreement*, which will resolve a variety of technical issues as defined and remitted by the *SC*.

For example it will be the task of the *TC* to propose guidelines and procedures regarding support systems, security matters and make and maintain an inventory <template provided as annex to the original document> for all material offered through *CEVU*. Upon approval of these guidelines and procedures by the *SC*, the *TC* will undertake to implement the above.

5.4.4. IPR, copyrights

A brief check in the working group revealed that the approach adopted by each institution leads to the conclusion that currently there is no standard and that there were many variables between institutions. Often there is no one central person responsible for IPR. Copyright tends to be left in the hands of the individual academics. There were no indications that this observation deviates from the modal situation in European higher education institutions.

The provide a solution for the (difficult) issues of jurisdiction and applicable law to be applied to material produced in one country and used in another country, as well as for the legal status of software developed by/for the consortium e.g. freeware, shareware, commercial, the working group developed three models. It was expected that model 1 would be applied in the pilot phase of the cEVU and that model 2 would be applied once the cEVU was on track, whereas model 3 would be used for commercial purposes. The cEVU that was taken in mind is the same as described in 5.4.3 about organisation. Again it should be remarked that another model of cEVU might have created a different approach to IPR and copyright issues.

Model 1: existing web based teaching materials and subsequent updates

In this model, same or broadly similar contracts should be made between the individual member institutions, but there might also be a need for local agreements between the individual members of personnel.

According to the report of the working group, the general principle would be established on recognition of authorship and integrity right (moral rights / acknowledgements). Copyright would be the main type of IPR but depending on the parent institution other models like Database Rights or Software Patents for example might be applied. The terms and conditions of use would be specified on a Consortium Agreement. Special clauses for deviating conditions should be attached to the Consortium Agreement. Description of the courses and the materials should be included as an annex. Also a clause for liabilities and defaulting partners should be made.

IPR of materials would be managed by a non-exclusive copyright license. The staff member or the institution would hold the IPR but the partners would be able to use the materials under a non-exclusive license. If the copyright is held by an individual member of staff, the copyright for use of the material should be transferred or licensed to the parent institution on a perpetual non-exclusive basis with rights to sub-license to other cEVU member institutions. The parent institution, as licensee, should also be able to represent the holder of the IPR.

The applicable law would be the law of originating country of the materials. Tasks of the parent institution would include quality checking of the content (e.g. confidential material should be removed), creating a database of items (inventory of all the assets of the course) and a list of contractual limitations on use (e.g. already existing licenses). It is recommended that the institutions would consult copyright specialists when the model is locally implemented.

It is suggested that the creators of the material should not receive any payment. Nevertheless, if there are commercial implications relating to the transfer of rights, which cause financial payments back to the institution, then the creators should be compensated. The creators, who retain the right to update, customize and modernize their materials, have to guarantee that the updating, customization and modification of the course and the materials are done according to certain rules. They will also give permission for a cEVU backup copy to be made of all web-based materials.

Withdrawal of courses would require consultation between the members of cEVU and should not take place during an academic year.

The working group recommends that materials would be available to members of cEVU free of charge during the pilot phase. For the description of courses the individual universities have created, there should be a standard template according to which the courses could be described in a common way. Quality assurance is the responsibility of the parent institutions, but in the future a Scientific Committee should be formed for peer review.

Model 2 Commissioned course development, paid for by cEVU members

Model 2 is actually a variation of model 1. The model 2 will only be possible when external funding has been assured and it covers materials that are specifically commissioned and paid for by cEVU members for cEVU members. The most prominent difference between model 1 and 2 is that in model 2 the institution would have the ownership of IPR, while in model 1 also an individual member of staff could be the holder of the IPR.

If there is pre-existing non-web based material, the creator would maintain the copyright for that non-web based material. When the material is put on-line, the parent institution would maintain the copyright. There should be a Scientific Committee reviewing the material. Remuneration scheme should be based on an easily understandable and cost-efficient model.

Model 3 Commercial model

Model 3 is the commercial model, whereas the previous models are non-commercial consortium models. For the time being, this model has been put aside, but in the future a commercial model might be needed.

This model requires that cEVU becomes a legal entity, maybe even a company. Much depends on the legislation of the country where the legal entity is set up. According to the report of the working group, there are two subcategories within the model: commercial utilisation of pre-existing course material and commissioning of material for commercial purposes.

