### Document Title

**VISCED – Project Publications (Several)**

<table>
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<tr>
<th><strong>Deliverable no.</strong></th>
<th>D7.5</th>
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<tr>
<td><strong>Date of issue</strong></td>
<td>18 January 2013</td>
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<td><strong>Author[s]</strong></td>
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<td>18/1/2013</td>
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<td><strong>Approval status</strong></td>
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**Abstract**

This deliverable represents the combined output of VISCED Publications and covers both publications in conference proceedings and publications in journals, magazines, etc.

**Keyword list**

Dissemination, validation, multiplication, main-streaming

**Distribution list**

Public

**Method of distribution**

Email

**Electronic copy filed**

“VISCED files” in VISCED Dropbox

**Confidentiality status**

Public

### History

<table>
<thead>
<tr>
<th><strong>Version number</strong></th>
<th><strong>Date</strong></th>
<th><strong>Revised by</strong></th>
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<td>18 Jan 2013</td>
<td>Sally Reynolds</td>
<td>18/1/2013</td>
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<tr>
<td>V02</td>
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<td>Sally Reynolds</td>
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# Table of Contents

1. Executive summary ...................................................................................................................... 3
2. Introduction .................................................................................................................................. 4
   Publications ................................................................................................................................... 4
3. Annexes ......................................................................................................................................... 12
   Annex 1 ......................................................................................................................................... 12
   Annex 2 ......................................................................................................................................... 13
   Annex 3 ......................................................................................................................................... 14
   Annex 4 ......................................................................................................................................... 29
   Annex 5 ......................................................................................................................................... 40
   Annex 6 ......................................................................................................................................... 44
   Annex 7 ......................................................................................................................................... 48
   Annex 8 ......................................................................................................................................... 69
   Annex 9 ......................................................................................................................................... 71
   Annex 10 ....................................................................................................................................... 72
   Annex 11 ....................................................................................................................................... 74
   Annex 12 ....................................................................................................................................... 75
   Annex 13 ....................................................................................................................................... 87
   Annex 14 ....................................................................................................................................... 89
   Annex 15 ...................................................................................................................................... 107
   Annex 16 ...................................................................................................................................... 117
   Annex 17 ...................................................................................................................................... 127
1. Executive summary
The purpose of this report is to present the 18 publications produced by VISCED during its two year lifetime. These publications vary from abstracts to full papers as well as the main project publication, “Virtual Schools and Colleges – Providing Alternatives for Successful Learning, vol. 1 and 2”. Many are associated with conferences and events which were attended by one or more members of the project team. Several have come about due to close collaboration with other researchers in the field and they include the published resources associated with the involvement of Project Manager, Prof Paul Bacsich, in a MOOC on Virtual Schooling during the latter part of the project. In each case a description of the publication is first given with the complete publication where possible, presented in an annex.
2. Introduction

In the original proposal, no specific mention of the number of publications to be achieved by the partners was mentioned. As was explained, it is always difficult to be precise in advance about such publications as they are invariably decisions related to such publications are outside the control of the project partnership. There can also be significant challenges in having papers accepted in research journals due to the long lead in and nature of such journals.

The partners therefore decided to focus their attention on having as many publications as possible associated with conferences and events in which they were involved as can be seen by the list of publications presented in this deliverable. Several other papers were also published as a result of the close ties enjoyed by consortium members with other respected researchers active in the field who were able to present work carried out by VISCED in the context of other papers they were able to present.

Publications

18 publications are presented in this deliverable. They vary from single page abstracts to complete papers. They also include the main project publication, “Virtual Schools and Colleges – Providing Alternatives for Successful Learning, vol. 1 and 2”. In each case a description of the publication is first given with the complete publication where possible, given in an annex.

| Publication title | N. JEANS, P. BACSICH, G. PEPLER, Investigating Innovative e-learning initiatives and Virtual Schools |
| Publication status | Paper available online - [http://repository.alt.ac.uk/2160/1/alt-c_2011_abstracts_v2.6.pdf](http://repository.alt.ac.uk/2160/1/alt-c_2011_abstracts_v2.6.pdf), p. 63 |
| Event / publication | ALT-C 2011 |
| Date | 6-8 September 2011 |
| Location | University of Leeds, UK |
| Description | This was the 18th international annual conference of the Association for Learning Technology in the UK which is a highly prestigious event attracting many academics and researchers. |
| Relevant links | [http://www.alt.ac.uk/altc/alt-c-2011](http://www.alt.ac.uk/altc/alt-c-2011) |
| Description of the publication | The paper provides a good overview of the context of the VISCED work and orientation at month 9 of the project. It also introduces the workshop with which VISCED took part in the conference and its expected results. |
| Annex | See publication in Annex 1 |

<p>| Publication title | P. BACSICH, Session C1: critical factors and quality aspects for virtual schools |
| Publication status | Workshop paper published |
| Event / publication | EFQUEL 2011 (EIF2011) |
| Date | 14-16 September 2011 |</p>
<table>
<thead>
<tr>
<th>Location</th>
<th>Oeiras, Portugal</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
<td>The EFQUEL Innovation Forum 2011 was called “Certify the future...?! Accreditation, Certification and Internationalisation”. This annual international forum by EFQUEL provides an opportunity to discuss future and innovative practices, research and policy developments in the various sectors of education.</td>
</tr>
<tr>
<td>Description of the publication</td>
<td>The paper describes the session of EIF2011 facilitated by Paul Bacsich, giving on one side the structure of the session itself and on the other side the context and the main topics on which to focus during the discussions.</td>
</tr>
<tr>
<td>Annex</td>
<td>See publication in Annex 2</td>
</tr>
</tbody>
</table>

| Publication title | E. OSSIANNILSSON et al., *International benchmarking. The first dual mode distance learning benchmarking club* |
| Publication status | Publication available |
| Event / publication | Next Generation Learning Conference 2012 |
| Date              | 21-23 February 2012 |
| Location          | Dalarna University, Sweden |
| Description       | This conference organised by KTH Royal Institute of Technology was a Nordic event on the implications for learning and education of the digital revolution. It was aimed at development and research projects in both educational and professional settings. |
| Description of the publication | This 13-pages paper is the first airing of the conclusions that the four universities in the Dual Modes Distance Learning Benchmarking Club drew from their work to disseminate and implement the Pick&Mix benchmarking model. |
| Annex             | See publication in Annex 3 |

<p>| Publication title | P. BACSICH et al., <em>Virtual schooling for all ages – the news from VISCE D</em> |
| Publication status | Publication available |
| Event / publication | EDEN annual conference |
| Date              | 6-9 June 2012 |
| Location          | Porto, Portugal |
| Description       | This annual conference is one of the best attended European conferences for researchers. Policy-makers and others interested in open and distance learning at all levels. |
| Relevant links    | <a href="http://www.eden-online.org/2012_porto.html">http://www.eden-online.org/2012_porto.html</a> |
| Description of the publication | The paper gives an overview of the VISCE D project, describing its characteristics, the adopted approach and presenting the results and outcomes developed at that stage. The document ends with an introductory paragraph about “Virtual schooling for all ages”, which turned out to be more widespread than thought at first. |</p>
<table>
<thead>
<tr>
<th>Annex</th>
<th>See publication in annex 4</th>
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</thead>
<tbody>
<tr>
<td><strong>5</strong></td>
<td><strong>Publication title</strong></td>
</tr>
<tr>
<td>Publication status</td>
<td>Publication available</td>
</tr>
<tr>
<td>Event / publication</td>
<td>The Future of Education International Conference</td>
</tr>
<tr>
<td>Date</td>
<td>7-8 June 2012</td>
</tr>
<tr>
<td>Location</td>
<td>Florence, Italy</td>
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<tr>
<td>Description</td>
<td>This annual international event aims to promote transnational cooperation and share good practice in the field of innovation for Education.</td>
</tr>
<tr>
<td>Relevant links</td>
<td><a href="http://www.pixel-online.net/edu_future2012">http://www.pixel-online.net/edu_future2012</a></td>
</tr>
<tr>
<td>Description of the publication</td>
<td>The paper provides a good overview of the context of the VISCED work, focusing especially on the concept of virtual school and the challenges that virtual schooling presents.</td>
</tr>
<tr>
<td>Annex</td>
<td>See publication in Annex 5</td>
</tr>
</tbody>
</table>

| **6** | **Publication title** | N. DAVIS, *21st century learning environments in the limelight, including virtual schooling* |
| Publication status | Publication available. [online at: see location] |
| Date | Last modified: Tuesday, 19 June 2012, 05:19 pm |
| Description | Computer in New Zealand Schools: Learning, Teaching and Technology aims at supporting the educational community by sharing and advancing knowledge and practice in the use of information and communication technology in learning and teaching. It also aims at developing a learning community to support professional development of teachers and educators. |
| Relevant links | [http://education2x.otago.ac.nz/cinzs/](http://education2x.otago.ac.nz/cinzs/) |
| Description of the publication | The paper gives an overview of online and flexible learning in New Zealand, paying particular attention to Virtual schooling and to the evidence currently being drawn from many sources, including meetings, reports, research and comparative studies |
| Annex | See publication in Annex 6 |
7. **Publication title:** P. BAC SIC H, *Impact of e-learning in the 21st century university*

**Publication status:** Paper available online – see [http://www.elearningeuropa.info/sites/default/files/meeting20120713/impact_of_e-learning_on_21c_university_PAU_additional_ref.pdf](http://www.elearningeuropa.info/sites/default/files/meeting20120713/impact_of_e-learning_on_21c_university_PAU_additional_ref.pdf)

**Event / publication:** eLearning Papers

**Date:** Chapter published on 18 July 2012, written in September 2011


**Description:** eLearning Papers add a new dimension to the exchange of information on e-learning in Europe and stimulates research. The scope of the eLearning Papers reflects the four interest areas of elearningeuropa.info: schools, higher education, training and work and learning and society.


**Description of the publication:** The paper examines how and why the “Academy” in the 21st century has both deployed e-learning and adapted to the deployment of e-learning by the “other” draw out links from the e-learning phenomenon to wider issues of privatisation, internationalisation, culture, research and funding.

**Annex:** See publication in Annex 8

8. **Publication title:** B. PHILLIPS, *VISCED: A Transnational Appraisal of Virtual School and College Provision*

**Publication status:** Abstract available

**Event / publication:** ALT-C

**Date:** 11-13 September 2012

**Location:** University of Manchester, UK

**Description:** This was the 19th international annual conference of the Association for Learning Technology in the UK which is a highly prestigious event attracting many academics and researchers.

**Relevant links:** [http://www.alt.ac.uk/altc2012](http://www.alt.ac.uk/altc2012)

**Description of the publication:** Including observations on the spectrum of virtual schooling models and definitions, and policy issues and responses, this paper argues that policy makers at many levels are yet to grasp the nature of the changes afoot in virtual schooling. Consequently there exist policy fault lines which could be damaging on various levels.

**Annex:** See publication in Annex 7

9. **Publication title:** P. BAC SIC H, *Alternative models of (formal) education delivery, an alternative intervention of Paul Bacsich at the EIF*

**Publication status:** Abstract available

**Event / publication:** EFQUEL Innovation Forum
<table>
<thead>
<tr>
<th>Publication title</th>
<th>P. BACSICH, Virtual School MOOC - Introduction to K-12 Online Learning Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication status</td>
<td>Available online</td>
</tr>
<tr>
<td>Event / publication</td>
<td>MOOC</td>
</tr>
<tr>
<td>Date</td>
<td>10 September - 07 October 2012</td>
</tr>
<tr>
<td>Location</td>
<td>see relevant link</td>
</tr>
<tr>
<td>Description</td>
<td>This massive online open course (MOOC) provides a broad overview of the field of K-12 online learning, specifically what is currently known based on the research that has been conducted in the field.</td>
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<tr>
<td>Relevant links</td>
<td><a href="http://virtualschoolmooc.wikispaces.com/">http://virtualschoolmooc.wikispaces.com/</a></td>
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<tr>
<td>Description of the publication</td>
<td>This massive online open course (MOOC) provides a broad overview of the field of K-12 online learning, specifically what is currently known based on the research that has been conducted in the field.</td>
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<tr>
<td>Annex</td>
<td>See list of content in Annex 10</td>
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</table>

<table>
<thead>
<tr>
<th>Publication title</th>
<th>P. BACSICH, Innovative good practice in virtual schooling in Europe</th>
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<tr>
<td>Publication status</td>
<td>(Very short) Abstract available</td>
</tr>
<tr>
<td>Event / publication</td>
<td>iNACOL annual 2012 Virtual School Symposium</td>
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<tr>
<td>Date</td>
<td>21 – 24 October 2012</td>
</tr>
<tr>
<td>Location</td>
<td>New Orleans, USA</td>
</tr>
<tr>
<td>Description</td>
<td>This annual event brought together over 2,000 representatives from national, state, district, private, and other virtual school programs in the US and is considered to be the premier K-12 online and blended learning conference.</td>
</tr>
<tr>
<td>Relevant links</td>
<td><a href="http://vss2012.inacol.org/">http://vss2012.inacol.org/</a></td>
</tr>
<tr>
<td>Description of the publication</td>
<td>The paper describes the session held by Paul Bacsich, who, after reviewing the current “state of the art” among the 50 or so virtual schools in Europe, focused on issues of sustainability, innovative practice and staff development.</td>
</tr>
<tr>
<td>Annex</td>
<td>See list of content in Annex 10</td>
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</table>
### Annex
See publication in Annex 11

### 12 Publication title
**ILSE OB DE BEECK et al., Virtual schools and colleges in Europe: looking for success factors**

<table>
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<tr>
<th>Publication status</th>
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<tr>
<td>Event / publication</td>
<td>EDEN Research workshop</td>
</tr>
<tr>
<td>Date</td>
<td>22-23 October 2012</td>
</tr>
<tr>
<td>Location</td>
<td>Leuven, Belgium</td>
</tr>
<tr>
<td>Description</td>
<td>This biannual research event brings together researchers and in 2012 focused on how students are driving teachers, instructors in the fields where new learning technologies play important role</td>
</tr>
<tr>
<td>Relevant links</td>
<td><a href="http://www.eden-online.org/eden-events/research-workshops/leuven.html">http://www.eden-online.org/eden-events/research-workshops/leuven.html</a></td>
</tr>
<tr>
<td>Description of the publication</td>
<td>This paper provides the reader with the definition and characteristics of virtual schools and colleges (and a selection of different examples) and then present an elaboration on a number of factors identified during VISCED research which help to make virtual schools and colleges successful.</td>
</tr>
<tr>
<td>Annex</td>
<td>See publication in Annex 12</td>
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### 13 Publication title
**MULTIPLE AUTHORS, Virtual Schools and Colleges – Providing Alternatives for Successful Learning, vol. 1 and 2**

<table>
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<th>Publication status</th>
<th>Handbooks published – available online at: see relevant links</th>
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<tr>
<td>Event / publication</td>
<td>Virtual Schools and Colleges – Providing Alternatives for Successful Learning, vol. 1 and 2</td>
</tr>
<tr>
<td>Date</td>
<td>November 2012</td>
</tr>
<tr>
<td>Location</td>
<td>See relevant links</td>
</tr>
<tr>
<td>Description</td>
<td>These handbooks summarise the outcomes of the VISCED research. They provide the reader with an introduction and basic understanding of virtual schools and colleges</td>
</tr>
<tr>
<td>Description of the publication</td>
<td>See description</td>
</tr>
<tr>
<td>Annex</td>
<td>See screenshot sample of the volumes in Annex 13</td>
</tr>
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### 14 Publication title

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<tr>
<th>Publication status</th>
<th>Publication available</th>
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<tbody>
<tr>
<td>Event / publication</td>
<td>Online Educa Berlin</td>
</tr>
<tr>
<td>publication</td>
<td>Date</td>
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<td>-------------</td>
<td>------</td>
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<tr>
<td></td>
<td>28-30 November 2012</td>
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</tbody>
</table>

| 15 | Publication title | P. BACSICH, *Alternative Models of Education Delivery* | Publication status | Publication available | Event / publication | Policy Brief, September 2012, UNESCO | Date | Dated September 2012 eventually published in December 2012 | Location | see relevant links | Description | Policy briefs is one of the periodic publications of the UNESCO Institute for Information Technologies in Education (see [http://iite.unesco.org/publications/themes/policy_briefs/](http://iite.unesco.org/publications/themes/policy_briefs/)) | Relevant links | [http://iite.unesco.org/pics/publications/en/files/3214709.pdf](http://iite.unesco.org/pics/publications/en/files/3214709.pdf) | Description of the publication | The key goal of this Policy Brief is to produce a number of alternative models of education delivery in the formal education sector. For each model the features, the advantages and the disadvantages are outlined, followed by the policy shifts (if any) necessary to facilitate their development. | Annex | See Annex 15 |

| 16 | Publication title | P. BACSICH, *Virtual schools and open schools: a perspective from Europe on Asia* | Publication status | Pending publication | Event / publication | India conference on Open Schooling | Date | 13-15 March 2013 | Location | Delhi | Description | The International Conference Education for All: Role of Open Schooling has the objective of: exchange and share existing national and international experiences/practices for achieving Education for all; discuss issues and concerns pertaining to education for all at different levels and types of school education; suggest strategies and interventions to achieve the goal of Education for All through open schooling. | Relevant links | [http://nios.ac.in/news-and-events/international-conference-education-for-all-role-of-open-schooling,-13th-15th-march-2013.aspx/](http://nios.ac.in/news-and-events/international-conference-education-for-all-role-of-open-schooling,-13th-15th-march-2013.aspx/) |
| Description of the publication | This paper exploits the findings from VISCED to provide readers with a basic understanding of virtual schools and colleges, two short case studies, a set of critical success factors, a list of policy recommendations to support effective virtual schooling and information about where one can find out more. |
| Annex | See paper in Annex 16 |

| Publication title | P. Bacsich, Virtual schools and open schools: a perspective from Europe on Africa |
| Publication status | Possible publication |
| Event / publication | eLearning Africa |
| Date | 29-31 May 2013 |
| Location | Windhoek, Namibia |
| Description | Meeting the networking needs of the pan-African eLearning and distance education sector, the annual eLearning Africa conference is the key networking venue for practitioners and professionals from Africa and all over the world. |
| Description of the publication | This paper exploits the findings from VISCED to provide readers with a basic understanding of virtual schools and colleges, two short case studies, a set of critical success factors, a list of policy recommendations to support effective virtual schooling and information about where one can find out more. |
| Annex | See paper in Annex 17 |

| Publication title | Michael K. Barbour, Wayne State University The fifth edition of the State of the Nation: K–12 Online Learning in Canada report |
| Publication status | This publication has already been made available for download from the Open School Canada website |
| Event / publication | n/a |
| Date | n/a |
| Location | n/a |
| Description | Prof. Paul Bacsich provided the Foreword to this publication which provides an analysis of the situation and context of K–12 online education in Canada. The foreword sets the contents of the report in the wider international context. |
| Description of the publication | This report of more than 90 pages provides a comprehensive overview of the state of Virtual Schooling in Canada in 2012 |
| Annex | See the Foreword in Annex 18 |
3. Annexes

Annex 1

Investigating Innovative e-learning initiatives and Virtual Schools

Authors: Nick Jeans, Paul Bacsich, Giles Pepler, Sero Consulting, UK

Theme: Research and rigour

Tags: design, early Research, effectiveness, evaluation, evidence, implementation, inclusion, informal Learning,

Institutional Problems, International, learning platforms, mobile devices, moving learners between sectors, planning, problem solving, research, research, sharing, tools, virtual, web2.0

A new research project to investigate Virtual School and College Education (VISCED) has just been launched with the support of the European Commission's Lifelong Learning Programme. Partners in the project (from the UK, Belgium, Sweden, Denmark, Finland, Estonia, Germany, Italy and Greece) are making a worldwide inventory of innovative ICT-enhanced learning initiatives and major 'e-mature' secondary and post-secondary education providers for the 14-21 age group (including Virtual Schools and Colleges). There is a focus on learners with inclusion issues and facilitating access to higher education. Success will be achieved by adapting, piloting and transferring innovative approaches which already exist in other countries outside the EU (or in the EU) but not widely known. The review will be validated by pilots at five schools in three countries. The outputs of this work will be analysed to identify success factors and teacher training recommendations - for policymakers, advisors, government, education authorities and the e-learning industry. Further details at http://visced.referata.com/wiki/Main_Page

The workshop will review what the research has revealed so far. The project started shortly before the deadline for submissions, but by September, we will have a wide range of exemplar initiatives from around the world, which we think are relevant for schools and colleges in Europe. We will discuss problems in transferring projects directly from one country's environment to another and inviting participants to contribute their own experiences of successful large-scale initiatives. Participants will be actively involved in contributing to the research by describing e-learning initiatives that they know of or in which they are directly engaged. The session will involve delegates doing some active problem solving in a cabaret style space, sharing relevant initiatives and the issues involved in transferring them from one institution, country or education system to another. The initiatives described will be those that offer useful lessons for anyone interested in wider applications of learning technology in secondary and further education. The workshop should therefore help participants solve problems in the context of their own organisation and suggest innovative ideas to try out at their home institutions.
Annex 2

Session C1: Critical success factors and quality aspects for virtual schools
Facilitated by Paul Bacsich (SERO)

There is debate about the best definition of "virtual school" but for this talk I take the view that a virtual school is a school (complete with head teacher, teachers, pupils, school terms, a syllabus and examinations) which conducts its teaching completely or predominantly over the internet.

This session will be split into two halves. In the first I shall introduce and then facilitate a discussion on what are the factors within a nation or region that are conducive to virtual schools. An initial list has been put together by me in a short article (http://virtualschoolsandcolleges.info/news/factors-predisposing-towards-virtual-schools-country) which listed 10 factors including the five below:

- Pervasive broadband in the country
- A long tradition in the country of virtual education at other educational levels
- A country where parents do not both work long hours or have long travel times to work
- A country which has rural populations but a strong desire to give as good an education to these as to children in cities
- A country with a standardised school curriculum (so that there are economies of scale)

The list will have been updated by the time I speak but most of the above are likely to remain. Participants will be encouraged to reflect on their own country's experience and make judgements on the criteria based on that and on research information.