5.4.5. Language management

Although language and cultural issues have been a European priority since many years, language management has not been studied as a central topic. More systematical research is urgently needed. The working group did some fieldwork, which revealed a large discrepancy between what universities pretend (e.g. multilingual websites, enable foreign student to get help in other than the local language, stimulate contacts and communication between the local and foreign students, etc.) and what is actually realised. Moreover, a coherent policy and language management that provides the necessary resources, implements the policy and monitors the implementation process is about always missing. Only elements of language management can be found in pilot settings (often in the framework of projects) or/and as the result of good will of interested persons. Examples of such elements are provided in the report of the

working group (e.g. the Euroliterature course, the European Ph.D. programme on Social Representations and Communication, CETRA's advanced master programmes).

More work has to be done as a shared and preferably coordinated effort of the European Union, national and regional governments, the universities themselves, and not in the least their staff and students. Incentives have to be provided and good practice deserve wider dissemination within university networks and universities.

The working group recognises that virtual settings may put pressure on universities to take up language management as an important issue, and considers ICTs have potential to support socio-linguistic integration of the mobility population (be it in a real or virtual Erasmus setting). For virtual as well as physical mobility it is important to build learning communities in such a way that people do not feel isolated when coming into a course, and for virtual Erasmus it would be wise to demand similar language proficiency as is the case with real Erasmus.

A important consideration is the course language. In Europe we are dealing with different national languages and it is realised that this will remain so, in particular for bachelor's or equivalent courses. When partners are sharing courses or jointly developing courses, it may be wise to look into possible schemes for multilingual courses and course materials. The working group provides also for this purpose references to examples such as the cEVU Literature and Cinema course, EUNITE's position demanding that joint developments are made in English for the common repository of courses but leaving it up to the partners to make local adaptations.

5.4.6. Accreditation and recognition

Within a cEVU it was not the intention to develop and implement accreditation schemes in the meaning that CRE gave to it: *"Accreditation is a formal, published statement regarding the quality of an institution or a programme, following a cyclical evaluation based on agreed standards..."*. This kind of accreditation is allocated to national governments in the Bologna declaration for institutions, while programmes remain – at least in this phase of creation or “our” cEVU – out of scope. The collaboration needs however systems for recognition of student activities and outcomes in a university by partners in the consortium. Apart from formal education, it is also increasingly important that recognition of professional experience (including non formal learning) can take place.

Consideration of various systems by the working group gave the following results. All offerings of a cEVU should be described in terms of “competences” from the start of their development. The Tuning approach and examples provide excellent models for the purpose; it should further be investigated whether the description of competences related to the validation of professional experience can be put in line with this Tuning approach, to come to one standardised system. This approach is very helpful for the recognition of credits that are awarded elsewhere, as well as for students to find interesting courses and modules that could fit in the own university programme.

An important part of cEVU activities concern virtual Erasmus exchanges. Organising these activities and their recognition would become very difficult if other procedures and methods would be used than the ones of the real Erasmus mobility. However, the

(extended) ECTS and Tuning approaches are not excluding each other, but should be considered rather as complementary.

5.4.7. Quality issues

In the framework of the Bologna declaration implementation, the 2003 Berlin communiqué states that “The primary responsibility for quality assurance in higher education lies with each institution itself and this provides the basis for real accountability of the academic system within the national quality framework.” A cEVU has however not the same function as its constituting partners: it is not an educational institution in itself and many components and functions of institutional quality management systems are not or only in a limited way relevant for the cEVU level.

Quality assurance of a cEVU is primarily aimed at quality of the provided services by the cEVU, and can also be restricted to that if the partners take their responsibility of quality assurance within the institution serious by operating an institutional quality management system. It might be recommended that the national quality frameworks be sufficiently convergent to have their outcomes accepted throughout Europe by all institutions.

A specific operational cEVU services quality system is not (yet) existing. The working group developed a framework to define its standards, that takes into account the cEVU’s educational functions.

5.4.8. Financial aspects

Financial aspects of a cEVU can become easily a breakpoint for creating it. Most universities have limited resources in comparison with their expenses and are neither willing nor able to pay abundant fees for the collaboration. This is the main reason for keeping, especially in the creation stage, the “extra” costs as low as possible, which imply that institutions pay themselves (in kind or cash) for the expenses that are made by their staff in the framework of the cEVU activities (meetings, time for development of materials, studies and reports, cost of equipment and communication), unless decision of the central Steering Committee (after consultation of the university management of the partners) or external funding is available. Only the central agency is financed through a contribution of all partners.

Students on virtual Erasmus should follow similar financial rules as the real Erasmus mobility scheme with respect to fees. However, where some extra students in an on campus student group will only affect marginally the costs, virtual students may do so by taking (quite some) extra time for their support from the university staff. Either costs are calculated and paid per university, or the costs are kept sufficiently low to be accepted without refunds. This is possible by restricting the number of courses that can be taken within each university as well as the number of students per course.