After a short break, for the second half of the session I shall introduce and then facilitate a discussion on critical success factors for a particular virtual school to thrive long-term. This will take a selection of the Critical Success Factors for colleges and universities derived in the ancestor project Re.ViCa and invite the audience to comment on these from their experience, including suggestions on how to rephrase them to be more schools-friendly. The selection is likely to include the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Factor name</th>
<th>Critical Success Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>R7</td>
<td>Decisions on Projects</td>
<td>The school has effective decision-making concerning the deployment and upgrade of e-learning systems.</td>
</tr>
<tr>
<td>R10</td>
<td>Training</td>
<td>All teaching staff are trained in how to teach using e-learning</td>
</tr>
<tr>
<td>R12</td>
<td>Costs</td>
<td>Management and staff have a good understanding of the costs of running a virtual school and of developing/redeveloping its content.</td>
</tr>
<tr>
<td>R16</td>
<td>Technical Support</td>
<td>All teaching staff have &quot;nearby&quot; fast-response technical support.</td>
</tr>
<tr>
<td>R35</td>
<td>Relationship Management Upwards</td>
<td>The school has effective processes designed to achieve high formal and informal credibility with relevant government and public agencies overseeing it.</td>
</tr>
</tbody>
</table>
Annex 3

*International benchmarking. The first dual mode distance learning benchmarking club*

<table>
<thead>
<tr>
<th></th>
<th>Paul Bacsich</th>
<th>Margareta Hellström</th>
<th>Andreas Hedrén</th>
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<tr>
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<td>Gotland University, SE</td>
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<tr>
<td>Lund University, SE</td>
<td><a href="mailto:paul@matic-media.co.uk">paul@matic-media.co.uk</a></td>
<td><a href="mailto:mhel@kth.se">mhel@kth.se</a></td>
<td><a href="mailto:andreas.hedren@hgo.se">andreas.hedren@hgo.se</a></td>
</tr>
<tr>
<td><a href="mailto:Ebba.Ossiannilsson@ced.lu.se">Ebba.Ossiannilsson@ced.lu.se</a></td>
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</tbody>
</table>

**ABSTRACT**

Benchmarking is a self-improvement tool allowing organisations to compare themselves with others regarding some aspects of performance, with a view to finding ways to improve current performance. Benchmarking deals with change for quality enhancement but also with identification and implementation of areas of development. Benchmarking is a process that enables comparison of inputs, processes or outputs between institutions or within a single institution over time

A Dual Modes Distance Learning Benchmarking Club was set up across the world, aimed at disseminating and implementing the *Pick&Mix* model. Four institutions in the Club were successfully benchmarked using a slightly modified version of *Pick&Mix* during 2009-2010. Besides the benchmarking, concordance works with other benchmarking methods were conducted.

The *Pick&Mix* benchmarking system contains 18 criteria which are **critical success factors** (of special importance for success in e-learning). These are: Usability, e-Learning Strategy, Decisions on Projects, Training, Costs, Planning Annually, Technical Support to Staff, Decisions on Programmes, Leadership in e-Learning, Management Style, Relationship, Management Upwards, Reliability, Market Research, Security, Student Understanding of System, Student Help Desk, Distance Learning Strategy (a doppelganger criterion with e-learning strategy). All of the benchmarks were scored at six levels (a scale of 1 to 6) and a coloured matrix was produced where the state of an institution/department becomes explicit.

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1. Re.ViCa [http://revica.europace.org](http://revica.europace.org)
Among four institutions in the Club that went through to scoring, one was in UK (University of Leicester), two in Sweden (Lund University and the Royal Institute of Technology), and one in Canada (Thompson Rivers University). Later, the University of Leicester decided not to continue in the Club, due to changes in staff and policies. Fortunately Gotland University, Sweden had also done benchmarking using the Pick&Mix methodology. A final meeting of the Club was hosted by KTH in September 2011 with Thompson Rivers University and Lund University with Gotland University as a guest. The four universities present agreed to share their results and to continue their benchmarking collaboration in Sweden and beyond, including producing a public report of their conclusions. This paper is the first airing of these.

Headline conclusions are:

1. Over the five years since Pick&Mix was first used, institutions are gradually developing stronger competence in e-learning – but progress is slow
2. Only a very few universities have strong expertise in market research for e-learning
3. No institution has a good understanding of the cost issues to do with e-learning

Staff generally feel that the management do not given them adequate reward and recognition for their e-learning competence.

Keywords
benchmarking, critical success factors, e-learning, quality

INTRODUCTION

This paper introduces benchmarking as a method and provides a short summary of Pick&Mix. Then follows a description of the First dual-mode distance learning benchmarking club, and its aims, partners, core criteria and processes are described. Following that, experiences from mainly the Swedish partners are elaborated together with a conclusion on methodology and the main outputs from the benchmarking exercise. The paper ends with a discussion and further recommendations.

BENCHMARKING

Benchmarking originated in the US as a response to competitive pressures in the early 1970s (Camp, 1993). Gradually it took on aspects of self-analysis and comparison against industry "best practices" (Bacsich, 2009a, b, c; Bibliography on benchmarking, 2012; Ossiannilsson, forthcoming).

Benchmarking as used in university e-learning circles started in the UK when the Higher Education Funding Council for England put it into its e-learning strategy (HEFCE, 2005). In Australia and New Zealand the e-learning maturity model (eMM) has been in use since around the same time (Marshall and Mitchell, 2004; Marshall, 2005, 2007). Benchmarking e-learning in higher education is possibly more important to help individual institutions understand their own positions in e-learning, to set their aspirations and goals for embedding e-learning - and then to benchmark themselves and their progress across the sector (Bacsich, 2009a,b,c; Marshall and Mitchell, 2007; Ossiannilsson, forthcoming).

HISTORY OF PICK&MIX
Pick&Mix works within a context of an open educational methodology. Each release of the system and associated reports is placed in the public domain (Creative Commons license).². There is also a wiki supporting a mass of benchmarking material.³ It is rare to be this open: several other methodologies used across the world for benchmarking e-learning do not operate in this way. Being open implies that a "scholarship of benchmarking" can more easily arise, since the methodology, underpinnings, evaluations and uses are easy to access, and users motivated to improve the system. (Bacsich, 2009c).

In late 2005 Pick&Mix was adopted by the Higher Education Academy as one of the three main methodologies for the Benchmarking Pilot Bacsich, 2005). Across all the phases, 24 institutions used it out of the total of 82 benchmarked. Originally Pick&Mix had a number (20) of core criteria, all of which had to be analysed, but only those 20. However, it became clear from the Pilot Phase onwards that new criteria were needed, but ones not necessarily relevant to all institutions. Thus was born the concept of supplementary criteria which institutions could choose to use in addition to the compulsory core criteria. This was one of the most popular features. The author of Pick&Mix was even the international advisor to the Australian ACODE (Bacsich, 20110) benchmarking scheme.

THE FIRST DUAL-MODE DISTANCE LEARNING BENCHMARKING CLUB

Across the world, by no means all distance learning is yet imbued with substantial amounts of e-learning. So in theory there was a decision between two options, benchmarking e-learning within the distance learning slice of the institution, and benchmarking distance learning, using a distance learning mood of Pick&Mix.

To disseminate and try out the method of Pick&Mix an international benchmarking club was set up in 2009-2011. The First dual-mode distance learning benchmarking club originally comprised seven universities across the world, all active in distance online learning in a dual-mode fashion, all intending to benchmark their online distance learning activity. In reality most activities took place in the period September 2010 to February 2011 but the original plan had been to conduct the benchmarking exercise twice, once in Autumn 2009 and once in Autumn 2010. For several reasons this become not the case within the exercise of the club. However, some members of the Club were successfully benchmarked using a slightly modified version of Pick&Mix during 2009-2010. Besides the benchmarking, concordance works with other benchmarking methods were conducted.

Benchmarking in this club had its point of departure in the Pick&Mix model, a benchmarking method that at the time was especially well known in the United Kingdom. This method had in 2008-09 been updated to fit the current developments in the field of e-learning and has been examined by international experts through the Re.ViCa project (2009), guaranteeing a high level of quality. Pick&Mix in its full form consists of nearly 100 benchmarks. This number provides flexibility, and

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² [http://creativecommons.org/](http://creativecommons.org/)

³ ELDDA, 2008
universities can choose for themselves which benchmarks they will consider. Eighteen of them, however, are critical success factors (i.e. factors that are of special importance for success in e-learning). All of the benchmarks are scored at one of six levels and, by tabulating the benchmarks, a coloured matrix is produced directly. Through the matrix, the state of the art of an institution/department becomes explicit. The Club was aimed at disseminating and implementing the Pick&Mix model (Mick&Mix, 2011) more widely beyond the UK. The participating universities carried out the benchmarking process. Within this process, generic and critical success factors were explored.

**PROJECT PARTNERS**

Earlier scoping work on such a Club suggested that between 4 and 8 universities should take part, at least 4 (to ensure sufficient diversity and common working) and at most 8 (to ensure viable operation of virtual project meetings using synchronous video tools). It was further agreed that each partner should ideally be a university with at least 10,000 students whose distance online learning offering has in excess of 1000 students and also has a wide range of programmes. The final universities involved in the first dual mode distance benchmarking club list are showed in Table 1.

<table>
<thead>
<tr>
<th>Country</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>University of Leicester (lead)</td>
</tr>
<tr>
<td>UK</td>
<td>University of Liverpool</td>
</tr>
<tr>
<td>Australia</td>
<td>University of Southern Queensland,</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Massey University</td>
</tr>
<tr>
<td>Canada</td>
<td>Thompson Rivers University</td>
</tr>
<tr>
<td>Sweden</td>
<td>Lund University</td>
</tr>
<tr>
<td>Sweden</td>
<td>KTH</td>
</tr>
</tbody>
</table>

**TABLE 1. UNIVERSITIES INITIALLY INVOLVED IN THE FIRST DUAL MODE DISTANCE BENCHMARKING CLUB.**

**CORE CRITERIA PICK&MIX**

The benchmarking system was described as follows: The benchmarking system to be used was the Pick&Mix system used already in the period 2005-08 by 24 institutions in the UK. The basis for the new set of core criteria for the Club was the set of Critical Success Factors defined by the Re.ViCa project (2011) using extensive international input from a wide-ranging International Advisory Committee of e-learning experts. It was further adapted in minor ways to have more focus on distance e-learning and serious implementation (step-change) but without going beyond general guidelines (should be 24 or less) on numbers of criteria used. The Pick&Mix methodology draws on five phases of benchmarking with UK HEIs using the Pick&Mix system, and on wider experience of
benchmarking in Europe and internationally (in particular, but not only, the Re.ViCa project). It was
decided early on that the Club was a closed club – but that steps and sounding would be taken to
see how to set up another club later. When the project started, a revision of Pick&Mix was
considered. This led to the following set of Core Criteria being proposed for Club members. The core
criterion are usability, e-learning strategy, decision on projects, training, costs, planning annually,
technical support to staff, decision on programmes, leadership in e-learning, management style,
relationship (management upwards), reliability, market research, security, student understanding of
system, student help desk and student satisfaction (Bacsich, 2009c, 2011, Ossiannilsson & Landgren
2011a, b, c). The core criteria are outlined in Table 2. The 8 ones that are in the UK core are in bold.
Institutions that were new to Pick&Mix benchmarking were free to select up to 6 additional
supplementary criteria.

<table>
<thead>
<tr>
<th>Code</th>
<th>Criterion name</th>
</tr>
</thead>
<tbody>
<tr>
<td>04</td>
<td>Usability</td>
</tr>
<tr>
<td>06</td>
<td>eLearning strategy</td>
</tr>
<tr>
<td>07</td>
<td>Decisions on Projects</td>
</tr>
<tr>
<td>10</td>
<td>Training</td>
</tr>
<tr>
<td>12</td>
<td>Costs</td>
</tr>
<tr>
<td>13</td>
<td>Planning Annually</td>
</tr>
<tr>
<td>16</td>
<td>Technical Support to Staff</td>
</tr>
<tr>
<td>19</td>
<td>Decisions on Programmes</td>
</tr>
<tr>
<td>22</td>
<td>Leadership in e-Learning</td>
</tr>
<tr>
<td>29</td>
<td>Management Style</td>
</tr>
<tr>
<td>35</td>
<td>Relationship Management Upwards</td>
</tr>
<tr>
<td>53</td>
<td>Reliability</td>
</tr>
<tr>
<td>58</td>
<td>Market Research</td>
</tr>
<tr>
<td>60</td>
<td>Security</td>
</tr>
<tr>
<td>91</td>
<td>Student Understanding of System</td>
</tr>
<tr>
<td>92</td>
<td>Student Help Desk</td>
</tr>
<tr>
<td>94</td>
<td>Student Satisfaction</td>
</tr>
</tbody>
</table>

Criterion 06 is paired with a doppelganger criterion 06d

| 06d  | Distance Learning Strategy | Regularly updated Distance Learning Strategy, integrated with Learning and Teaching Strategy and all related strategies (e.g. e-Learning, if relevant). |

Table 2. Core criteria Pick&Mix

ENGAGEMENT APPROACH

At all institutions the benchmarking exercise was carried out with a team leader. and with a core
group as well as a reference group to ensure commitment, involvement and engagement
throughout the benchmarking process: note that the implementation phase has to be included in
the exercise *per se*. It will be stressed already here in the beginning that benchmarking has to be seen within a process approach according to Ossiannilsson (forthcoming). The final scoring meeting in each institution was overseen by the central benchmarking team, face to face or by remote review depending on logistics.

Those from a *quality* background will want to note that the type of engagement approach used in benchmarking is not quite the same as some institutions are used to from national quality bodies. The Pick&Mix version is called the *iterative self-review process* with use of expert moderators which has the following features:

- It encourages a more senior level of participation from the institution: the result is “theirs”, not the moderators
- It allows them to get comfortable over time with the criteria as they apply to their institution
- It helps them move *directly* to implementation of change
- But it selects against complex methodologies – not an issue with Pick&Mix as it is simple (compared with others)
- And requires more effort from moderators (Bacsich, 2011)

The sequence of meetings, which also are recommended for the process as such, held at each institution was the following as is outlines in Table 3.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Aims of meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial meeting</td>
<td>followed by: Initial collection of evidence, and Selection of supplementary criteria</td>
</tr>
<tr>
<td>Mid-process meeting</td>
<td>followed by: Further collection of evidence</td>
</tr>
<tr>
<td>Scoring rehearsal meeting</td>
<td>Followed by final tweaks on and chasing of evidence</td>
</tr>
<tr>
<td>Scoring meeting</td>
<td>xxx</td>
</tr>
<tr>
<td>Reflection meeting</td>
<td>To move to change</td>
</tr>
</tbody>
</table>

Table 3. Recommended meetings during the benchmarking process

**Related analytic work**

Lund University, Sweden was during the benchmarking process in 2009-2011, also undertaking benchmarking using the E-xcellence system, created by the EADTU (The European Association of
Distance Teaching Universities)\(^4\) and the e-learning benchmarking exercise by the ESMU (The European Centre for Strategic Management of Universities).\(^5\) Earlier work on the Pick&Mix to Excellence concordance was updated by Lund University (Ossiannilsson, 2011a, b c). Other earlier concordance work e.g. with OBHE was updated by Matic Media (Bacsich, 2009b).

**EXPERIENCES FROM THE FIRST DUAL MODE DISTANCE BENCHMARKING CLUB**

Below follows a summary of experiences from the Swedish partners, Lund University, Gotland University and KTH.

**EXPERIENCES FROM LUND UNIVERSITY**

Lund University, Scandinavia’s largest University with some 47000 students was founded in 1666. Between 2008 and 2010, Lund University took part in three international benchmarking projects, the E-xcellence+ project on individual benchmarking base (EADTU), the eLearning Benchmarking Exercise 2009 (ESMU), together with eight other European Universities, and the First Dual-Mode Distance Learning Benchmarking Club. At the same time the Swedish National Agency for Higher Education had just published a report on quality in e-learning (NAHE, 2008). Besides carrying out benchmarking according to Pick&Mix as for all partners, which was done based on institutional and program level. The task for Lund University was in addition somewhat extended. Lund University did also a concordance of all four models and the task was also to update Pick&Mix according to current discourse in the field of e-learning and quality and to relate benchmarks and indicators to Scandinavian/Swedish perspectives. Having done that, a comparison of these four models revealed a rather high level of correspondence. From these findings and from desktop studies of the current discourse regarding e-learning, a conceptual framework for e-learning emerged based on a range of critical success factors (Ossiannilsson & Landgren, 2011a, b). The model illustrated that benchmarking has to be conducted as a process and with a holistic and contextual perspective, Figure 1.

![Fig. 1. A conceptual framework for quality in e-learning (Ossiannilsson & Landgren, 2011b,c)](image)

This model could be used as a foundation for planning, conducting and quality assurance of future e-learning and as an inspiration to develop, implement, evaluate, and internalisation of e-learning in education. The model shows that various aspects of accessibility, flexibility,
interactiveness, personalization, and productivity should be embedded in all levels of management and services within the field of e-learning in higher education. To meet students’ expectations, demands, and rights, these critical issues should be taken into account from a holistic perspective with transparency and innovation in mind. Therefore, successful e-learning requires change from an organizational as well as a pedagogical perspective. The results showed explicitly that those perspectives need to be taken into account formulating benchmarks and indicators. One conclusion from this study is that a revolution is on the way and that learning will be reoriented along paradigms of collaboration and networking. Globalization, sustainability, and lifelong learning will be some of the leading concepts in this process (Ossiannilsson & Landgren, 2011b,c).

Based on the accumulated expertise in the field of benchmarking and with regard to NAHE’s e-learning quality model (NAHE, 2008) which also was the foundation for the ENQA quality conference in Sigtuna in 2009 (at which some members of the Club gave presentations), the purpose of the participation of Lund University was slightly wider and, to some extent, different from the others in the project. To consider and define critical success factors, all of the benchmarks were consciously discussed, reflected on, related, and validated. According to the experiences of E-xcellence+, the eLearning Benchmarking Exercise, and the e-learning quality model, as well as the ongoing debate and discourse in the field, our research resulted in three remaining core criteria. Of all the Pick&Mix benchmarks, 17 new core criteria were chosen, as they represented important areas for Lund University within a Swedish context. Finally, nine totally new critical success areas were added. They are constructive alignment; democratic processes; flexibility; legal security; interactiveness; participation; productivity; services for students and staff; and transparency. In total, our collection of critical success areas ended up with 28 items (Table 4).

Thus, in summary, the various steps of this work can be described as follows:

1. We valued the 18 core criteria, how important those were from our experiences and from a Swedish and Lund University perspective, and according to this we made a selection resulting in 3 cores.
2. We found that some of the other benchmarks (out of the appr. 100) in the Pick&Mix model were of importance from our experiences and from a Swedish and Lund University perspective, so those were added (17 in all).
3. In addition, based on our experiences and from a Swedish and Lund University perspective some new critical success factors (8) were added, which we think are of importance according to the current discourse and debate.

<table>
<thead>
<tr>
<th>Remaining core criteria from the Pick&amp;Mix model (3)</th>
<th>Benchmarks selected from the Pick&amp;Mix model (17)</th>
<th>Added critical success factors suggested from Lund University (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Research</td>
<td>Accessibility</td>
<td>Constructive Alignment</td>
</tr>
<tr>
<td>Reliability</td>
<td>Benchmarking</td>
<td>Democratic Processes</td>
</tr>
<tr>
<td>Strategic Management (former Management Style)</td>
<td>Computer Based Assessment</td>
<td>Interactiveness</td>
</tr>
<tr>
<td>Eco-Sustainability</td>
<td>Legal Security</td>
<td></td>
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<td>-------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>Employability</td>
<td>Participation</td>
<td></td>
</tr>
<tr>
<td>e-Portfolios</td>
<td>Productivity</td>
<td></td>
</tr>
<tr>
<td>Information Literacy of Students</td>
<td>Services; Staff and Students</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>Transparency</td>
<td></td>
</tr>
<tr>
<td>Learning Material (former Learning</td>
<td></td>
<td></td>
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<tr>
<td>Library Services and e-Resources</td>
<td></td>
<td></td>
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<tr>
<td>Organizational Learning</td>
<td></td>
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<tr>
<td>Pedagogy</td>
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<tr>
<td>Personalisation</td>
<td></td>
<td></td>
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<tr>
<td>Plagiarism (former Plagiarism</td>
<td></td>
<td></td>
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<tr>
<td>Quality Assurance</td>
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<td></td>
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<tr>
<td>Staff Recognition and Reward</td>
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<tr>
<td>Widening Participation</td>
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</tr>
</tbody>
</table>

Table 4. List of suggested success factors through the project the *First dual mode distance learning benchmarking club* (Ossiannilsson & Landgren, 2011a, b, c).

Many of them are found among the supplementary criteria of Pick&Mix, though often among those less chosen by institutions in the UK, but others are not - thus demonstrating the importance of national and cultural factors in benchmarking e-learning.

Regarding the second task of Lund University, the result of the comparison between the various benchmarking models revealed a fairly high degree of concordance. For example a degree of consistency between the different benchmarking methods and some common critical success factors emerged such as the student perspective, management, and strategies, and educational and technical support. However, different ways were found to express these phenomena, possibly partly because of cultural and linguistic differences. It became obvious that the vocabulary being used tended to be seen from the Swedish standpoint as somewhat old-fashioned, that the benchmarks did not appear to fit the Swedish context with regard to e-learning/blended learning, and that they did not correspond to the current terminology in relevant studies of e-learning favoured in Sweden.

**Experience from Gotland University**

Gotland University is not a formal member of the distance learning benchmarking club. However, Gotland University carried out a benchmarking according to Pick&Mix during 2010 and came to cooperate with the club as a guest at the final stages of the club’s work. Gotland University’s was founded in 1998 and having some 2500 full-year equivalent undergraduate students. The purpose and intention of carrying out a benchmarking using the Pick&Mix method was at first to find suggestions on how to strengthen the institution’s e-learning. The reason for choosing the Pick&Mix method was the expected possibility to relatively quickly, with a relatively small effort, without access to own experts in e-learning get a good view and understanding of the current state of the institution’s e-learning. The method was also expected to give results that would be straightforward to use to find suggestions on what aspects of the institutions e-learning to address and what to do in order to improve. A key aspect that was found appealing when making the decision to use Pick&Mix was the easily understood and concrete (critical) success factors and their 6-level scoring with
attached brief and concrete descriptions for each level. From the classification of the success factors in two sets, critical success factors and success factors, and the 6-level scoring of each success factor follows a given two-level priority and an estimate on an absolute scale of identified issues to address.

This was the first time benchmarking of e-learning was pursued at Gotland university and to help the benchmarking progress and professor Paul Bacsich joined the benchmarking team at an initial meeting, and two more times during the process as well as supporting the team using mail etc. In the initial work with the benchmarking process all the success factors identified in Pick&Mix were explored and considered. Some of the identified success factors in Pick&Mix were found not to be relevant to Gotland University and eventually 30 success factors were chosen and used in the benchmarking process. Gotland University had a few specific issues that needed to be addressed for locally specific reasons. The nature of these issues differed from the benchmarking success factors so these issues were addressed in parallel but separately.