At the creation stage, the collaboration of a cEVU is not primarily aimed at commercial benefits. A business-like approach is nevertheless necessary to get concrete information on “market” (internal as well as external), marketing and branding. Elements of a business plan that serve the creation of a cEVU were identified by the working group and illustrated with case studies.

6. Institutional policies and strategies

The Hectic report describes a number of challenges and change requirements for higher education, some of which affect also the institutional policies on e-learning and collaboration within networks.

At a strategic level, it identifies the need for explicit university strategies for e-learning.

“As in other major areas of university activity, explicit strategies enable all staff and students to see the direction which is being taken, and how processes put in place are designed to lead to explicit goals. eLearning support requires involvement of many different units within the university, and so the need for strategies is even more critical.”

The Working Group on Policies agrees with this view point.

Also many other challenges that are identified in the HECTIC report are followed by the Working group.

6.1. Managerial level

At a managerial level a *strategic* challenge comes from corporate higher education providers inside EU and/or from higher education providers outside EU seeking students. The Working Group recognises also this challenge, but comments that this challenge affects especially distance courses for continuing education, and especially in universities where the government is funding at a level that covers almost all expenses of education, staff is not really motivated to accept the implications of this challenge. It is an observation in line with what the CHEPS study revealed: teaching staff does not always follow the views of the strategic management of universities. But when recognised as valid, these challenges may be a powerful argument for engaging in collaboration with other European universities (cf. 3.4 above).

With respect to *implementation* of an ICT and networking policy, it will be important that universities use a reward system for academics that recognises their teaching efforts including the development and support for e-learning towards the “own” students as well as to “foreign” ones, instead of putting emphasis in the reward system on research results and face-to-face activities.

Such rewarding system should also provide a solution for a problem that otherwise may occur: the collaboration between institutions may balance efforts and profits at an institutional level (additional efforts due to incoming “virtual” students are compensated by the profits gained through sending students virtually abroad), but the numbers of incoming and outgoing students will not be balanced at faculty or subject level, which implies that some teachers will profit while others have to cope with additional workloads.

Motivating staff and students remains an important element of the implementation process of e-learning as well as networking in a cEVU. Awareness raising is a constituting part of such motivating approach, especially when resistance is encountered.

6.2. Technological level

At a technological *implementation* level, universities tend to decide on infrastructure – including digital platforms – on arguments that are strictly institutional. For later collaboration such decisions are sometimes disastrous: materials that are developed for

such platforms may be not transportable to the platforms of partner universities. As already mentioned by the Digital platforms working group, such choice should include considerations about standardisation and interoperability.

Teachers and students are (sometimes) complaining about lack of (technology) support. In a networked environment, which uses also other digital platforms than the familiar one at the own institution will increase the problem.

6.3. Educational level

It can be a strategic, even a policy issue to expand the institution's educational offer with (e.g. elective) courses and even programmes that are normally not available as expertise on the subject is missing in the institution through a cEVU. An important motivation for institutions to participate in the Erasmus programme, namely that this offers a European perspective and experience to the student's education, can be even intensified by collaboration between European universities for teaching subjects with a specific European dimension (such as European policies, history, law, culture, etc.).

A specific position could be taken by collaboration that leads directly to a European degree, or a joint institutional and European degree (e.g. European Ph.D. and Master programmes).

Professional development schemes for academic staff should include training in networked e-learning and not be restricted to the use of ICT on campus. The training must pay explicitly attention to e-moderating skills. Many academics fear the loss of contacts with students when using ICT and or the additional workload that is the consequence of technology based communication.

7. Role of networks and cEVU access policies

Most of the existing networks for higher education are already involved in supporting their members for virtual education activities or are making the transition towards such support. This is as well the case with networks that are disciplinary based (e.g. Thematic Networks) as with more general networks (like Coimbra Group, ECIU, EUA, EuroPACE, and others). Strategic alliances constitute a special category: networks of universities that have committed themselves to achieve a higher level of digitalisation through structured collaboration to meet objectives that would be impossible or only with much more effort to reach without.

This shift is clearly the result of an existing and increasing need.

The roles that such networks may have to play include:

- Provision of services that separate institutions cannot develop (or only at an exaggerate cost):
 - negotiating about prices for equipment on the basis of common purchase,
 - support for project applications and management,
 - support for virtual Erasmus schemes within the partnership,
 - branding and marketing of products
 - support for mutual recognition of courses, credits and certificates
- Initiation and management of joint development of educational material
- Structuring the consultation between institutions (e.g. with respect to the use of digital platforms, pedagogical models, practical issues such as language management and IPR)

- Training of teachers and staff in networked e-learning
 - Dissemination of good practice examples
 - Monitoring of the collaboration and quality assurance
- The list is not exhaustive and will certainly change in the future.