In a few cases the benchmarking team found that it was not straight forward to identify the University’s score for the success factors. This was mostly from institution internal reasons, i.e. it was hard to gather the needed information. The effect of this was that the benchmarking exercise made it clear that there was interesting information that was not easily accessible at the institution.

Apart from this, the use of Pick&Mix for benchmarking the distance e-learning at Gotland University was found to be relatively straight forward and very useful and easy to use the output from the method to suggest changes to achieve improvements of the distance e-learning at the institution. The built-in expertise knowledge and information of the method was highly appreciated and the ease of use and ease of performing a benchmarking made it possible for Gotland University to identify the state of its e-learning on a somewhat absolute scale and to identify what aspects and areas of its e-learning that needs most improvement and also what measures is needed to achieve the identified improvements (Hedrén, 2011).

**Experiences from KTH**

The Royal Institute of Technology (KTH), founded in 1827, is Sweden’s largest technical university. It accounts for one-third of Sweden’s technical research and engineering education capacity at university level. KTH is organized into 10 different Schools, each of these heading a number of Departments, Centers of Excellence and undergraduate study programs. There are a total of just over 13,000 full-year equivalent undergraduate students, more than 1,500 active postgraduate students and 2,935 full time equivalent employees.

KTH joined the benchmarking club in 2010, as one of seven universities. This was the first time ever that benchmarking of e-learning was pursued at KTH, which meant that there was no earlier experience or results to lean on. After an introductory workshop with Professor Paul Bacsich in late spring 2010, four persons were engaged on a part time basis in the project.

Out of the set of success factors 17 critical success factors was selected to be used in the benchmarking, leaving the other criterions out. We also decided to interview as many persons as possible engaged in distance e-learning at KTH and to ask each one individually to score the criteria
according to the Pick& Mix model (i.e. between 1-6). In the interviews we should ask the respondents to produce evidence on as many criteria as possible experience from years of work in the pedagogical department, guiding and training of teachers in the use of ICT and e-learning as well as our personal experience from ourselves having developed and managed several e-learning courses at KTH, had made clear to the benchmarking team, that great variations existed within KTH, between individuals but also between departments and schools. This fact needed to be addressed. If KTH was going to learn from this benchmarking activity, we needed to be able to show these differences in our report. The best way to do this was to ask each of our respondents to value each criterion not only on level 1-6 but also do this for 4 different organizational levels namely at:

1. Individual/or course level
2. Departmental level
3. “School” level
4. Institutional/or “KTH” level.

During the summer months the team collected all documentation possible about different projects on e-learning or courses/initiatives with a blended learning approach. Three persons shared the work to collect interview data from a total of 40 respondents during September to December 2010. The goal was to interview as many teachers as possible involved in e-learning and their management, i.e. Head of Departments and Schools at KTH were e-learning was an issue. In order to conduct each interview in a similar way, a semi-structured guide was developed. To give richness to the interviews and material to the internal report, some initial questions about each criterion was added to the guide.

Results: As expected, the picture varied quite widely among KTH’s Schools. Illuminated “islands” with very advanced and high quality distance e-learning existed. But internal information about their work was not reaching outside their group. At the same time “dark corners” that had not even thought of the possibility to use new technologies to enhance their student’s learning or to try blended learning models for more flexibility were found. This meant that KTH could learn from studying successful e-learning initiatives within its organization from departments that have worked for years in different online initiatives and to develop blended learning models. The benchmarking team therefore decided to present its results not only as written reports but also as a seminar series, were the results could be discussed and good examples disseminated locally.

During the benchmarking process and especially when creating the interview guide and also during the interviews, both respondents and the interviewer commented on that some of the 17 critical success factors, were not as relevant in a Swedish context. This was especially evident on criterion 35 “Relationship management upwards”.

Also criterion 58 “Market research” can be perceived in several ways and market research is not often included in the methods used at Swedish universities. Several of our respondents therefore misinterpreted the criterion as “marketing”, which is quite another thing.
The approximately 100 benchmarks were gone through and discussed to see if we could find other criteria that represented for KTH important areas. Eighteen (18) new core criteria were chosen and grouped in the following areas:

**Student involvement**
Criterion: 90 Employability; 95 Student Satisfaction and 96 e-Portfolios.

**Educational/Pedagogical anchoring**
Criterion: 9 Pedagogy; 22 Adoption by Staff of Enhanced Learning; 24 Teaching 2.0; 50 Learning Outcomes; 52 Ubiquity; 61 Pedagogy Research In and 80 Computer Based Assessment.

**Staff recognition and reward**
Criterion: 15 Evaluation; 19 Staff Recognition and Reward; 37 Innovation Management; 62 Integration; 83 Staff Experience and 84 Staff Satisfaction.

**Open Educational Resources**
Criterion: 75 Library Services e-Resources and 97 Open Educational Resources

Three of the four original Club institutions had no substantial issues with Pick&Mix. Lund University found it more challenging to use the Pick&Mix criteria without modification. However, as described above two other Swedish institutions, KTH (also a research-led institution but smaller than Lund) and Gotland (a small university college with lots of distance learning) managed to cope very well with Pick&Mix.

It is likely that as in the early days of the benchmarking exercise in the UK, the style of institution can have a large impact on acceptance of specific concepts and wording. Lund University is a large, decentralised and student-centred institution and UK experience suggests that such institutions do find the specific Pick&Mix style of benchmarking more challenging and less appropriate. It also may be a factor that the lead benchmarker at Lund University, is doing her PhD on benchmarking and this is likely to generate more comments on methodological aspects.

Over the years, the Pick&Mix tool will be updated - as it was substantially in 2009 just before the Club started. One solution may be a common scheme of benchmarking concepts with different wording of each concept, not only for the different languages but for the different educational/financial milieus (schools, colleges, universities; no fees, commercial fees, etc). This situation is being explored for the schools sector in the VISCED project (Bacsich 2012) where the differences between nations in their school systems are more pronounced than they usually are for universities.

In confirming and trying to be creative and innovative in the process of working with the correlation between the benchmarking models, the current discourse and debate regarding e-learning has permeated our reflections.

**Conclusions on methodology and benchmarking outcomes**

A final meeting of the First dual mode distance learning benchmarking club was held in Sweden in September 2011, with an invitation from KTH to other institutions aiming to share experiences. Four institutions took part, namely the three Swedish ones and Thompson Rivers University, Canada.
Especially the meeting gave all three Swedish institutions involved in Pick&Mix a good base on which to build future collaboration in and beyond Sweden. It was decided at the meeting that the three Swedish institutions and Thompson Rivers University would share with each other reasonably detailed versions of their internal reports, including scores and that a public report should be produced and a thorough bibliography. Three key conclusions from the benchmarking exercise were that:

1. Only Thompson Rivers University has any strong expertise in market research for e-learning, not only in the Club but out of all the institutions benchmarked with Pick&Mix
2. No institution has strong competence in costing e-learning
3. Staff reward and recognition for e-learning is not adequate anywhere.

**DISCUSSION**

The political message is that such clubs are useful and that one could be easily set up in the Scando-Baltic region or within any large-population country like Sweden or even a smaller one like Finland (as has been done in Wales). Issues raised above could be handled by different wording appropriate to the national languages and cultures within a common conceptual scheme for example as developed by Lund University.

At present there is no governing of e-learning on a national level in Sweden since the Net University was closed down in December 2008. Co-operations like the distance learning benchmarking club can play a role on an inter-institutional level, both nationally and internationally, in the absence of any national level governing. Through co-operations like the distance learning benchmarking club institutions could network, share knowledge, increase their competence and strengthen their e-learning. The dissemination of Pick&Mix through the work pursued within the club has created a knowledge foundation that can be taken further to both be used within the institutions of the club and also to involve more institutions.

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Annex 4

Virtual schooling for all ages – the news from VISCED

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Overview

In order to understand the objectives of VISCED one has first to understand the key definition that drives the VISCED project. A virtual school is a school where pupils learn mainly at a distance over the internet and any activity in a classroom takes no more than around 15% of study time (1 day per week in a full-time school). The pupils will normally be based at home.

In VISCED we were not primarily interested in schools for pupils of all ages – we focus on the age range 14-21 – in other words from the early teenage years, up to and beyond the age at which compulsory schooling ceases (typically 16 to 18). However, we increasingly picked up information that students of all ages were “attending” classes at virtual schools, in order to achieve school-level qualifications, including in some cases the exit qualifications from schools needed in many countries to get into universities.

We have found that virtual schools are not common in Europe. We believe currently that there are less than 100 across the EU and in many countries there are none, or believed by ministries to be none (not the same thing) – this is particularly the case in countries which prohibit or strongly discourage homeschooling. In contrast, virtual schools are quite common in the US – there are several hundred and some authorities estimate that 10% of school pupils are involved in virtual schooling.

The overarching objective for VISCED is to identify and understand virtual schools across the world, not ignoring the US but focussing mainly on Europe and to some extent on other countries in the world which are often seen as relevant to Europe, such as the more prosperous nations (e.g. OECD and BRIC nations) and/or those with linguistic, cultural or political links to countries in Europe. By doing this, and studying some virtual schools in great detail, we want to understand the reasons why some countries foster virtual schools, others discourage them and a third group (a large group including many countries in Europe) seem to ignore them. Since we focus on countries not dissimilar to many European countries, we finally aim to provide evidence to ministries and their policy advisors to help them analyse which of their educational challenges are susceptible of partial solution using virtual schools and in such cases, what type of virtual schools they should encourage and what type of virtual schooling within such schools would be most appropriate.

Some of these challenges are universal – such as children in hospital, children looked after by institutions (including custodial ones), travelling children and children with poor attendance records at school (for a variety of reasons). Others may be more specific to the country (poor mathematical or foreign language skills).

Project Approach
In theoretical terms, VISCED is a project in the domain of *comparative education*. Comparative education is not an easy discipline – governments of countries can always think of reasons why they are quite unlike other countries, even (or especially) nearby ones. Nevertheless, progress can be made, and various multinational agencies including the EU, OECD and UNESCO carry out much comparative work and quite a lot of it is on education. These agencies have very large budgets – in contrast, within the Lifelong Learning Programme, project budgets are quite small. Education is a complex topic – it covers all ages, all subjects, many different kinds of providers and many languages (over 200 languages are said to be in daily use in Europe). And there are so many countries! There are nearly 200 members of the United Nations, and somewhat over 200 countries regarded by most others as sovereign states. Adding in colonies, autonomous regions with their own internet codes, and a number of other effectively independent disputed territories, one comes close to 250 entities.

Thus any project carrying out comparative education has to *prioritise* and then *tier*. In other words, VISCED had to decide which countries were relevant to Europe and within the set of relevant countries decide which countries would be studied thoroughly and which in a less thorough way.

Before the project started, the team (specifically those who wrote the bid) came up with a list of relevant countries, based on their prior knowledge, and divided them into two tiers: those which would be studied in depth, and others which would be studied as part of a region. The ones to be studied in depth included those with project partners, ones where it was already known that there were virtual schools (such as US and Canada) and others which were seen as particularly relevant to Europe even though there was at the time no evidence whether there were virtual schools in them. By the end of 2011 over 100 country reports had been produced.

Complex though it is, this work is only a third of the research work to be done – though it was about two thirds of the research work done in 2011. The second part of the research work was to consider the *policy aspects* of the virtual schools found in the first part. This involves several related elements:

- Identification and discussion of the best way to classify virtual schools – they can be of various types.
- Understanding the complex and often hard to follow ways in which educational activities and policies in one country affect educational policy in another country.
- Formulation of some draft policies which ministries of education in various countries can consider, including recommendations as to which sorts of virtual teaching are appropriate and what steps need to be taken to train and retrain teachers to teach in virtual schools.

VISCED has an active newsletter, coming out every two months, a Twitter stream and a rapidly growing wiki.

VISCED has adopted one further approach, adapting it from the earlier project Re.ViCa (Review of Virtual Campuses – in higher education), and supporting new projects (such as POERUP – [http://poerup.referata.com](http://poerup.referata.com)) who take it up. This is to have an *International Advisory Committee* of experts from outside the project. The IAC is expected first of all to listen to project outcomes (part of the dissemination role of the project) but also to ponder and discuss the outcomes with a view to improving them (so there is an exploitation and even an evaluation aspect).
PROJECT OUTCOMES & RESULTS

COUNTRY REPORTS

It took some time to develop a viable country report template which drew on Re.ViCa yet took account of VISCED needs, but this was organised before summer 2011. All countries in the plan now have interim reports, and for the regions in the plan, only East Asia has as yet not been studied so far – most regions (Hispanic America is a good example) have interim reports on the region and for several of them (like Hispanic America) there are reports also on a few of their key countries. A particular feature has been the series of interim reports on many of the regions near to but outside the EU, including country reports right across North Africa and the Middle East and regional reports on Yugosphere, Eastern Europe and Central Asia. In terms of island regions influenced by Europe, both Oceania and Caribbean have interim reports on many of their island countries. Bacsich (2011b) introduces a large sample of country reports.

EXEMPLARS

The interim list of exemplars has been growing on the wiki since summer 2011, some embedded in country reports, with an increasing set also having their own entries on the wiki. All this material and key definitions was consolidated into a Gazetteer (Phillips et al 2011). This is has a chapter for each continental region (Europe, Africa, Asia, The Americas, Australasia and “Islands”). The current state of our research has identified around 450 virtual schools and colleges across the world. Over 300 of these are in the USA. Even outside the US we currently have identified over 100. Of these, 30 are in Canada and 59 are in Europe (4 new ones from Latvia were added recently). Australasia has at least 19. There are relatively few in Africa. Asia almost certainly has more than we have identified but China has not been one of our study countries. There appear to be surprisingly few in Oceania and the Caribbean and indeed across many multi-island nations where they might be expected as a way of overcoming distance and insufficient population to support a school. We have identified 53 notable examples worthy of consideration as case studies.

In addition to the list, a typology of virtual schools (Bacsich 2011a) has evolved over the last few months of 2011, and discussed at project meetings and the IAC meetings. Many useful ideas have been contributed, but not all can be instantiated as a typology has to be understandable and feasible to apply.

CASE STUDIES

As noted above, 53 potential case studies have been identified. Around 10 of these will be selected and the case studies undertaken, to be completed by November 2012. We intend to report on these in next year’s EDEN.

POLICY RECOMMENDATIONS – INCLUDING TEACHER TRAINING AND INNOVATIVE GOOD PRACTICE

Policy recommendations are dealt with at two levels: the EU level and the national level. In view of the partners involved (covering UK, Finland and Estonia) it was further decided that energy would go into (a) an EU-wide policy recommendation and (b) one detailed national policy document, for England. England was chosen not only because Sero was the task leader and the lead author used to work for the Ministry on IT policy for education, but also because England was a feasible case where the new government elected in 2010 has changed some aspects of the former government’s approach to school education and to ICT in education (in particular, closing Becta) but has begun to
make statements again that ICT was relevant; and also (along with some but not all northern countries) its economy was bad but not catastrophic (catastrophic budget cuts tend to lead either to policy freeze or discontinuous unevidenced change). Phillips (2011) considers and proposes an EU policy approach and then a policy approach for England consistent with that.

This deliverable is supported by Lõssenko and Phillips (2011). This aims to document the influence that some countries (and other entities) have on other countries’ education policies, as judged by documentary analysis. We found surprisingly, that some countries do not have a coherent set of national documentation on ICT for education. Some interesting conclusions came out. Altogether 21 influencers were indentified in separate influence maps of 11 countries/regions provided by the partnership. On an average, about 5 influencers were highlighted per country/region, Finland demonstrating the widest range with 11 influencers. Interestingly PISA was mentioned 11 times but with relatively low influence whereas the EU and the UK were considered more important despite their less frequent appearances.

EU-wide and national policy also involves aspects of teacher training and, potentially, mandating some specific pedagogic approaches. Sorensen and Harlung (2011) argue that e-learning and distance learning initiatives have often been too concerned with technology and technological issues, and suggests that teacher training towards successful distance education offers must focus clearly on IT pedagogy and development of skills different from those suitable for teaching in class or lecture rooms. The report finally presents suggestions for focus areas for teacher training.

Further development of the project’s thinking on pedagogy comes from Bristow (2011), an interim report on pedagogy, which provides a US-based contrast to the EU standpoint of Sorensen and Harlung. It points out that it is impossible to avoid a strong US influence on the literature – since the US has not only the largest number of virtual schools but also some of largest and the longest-established and (thus) the best-researched. Among other conclusions it suggests that key components of pedagogy include careful content development, insightful instructional design, appropriate methods for student assessment and user-friendly relevant technology.

To increase traction among the scholarly and research community, VISCED has set up a number of active groups on the Mendeley shared reference system – see e.g. http://www.mendeley.com/groups/1075201/virtual-schools-and-colleges/ with 193 papers listed (and there are over 10 other groups linked to VISCED work).

**PLANS FOR THE FUTURE**

The interim reports on countries and regions will be consolidated, expanded and cross-checked with other information from inside and outside the project. Any gaps in planned coverage will be filled – for example the UK report needs a section on Wales and there are a few country reports in the East Asia region needing attention (e.g. Japan). The list of exemplars will be improved and updated – in 2012 increased attention will be paid to virtual colleges. We believe that the list of virtual schools (outside the US) is nearly complete – but this belief will be checked for Europe by doing systematic expert searches for relevant virtual institutions (using the correct terms in the local languages) across the continent. Some recent serendipitous finds of virtual schools (in Latvia, Poland and Netherlands) suggests that such checks are necessary. There is already a list of 10 case studies to be
done. It is hoped that around half can be ready by summer 2012 so that some early information can be given at the EDEN conference.

The main operational activity (as opposed to desk research) is the piloting of virtual schools approach in at least five institutions: Ross Tensta Gymnasium (the Swedish partner), Notre Dame High School and Sheffield College in Sheffield (both under the guidance of Sero) and several innovative schools in Greece (under the guidance of Lambrakis). The piloting reports will not be ready until late 2012.

**SUCCESS FACTORS**

It was never planned that much work would be done on Success Factors in 2011 – but a short report on Potential Success Factors (Bacsich 2011c) was produced in time for a summary be presented to the International Advisory Committee in late November 2011. In 2012 EFQUEL will add their effort into this work – via their member KU Leuven (who assisted the similar work in Re.ViCa). Due to changes in thinking in the benchmarking world, including the influence of US thinking on such matters, the approach being taken will develop a scheme for virtual schools integrated with the existing Re.ViCa scheme for virtual universities and colleges, and underpinned by a thorough bibliographic search.

**VIRTUAL SCHOOLS EVENT AND THE INTERNATIONAL ADVISORY COMMITTEE**

The next partner meeting is planned for May 2012 in Sheffield and it is planned that the International Advisory Committee will meet around the same time, also in Sheffield. The focus of this IAC will be success factors and piloting in virtual schools; however, since there is a lack of virtual school practitioners on the IAC the IAC members will be extended to include a number of these from the 50 or more ongoing virtual schools in Europe and they will be invited to attend the meeting in Sheffield. It is hoped that we can present some highlights of this work at EDEN 2012.

**CONTRIBUTION TO EU POLICIES**

In the university world, Europe has for some years been working towards a European Higher Education Area, based on the Bologna Declaration (updated at Bergen and Lisbon). The work of Re.ViCa on virtual universities showed that there was a degree of global consensus on higher education and appropriate governance of institutions – and even the beginnings of a global approach to quality in universities. There is also a thriving international market in higher education with millions of students across the world studying outside their home country – and hundreds of thousands studying at a distance from a provider not based in the country in which they live.

In school-level education in Europe, this is almost completely absent, except for provision for some expatriate children. Furthermore, the locus of control of schools is nearer to the school – but this can lead to a lack of policy coherence. Finally, unlike in the university sector in many countries (even now in Europe) there is little private sector provision and even less integration of that provision in policy terms. In at least two European countries the virtual schools exist in legal limbo, yet are funded by the state for certain kinds of teaching.

**EU POLICIES**
Phillips (2011) discusses EU-level policy issues related to virtual schools and makes several key recommendations:

- With oversight and co-ordination from the Commission, individual countries’ Education Departments should review the interface between the virtual schools’ and colleges modes of operation and their own existing regulatory frameworks to ensure that where virtual schools and colleges help the nation achieve its educational, economic and social goals there are no unnecessary bureaucratic impediments which might inhibit their development and sustainability. Virtual schools and colleges should be subject to the same degree of oversight as physical schools and receive the same level of support.

- The Commission should review its own frameworks, policies, and procedures to ensure that where virtual schools and colleges contribute to the achievement of its educational, economic and social goals there are no unnecessary bureaucratic impediments.

- The Commission and individual Education Departments should consider how they might bring virtual schools and colleges within a regulatory and accountability framework which protects but does not disadvantage learners – or the schools. This need not be overly bureaucratic but should simply ensure equivalence with the accountability frameworks which underpin “traditional” or “physical” schools.

- There is a need for clarity with regards to the “ownership” of qualifications achieved by students who have a physical host-school but who undertake supplementary studies at a virtual institution. The first “owner” of any qualification is the student. However, virtual schools often struggle to justify their value and their funding because they are not counted in “official” censuses of qualifications. Equally, host schools have been known to claim credit for qualifications achieved by their students at these “invisible” virtual schools. VISCED already has evidence of several thousand European students studying online across borders (outside of their home country). The Commission and individual Education Departments should clarify their positions in order to preserve the integrity of qualifications data.

- Individual Education Departments should review, and consider revising, current school inspection/assessment paradigms – specifically to consider the development and recognition/adoptions of Success Metrics for virtual schools and colleges. Some basic criteria should be applied as to legality and governance, funding and sustainability, validity of qualifications, equality of student access and experience and, of course, the quality of the teaching and learning.

**National Policies**

There is one further problem of recent origin. Since the recession, many European countries, some with much publicity, others more discreetly, have been cutting their educational budgets, not only in schools, but in ministries (fewer civil servants), in the agencies that ministries used to rely on for advice, and in terms of the number and scale of projects contracted to university research teams to study specific aspects of schooling. The closure of Becta in the UK was just the tip of the iceberg. In more than one country head teachers regularly say “Where on earth did that idea come from!?”. Thus those of our colleagues tasked with writing policy papers in VISCED have a much more challenging task than they would have had a few years ago.
However, the discussion in Phillips (2011) on national policy for England shows, we hope, that there is still scope in these challenging times for within-nation policy development taking account of the EU context.

VIRTUAL SCHOOLS FOR ALL AGES

Virtual schools have value for adults also. We present pen-pictures of three very different countries as an introduction to this topic.