Many of the functions that can be taken up by such networks need however formal structuring, in other words a cEVU.

Experience show that, although it seems attractive to build such a cEVU on a relatively large consortium to have the costs of a central agency distributed, structuring the collaboration is only possible if institutions with a similar profile and level of commitment are joining forces. Imposing structures that restrict the partners' autonomy is, certainly in a start up phase, unacceptable for them, lower structuring is only possible between partners that trust each other. This implies that such consortia inevitably have to start rather small, and only may open themselves once they are more or less established.

8. Role of governments

The government should in general facilitate and stimulate the evolution towards European virtual universities. On a national level there are two approaches possible: either the government facilitates the creation of regional and/or national virtual universities and allows that these collaborate at a European level, or it invests directly in the participation in European virtual universities by the own institutions.

Facilitation implies that governance constraints on universities that hinder such participative collaboration are taken away (e.g. by maintaining legal or administrative barriers that hamper universities to engage in the collaboration).

Governments should provide institutions with bandwidth that is sufficiently large. Certainly in the new member state of the Union this remains a problem. They can and should be supportive to the establishment of a European IPR and copyright legislation that enable education to function optimally in a digital and global age. The shift from a conventional teaching to a (e-)learning centred institution is a costly one. Financial incentives, e.g. through funding for studies, pilots and implementation projects remains necessary to prepare institutions for participation in the creation of virtual universities. Even more important is however a financial support that is not project based to launch the initiative and keep the momentum on track.

What counts for national governments is also valid for the European Commission. At least in a period of creation and initial evolution (c)EVUs will need dedicated funding that is not project (and maybe even not programme) based. Otherwise we will experience again what has happened over and over again with projects: products remain unfinished, finished products get not implemented and (partly) implementations turn out to be not sustainable.

ANNEX. cEVU policies: questionnaire

What is meant by e-learning in the following?

There are many definitions of e-learning, ranging from the very broad one «e-learning is each learning that is supported by technology» to the very narrow one «e-learning is web-based online learning». Taking into account the variety of teaching and learning in conventional universities, we support a broad definition that however restricts e-learning somehow to mainly digital technology:

E-learning is considered to be each learning that is supported by technology, in which either the content is presented in a digital format, or the learning process is supported through digital technologies, or both. The meant technologies encompass all (digital) information and communication technologies: audio, video, multimedia, conferencing (audio, video, computer conferencing) and internet applications (e-mail, newsgroups, file transfer, WWW, etc.)

What is meant by a European Virtual University?

The model that is aimed at is not a dedicated institution (type Universitat Oberta de Catalunya www.uoc.es), but collaboration between existing universities, institutions and networks. This collaboration would go further than pure brokerage of existing courses (cf. broker model, in addendum) or even jointly developed courses. In the model that we aim at, the collaboration would be stronger, comparable to collaboration models in research networks (forum model, in addendum), with joint research activities and frequent communication. Eventually, one may think about a model where central governance is taking over part of the autonomy of the participating organisations (European university model, in addendum). These 3 models can be considered in a hierarchical order, in which 3 may include 2 and 2 may include 1. A possible approach might be one in which gradually a shift from model 1 to 2 and 3 can take place.

Attitude towards e-learning:

1. What is the position of e-learning within your university with respect to the whole spectrum of teaching and learning?
2. For which target groups is e-learning used?
 - a. Is it seen as a complementary feature to support regular education for regular students?
 - b. Is it meant for post academic students or lifelong learners?
 - c. Is e-learning used to offer courses to part-time students in a parallel circuit?
 - d. Are different degrees offered with e-learning that are not available in the regular curricula?
3. Does the university have a policy with respect to the use of e-learning?
4. Are there any documents about these policies? If possible, please add them to this questionnaire
 - a. Is this policy part of a broader strategy regarding the profile that the university wishes to adopt for the future?
 - b. Describe this general strategy?

- c. Are there any documents that could clarify this strategy (e.g. 'this is a research university')? Please add them to this questionnaire if there are.
- 5. Are these e-learning strategies embedded in a pedagogical concept (e.g. problem oriented learning, project based learning, guided independent study, etc.)?
- 6. Do these policies have an impact on the whole university or can decisions be made at the level of departments and faculties?