THE UNITED STATES

Although technically out of scope for the VISCED project, our research uncovered evidence that online learning is used in the US to enable mature adults to obtain high school diplomas (or prepare for equivalency exams) and thereby meet university eligibility requirements. As is customary in the US, there is no federal governance over this process, but select state and city governments – as well as numerous private companies – offer programmes allowing drop-outs, adult immigrants and others who have not completed a formal high school education to engage with the educational system.

One relevant institution is the “adult high school” or “adult education school”, which enables adults to complete high school certificates or diplomas – often in a fully online setting. These state- or city-funded programmes may make use of local Community Colleges for course provision, or even offer their services at no cost. Other diploma programmes are offered by fee-based private companies (some of which purchase content modules from major virtual schools vendors like K12 Inc.)

A common route to higher education for American students who have “aged out” of the secondary school system is the successful passage of a series of GED (General Educational Development) tests. Also referred to as the General Education Diploma, General Equivalency Diploma or Graduate Equivalency Degree, the GED is a nationally recognised set of examinations which provide adults the opportunity to certify attainment of high school-level academic knowledge and skills. Nearly all universities that require a high school diploma accept the GED credential. Although the exam itself must be taken online, a plethora of GED test preparatory courses are web-based – and many are free. It is common for “adult high schools” to offer GED test preparation as well. In 2009, the average GED examinee was 26 years old.

Although they target the traditional secondary school demographic (i.e. within the VISCED age range), it is worth noting here the extensive online “credit recovery” system used in many US high schools to prevent drop-outs and ensure on-time graduation. Participating schools offer custom “second chance”, competency-based courses to currently enrolled students, often through a third party, which may be taken at home or in on-site computer labs. Credit recovery programmes help public schools meet federal graduation mandates while precluding the cost of having students repeat entire courses. As of June 2008, 20% of students in Florida Virtual School (FLVS, http://www.flvs.net) – the largest and by some measures most successful virtual school in the world – were seeking credit recovery.

FINLAND
VISCED researchers found that several of the key Finnish virtual schools do reach out to adults – stating explicitly for example, that “...adults (and) young people who no longer belong to the compulsory age group and ...people that cannot study full-time” are eligible (thus suggesting that the constituency is beyond the 21 year old limit typical of the Finnish Upper Secondary system).

Verkkoperuskoulu (http://virtualcampuses.eu/index.php/Verkkoperuskoulu) is one such – although the numbers are small (40% of its annual student intake – approximately 15 out of 40). The Verkkoperuskoulu curriculum offer comprises: mother tongue and literature, English, Swedish, history, social studies, mathematics, physics, chemistry, biology, geography and religion. Each course contains 1.5 hours of contact training and 22 hours of independent distance learning. In addition each course contains an examination or other “accomplishment”.

Similarly, Nettiperuskoulu (http://virtualcampuses.eu/index.php/Nettiperuskoulu), a distance learning school maintained by Otava Folk High School, offers adults and young people 44 courses at various levels across the following subjects; mother tongue (usually Finnish) Swedish, English, History and Civics, Math, Physics, Chemistry, Biology, Geography, Religion or Ethics, Student Counselling.

The VISCED wiki entry for Nettiperuskoulu notes its purpose is to offer a possibility to accomplish basic education curriculum that for some reason has not yet been completed. Main target group are adults and younger people, who are beyond compulsory education age group and do not have a graduation certificate from basic education.”

We found no evidence of the Free Education institutions (an important component in Finland's adult education system) establishing virtual schooling strategies. This was, though, technically beyond the scope of the VISCED project – evidence discovered would have been “by chance” and supplementary to the project.

UNITED KINGDOM

There is very little analytic information on virtual schooling in the UK and even less on virtual schooling for adults. The following material is extracted from a forthcoming report by George Watley commissioned by Sero (to appear).

Although numbers of students currently engaging with e-learning to earn formal pre-university qualifications in the UK is extremely difficult to estimate, costs are publicly available. Furthermore, estimated funding given to traditional schools is also publicly available. The two main secondary school qualifications in Britain are GCSE examinations normally taken at 16 years old in England and Wales and A-level examinations usually completed at 18 years of age in these countries. In terms of price for the overwhelming majority of e-learning providers, the cost for GCSEs is £236-375 per GCSE and £280-540 for A-levels.

Funding figures for English schools help to provide a contextual background for potential e-learning cost savings. To do so, three quoted figures for the 2009-2010 academic year will be used, the latest figures available. These figures are £7207/pupil for a secondary school in Lambeth (Borough in London), £6199/pupil which is the average for England, as well as £5021/pupil which is the average for a school with low levels of deprivation outside of London (BBC 2011). For the purposes of
comparing funding for traditional schools in comparison to distance learning provision, the mentioned figures will be multiplied by four to reflect two years normally taken to complete GCSEs and A-levels each.

Comparing the costs of distance learning to traditional schools as currently funded, using the costs of £2706-7620 for hypothetical young distance learners with the £20084-28828 figures for funding given to different types of English schools, hypothetical young people earning qualification exclusively through e-learning could do so at a cost between 9 and 38 percent of school-based learning, a potential savings of 62 to 91 percent in comparison to current funding given to traditional schools!

There are three distance learning providers that are potential exemplars: Wolsey Hall, Mathematics for Education and Industry (MEI) and SCHOLAR in Scotland. Wolsey Hall is on the high end of the commercial pricing spectrum, but clearly mentions its aim to have all assignments marked and returned within 48 hours, an aspiration very few bricks and mortar schools could realistically achieve. Also, no other distance learning provider explicitly makes such a claim. If this 48-hour claim is achieved most or all of the time, Wolsey Hall could prove to be an exemplar for broader distance learning provision. Furthermore, offering this rapid feedback (if proven) at a cost of £375 for GCSEs and £495 for A-levels indicates that it is at least possible that lower cost provision vis-à-vis traditional schools does not equate with sacrificing quality.

MEI (http://www.mei.org.uk/index.php?page=liveonlinemaths ) provides another reasonably priced (£350) A-level studying possibility that provides potential exemplars for online learning generally. Students have access to online 60-90 minute lessons usually held on evenings. These lessons are interactive and recorded for future use by students, offering opportunities to revisit them afterwards. This is offered in addition to a plethora of resources and interactive resources expected of an e-learning provider.

The SCHOLAR programme is another example of distance learning provision albeit blended with face-to-face teaching in schools. It was developed on the initiative of Heriot Watt University working with Education Authorities and schools in Scotland. It has learning platforms and resources for students and teachers in the sciences, mathematics and foreign languages in preparation for Scottish Higher and Advanced Higher examinations. Exact funding per pupil is difficult to determine, but SCHOLAR claims that 25 percent savings have been achieved whilst students obtain 10-15 percent higher marks and reduced failure rates of up to 50 percent (Leitch 2011). Around 100,000 students are engaging with SCHOLAR. Furthermore, its aim to increase the numbers of people applying for science and engineering degrees in Scotland was achieved, going up by 30 percent. Its claims are impressive in terms of offering blended learning opportunities that simultaneously reduce costs but improve attainment and future aspirations.

Most GCSE and A-level e-learning provision offered in the UK is offered within a relatively narrow cost spectrum. Higher cost providers offer more and/or higher quality service with Wolsey Hall a prime example. Quality, or more correctly perceptions of quality, involving e-learning providers could provide greater barriers to determining the full benefits and/or drawbacks of e-learning in comparison to traditional schools. No service provider was willing to divulge information about
numbers of students taking their courses, making it difficult to genuinely understand the scope of
distance learning in the UK in terms of the quality of provision, as well as student satisfaction. As
such, future research should attempt to simultaneously unearth statistical evidence of distance
learning students as well as their experiences undertaking such learning.

MEI and SCHOLAR, along with Wolsey Hall, potentially offer some insight into the possibilities of
distance learning in terms of reduced costs and increased attainment. A greater understanding of
their provision, particularly but not exclusively from student perspectives, would be extremely useful
in determining how successful distance learning provision could be offered more broadly.

In terms of international implications the potential cost savings could be greater, particularly
because governmental educational authorities are usually responsible for marking examinations in
most countries as opposed to the quasi-commercial organisations that currently are responsible for
assessing GCSE and A-level exams in England and Wales. If examination costs were eliminated or
reduced in comparison to the England and Wales model, the savings mentioned could be even
greater in favour of e-learning than funding currently given to traditional schools.

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Virtual schooling and the future of education: The VISCED project

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A virtual school is a school where pupils learn mainly at a distance over the internet and any activity in a classroom takes no more than around 15% of study time (1 day per week in a full-time school). The pupils will normally be based at home (and in special cases, in hospital, in the workplace, travelling or in a custodial institution) but in some cases they may be at a „physical“ school – just not the school „at“ which they study.

Given current transformations in the education landscape, that of virtual school – as a model of education largely supported by ICT and delivered at distance – against more traditional school contexts is becoming an interesting concept.

VISCED is a two year European project interested in virtual schools for pupils from the early teenage years, up to and beyond the age at which compulsory schooling ceases (typically 16 to 18) but also students in the age range 18-21 – attending some form of “virtual college”.

The overarching objective for VISCED is to identify and understand virtual schools across the world, not ignoring the US but focussing mainly on Europe and to some extent on other countries in the world which are often seen as relevant to Europe, such as the more prosperous nations (e.g. the non-European OECD and BRIC nations) and/or those with linguistic, cultural or political links to countries in Europe.

By doing this, and studying some virtual schools in great detail, the project wants to understand the reasons why some countries foster virtual schools, others discourage them and a third group (a large group including many countries in Europe) seem to ignore them, so to provide policy level recommendations in the field likely to support policy makers in making the best use of the most adequate education model for their needs.

1. Looking for a European concept of virtual school

Teaching and Learning have been rapidly changing over the last decades, with ICT playing a key role in re-inventing learning contexts and multiplying the ways people can access formal, non-formal and informal learning over life.

The “magic” of ICT stems in particular for the possibility it offers to increase universal access and intensive fruition of education, by overcoming the “time & space” constraints of traditional models whilst offering solutions which are becoming increasingly complex, enabling advanced learning experiences.

New modes of delivering education and of experiencing learning are emerging, bringing about substantial changes in education models as we know them. According to the VISIR project, with increasing complexity and multiplication of learning contexts and flexibility (web 2.0, mobile learning, augmented reality) the teaching/learning process is expected to undergo changes which address both the aspect of autonomy of (and in) learning and that of the unity of time and space as dimensions of traditional learning contexts. In turn, new scaffolding models in the teaching/learning process and in the construction of meaning are going to develop as a natural evolution of change in learning contexts [1].
School – although more peripheral when it comes to disruptive innovation occurring primarily in the informal learning area- is not exempted from these trends. In a time where education is demanded to adapt to the path-breaking transformations occurring in society, policy and decision makers are very much interested in exploring the potential of technology enhanced learning in school as mean to support more effective learning processes and increase quality access to education. This refers to the investigation of effective solutions to include diversely at risk students (drop-out, students from remotes areas, sick pupils) in education. It also deals more generally with identifying innovative TEL practices which fully profit of the potential of ICT to display more personalized and effective learning strategies, including flexible learning context and differentiated paces, able to match the current objectives of “learner centred” education, including a stronger focus on transversal competences, motivation and creativity of pupils.

That of school education remains however a sensitive ground, where traditional education models show a certain resistance to change, as they also reflect the key role of school in shaping the nation state identity and a sense of citizenship. In that respect, whilst rapid changes have been affecting other learning sectors (i.e. virtual campuses have grown in the HE sector), school has maintained so far – with different degrees – a certain “fordist” appeal, with classroom, timetable, teachers rotation regulated by the bell marking school-life of pupils and separating it from the world outside the school walls.