Implementation path in e-learning

- 7. Basic conditions for implementation
 - a. Is the necessary technical equipment available? Describe.
 - b. Are networks and equipment easily available for all potentially interested?
 - ⇒ Sufficient bandwidth
 - ⇒ Sufficient capacity (number of users)
 - ⇒ Does the university provide computers to their staff and students? Are all types of computer supported?
 - ⇒ Does the university make an effort to connect students at home?
 - ⇒ Standardisation of equipment and services for users
 - ⇒ Standardisation of software and services for users
 - ⇒ Learning Management System and standardisation
 - ⇒ Availability of digital libraries
 - ⇒ Linking of learning platforms to databases of learning materials, student data, curricular data etc.
 - ⇒ Training of all participants (students, staff, administration, etc.)
 - ⇒ Incentives to use e-learning, including adequate rewards for teachers
 - ⇒ Safety and protection issues; outside access (off-campus access and access for people from outside the university)
- 8. Timing and sequencing of the implementation path.
 - a. Is a time schedule for the implementation in place?
 - b. What's the scope of this implementation? Are all levels and all curricula envisaged at once?
 - c. On what level are these decisions taken? (Central administration, departmental level, faculty level)
 - d. Can the quality of e-learning be guaranteed by the quality control systems already in use at the university or does e-learning need specific quality protection systems?
 - e. Is e-learning treated as equally important in comparison to, e.g., research?
- 9. Is networking between universities also a part of e-learning policy?
 - a. What kind of networks are involved?
 - b. Is this collaboration project based or continuous?
 - c. Is this networking part of a strategic alliance or is it the consequence of previously existing collaborations?
 - d. How are these international networks financed? Is the financing limited to project budgets?
 - e. Are government institutions or corporate businesses involved in the collaboration? How big is their share in proportion to that of other partners?

Problems encountered and possible solutions

Please indicate for each of the specified items

What were/are the encountered obstacles? At what levels were/are these encountered?

What were/are the solutions? At what level were/are problems solved?

10. IPR and Copyright
11. Resistance from different actors
12. Quality control and protection
13. Accreditation of external (learning and teaching) materials within the own institution
14. Technical problems
15. Problems of pedagogical nature
16. Language problems
17. Problems of rewarding and support
18. Problems with respect to the changing relationship between students and teachers
19. Lack of technical and pedagogical skills
20. Teaching and training of personnel in the specific pedagogical and technical requirements of e-learning
21. Practical problems (access to technology)
22. Problems with timing and planning
23. Administrative problems (registrations, payments)
24. Workload
25. Motivation
26. Finances
27. Competition among institutions and profiling towards other institutions

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28. For your university, are some kinds of common services and support provision in the framework of an EVU things that can facilitate the e-learning process?
29. Would virtual student mobility be an added value for your institution?
30. Do the three models, as described in addendum (broker model, forum model, European university model) facilitate the implementation process of an EVU? Which model do you see as the most appropriate to start with for your institution? Which one do you consider to be the ultimate goal for your institution?
31. With respect to what elements could such a “central facilitator” be useful for your institution?
 - a. Offering central services
 - b. Technology watch & forecast
 - c. Mediation in virtual student mobility
 - d. Preparation and maintenance of
 - ⇒ Physical student mobility
 - ⇒ Making external subject areas optional in the curriculum
 - ⇒ Giving students the possibility to consult external experts
 - ⇒ Virtual Erasmus: giving access to study material to students of one’s own university that are temporarily studying abroad (and the services to support this):
 - (i) Common standardised and commented course descriptions

- (ii) The development and the implementation of credit systems for virtual exchange.
 - (iii) Hosting courses on a central server
 - (iv) Support of communication environments.
 - (v) Joint training for typical networked learning environments
 - (vi) Protection systems for registration and examination
- ⇒ Exchange and joint development of learning and teaching materials between partners and services to support this
- (i) Creation of a knowledge pool
 - (ii) Project management (+ looking for funding)
 - (iii) Hosting of van servers, platforms for this development
 - (iv) Looking for, or development of interoperability tools
 - (v) Providing communication tools (e.g. Videoconference)
 - (vi) Providing negotiation tools for decision making processes within collaborative working environments
 - 1. Language management system
 - 2. Quality control systems
32. Under which conditions would your institution be prepared to participate in such an EVU? Is your institution prepared to:
- a. Pay for services
 - b. Offer man power for the joint development of study material and to define e-learning as part of their job (and value it accordingly)
 - c. Invest manpower for the development and maintenance of virtual Erasmus and to define this as part of their job (and value it accordingly)
 - d. Put the own services at the disposal of the community (distributed services)