It is thus not totally surprising that the concept of “virtual school” – referring to formal schooling mostly delivered at distance through the internet - is not really familiar in Europe, and sometimes even cautiously regarded in some Member States. This education model largely supported by ICT and delivered through blended modality – against more traditional school contexts- is however an interesting concept at the light of the abovementioned drivers for change in the education domain.

Specifically virtual school refers to where pupils learn mainly at a distance over the internet and any activity in a classroom takes no more than around 15% of study time (1 day per week in a full-time school). The pupils will normally be based at home (and in special cases, in hospital, in the workplace, travelling or in a custodial institution) but in some cases they may be at a „physical” school – just not the school „at” which they study.

The VISCED project - a transnational appraisal of virtual school and college provision – is a two year initiative which is currently funded by the European Commission and aims to identify and understand virtual schools across the world, not ignoring the US but focussing mainly on Europe and to some extent on other countries in the world which are often seen as relevant to Europe. The ultimate goal of the project is a better understanding of the reasons why some countries foster virtual schools, others discourage them and a third group (a large group including many countries in Europe) seem to ignore them, so to provide recommendations in the field likely to support policy makers in making the best use of the most adequate education model for their needs.

Investigating virtual schooling in Europe is however a challenging task. While plenty of practices, experimentations and initiatives exist in the field of ICT for learning in school, that of virtual school seems to be a rather unknown concept and very few examples which can be defined as “mature” can be found in the European landscape.

2 THE CHALLENGES OF VIRTUAL SCHOOLING

During its first year of activity, the VISCED project has carried out a significant amount of research to explore the size and impact of the virtual school phenomenon in Europe (and the world) and identify some interesting trends in a comparative education perspective.

This research has been essential to have a first snapshot of the current status of virtual schooling in Europe compared to the rest of the world, particularly the US, where it represents a rather consolidated practice.
As already mentioned, very few examples of virtual schools were found in European countries, although some interesting experiences exist and are going to be explored in depth with a case study approach with the purpose of advancing substantially in the understanding of a “European way” to virtual schooling and elaborate adequate recommendations for policy and practice.

Research has in fact started analyzing the “online-education” issue from both the teaching and the policy side, providing some preliminary results which will be enriched and critically integrated at the light of case studies analysis and through stakeholders’ consultation.

On the teaching/learning side, the critical issues in virtual schooling are fairly close to those affecting the current debate on technology enhanced learning in general. This is primarily concerned with the risk of any purely ICT-driven approach which overlooks the role of pedagogy and underestimates the importance of change in teacher attitude and competences. This has emerged for instance as a key concern through the activities of the STELLAR Network of Excellence, which has been working for 4 years now at defining a strategic agenda to push forwards technology enhanced learning in Europe.

VISCED research results highlight that e-learning and distance learning initiatives have often been too concerned with technology and technological issues, and suggests that teacher training towards successful distance education offers must focus clearly on IT pedagogy and development of skills different from those suitable for teaching in class or lecture rooms. The issues in teacher training for virtual school are all centered on questions of teacher roles and attitudes towards course and task design and towards the leadership role in respect to students. This calls in particular for attitude changes from teacher roles established in traditional classroom [2].

The critical transformation processes at stake on the teaching/learning side are only one side of the coin, the other being the needs for institutional and organizational frameworks and policy steering able to adapt to and support new and diverse school models- making smart use of technology and re-inventing learning contexts - which today could equally support effective pathways to lifelong learning and employability. This links to the broader issue of accreditation and recognition of learning acquired out of traditional context which calls for a strong change in attitude and the development of adequate mechanisms.

In that respect, the effort of the VISCED project is also meant towards better understanding the European specificities in order to elaborate recommendations for policy (see the set of preliminary recommendations by Phillips (2011) [3]. These shall be relevant to the creation of the institutional, financial and organizational framework which would make virtual schooling a quality option for European pupils and their specific needs within the broader political, social and cultural context where school education is grounded. Expected resistances need to be taken carefully into account in such a critical education sector.

This necessarily includes the need to find adequate quality and accountability criteria to protect such a sensitive and key education sector as school is for society, considered a public good. According to Phillips, Member States with support of the EU might bring virtual schools and colleges within a regulatory and accountability framework which protects but does not disadvantage learners – or the schools, when the latter contributes to the achievement of its educational, economic and social goals [3]. The same remains true when it comes to the development and consolidation of adequate mechanisms of accreditation of learning acquired though different learning experience.

In the case of virtual school, there is a need for clarity with regards to the “ownership” of qualifications achieved by students who have a physical host-school but who undertake supplementary studies at a virtual institution. The first “owner” of any qualification is the student. However, virtual schools often struggle to justify their value and their funding because they are not counted in “official” censuses of qualifications. Equally, host schools have been known to claim credit for qualifications achieved by their students at these “invisible” virtual schools. VISCED already has evidence of several thousand European students studying online across borders (outside of their home country). The Commission and individual Education Departments should clarify their positions in order to preserve the integrity of qualifications data [3].
3. Conclusions

As VISCED has so far demonstrated, thinking of the viability of virtual school as an integral part of the recognized education offer raises easily a number of issues which pertain not only to the teaching and learning process as such but to the wider cultural, political and institutional scenario where we imagine virtual education to take place.

We are touching a sensitive ground, as school as a public good is reluctantly seen as part of those transformations which include a diversification of educational offer, including new learning providers - either from the private sector - and new mode of learning which de-structure traditional classroom in favor of personal learning environments.

With the origin of “virtual schooling” to be found in the US, it is however logical to acknowledge the substantial diversity of context where the “virtual school” developed as a concept and as a model. This diversity ranges from the perception of geographic space up to cultural, economic and political factors, including the shared concepts of education itself and attached values.

In the evolving education scenario, virtual school remains a highly fascinating concept to be explored on this side of the ocean, provided that the investigation is carried out with an unbiased and open attitude. This will permit to understand the diverse factors which are key to consider when exploring a potential European declination of the virtual school concept and elaborating successful practices and policy support strategies.

The definition of virtual school term itself might be seeking some flexibility, being used in an open way as a litmus test to look at what exist and can be scaled in Europe when it comes to a smart use of ICT to empower the learning process and enhance school-life continuity, ranging from integration of ICT in the classroom up to “revolutionary” de-schooling models.

With this understanding, “virtual school” could be become a box for new and inedited models of education which can fit the european kind of needs for innovation, creativity, active citizenship, by building and develop further on local specificities and bottom-up drives in education for which ICT can play an enabling role towards valuable pedagogical and social goals.

References


Annex 6

21st century learning environments in the limelight, including virtual schooling

Niki Davis,
University of Canterbury

It is good to see a clear political consensus that money needs to be spent nationwide to upgrade schools and provide an improved structure for education with a Network for Learning. This is such a hot topic with millions of dollars and other resources being committed from 2011 to at least 2016 that a Parliamentary Select Committee is gathering evidence and opinion on “21st century learning environments and digital literacy” to inform a parliamentary inquiry. This review must include careful consideration of Virtual Schooling so the Virtual Learning Network Community of e-learning clusters of rural schools and many others, including myself, are doing our best to bring distance and blended learning into view because it is essential for New Zealand’s rural populations and also of benefit to many more, including underserved Māori and Pacifika students.

Evidence is currently being drawn from many sources, including meetings, reports, research and comparative studies, some of which I note below. A number of meetings are raising awareness of this opportunity to inform the government, including an e-learning think tank meeting in the University of Canterbury before Easter, the addition of the response to the agenda WestNet meeting for principals, and an Internet NZ multisite meeting on 4th May.

An overview of online and flexible learning in New Zealand will be useful, especially to those less familiar with our educational provision in New Zealand. Indeed, even those who are familiar may be unaware of recent developments in our field. During April, New Zealand was added to a global comparative study of virtual schools and colleges called VISCED that is led by the 2012 Canterbury Fellow Professor Paul Bacsich who was visiting from the UK. I joined with him and other experts in New Zealand to produce the first version of that description that will mature over time in the VISCED Wiki – (http://virtualcampuses.eu/index.php/New_Zealand). In addition to descriptions of ecampus developments in secondary schools and tertiary education worldwide, the VISCED project has some useful outputs on particular topics including a 2012 interim report on teacher professional development (see D3.6 Teacher Training Recommendations – Interim). But do read it critically, as the authors did not take into account the strategies that are working in New Zealand and have taken relatively little note of blended distance learning. I persuaded Paul Bacsich to give DEANZ (Distance Education Association of New Zealand) members a webinar before the conference, and in it he identified that the trend towards convergence and the resetting of boundaries includes sectors of education so that study at high school and university increasingly draw on similar courses and content. Although this is nothing new, the organisational structures are becoming more unbundled so that it is possible to foresee a university that is also a high school, or as Paul called it a “multiversity”. Paul expanded on this evidence and the trends in his keynote to the DEANZ conference in April http://www.virtualschoolsandcolleges.info/news/keynote-presentationfeatures-
The DEANZ 2012 conference was held 11 to 13 April in Wellington, and featured an exciting programme for leaders and practitioners involved in open, flexible, and distance learning. Held over three days, the biannual DEANZ conference was an opportunity for people in the education industry to meet with local and international thought leaders and learn new ideas. Keynote and invited speakers included Dr. Diana Oblinger (President and CEO of EDUCAUSE), Professor Paul Bacsich, Professor Kwok-Wing Lai, and Dr Caroline Seelig. The conference also featured a panel discussing Open Education Resources, a panel of institutional leaders (Mike Hollings, CE Te Kura; Hon Steve Maharey, VC Massey University; Dr Caroline Seelig, CE Open Polytechnic) and over 40 parallel presentations and workshops. Closing remarks were made by Dr Peter Coolbear, CE Ako Aotearoa.

The 2012 conference theme was “Shift Happens” with three themes of resilience, relevance, and reform:

- **Resilience**: dealing with uncertainty and coping with changes you can and cannot influence,
- **Relevance**: providing education that is relevant to the context and culture of the learner,
- **Reform**: moving to better futures for all, through recognising political, social, economic and personal drivers.


The DEANZ conference had many more sessions that were directly relevant to schools, and at least half of them were presented by teachers or teacher educators. Therefore, I provide a few illustrations starting with innovative practices and research followed by services developing overseas. I was delighted to hear more of Te Kura’s (The Correspondence School) innovative approach to the teaching of NCEA music composition as Jan Bolton illustrated her approach called eMotiv, which is “a model of music elearning that … is being implemented at Te Kura” (Bolton, 2012), with engaging teaching resources. The culmination was a composition of a contemporary duet and its performance by two young composer/performers who have never met. Each student was set up “with the same music software (Mixcraft) so they could exchange files and build on each other’s work” (Bolton, 2012), and their collaboration was carefully facilitated by Jan using email and web 2.0 tools. Innovative approaches to teaching online came from many speakers. Wing Lai’s stimulating keynote culminated with the goal of his most recent TLRI project that aims to diversify teaching strategies to include knowledge building while studying NCEA subjects across the OtagoNet e-learning cluster of schools. The value of improving pedagogy for online teaching of NCEA was noted in our DEANZ research for VLN that has also provided illustrations for the LCO Handbook with Michael Barbour. The LCO handbook and online illustrations is another useful source for the Parliamentary enquiry, as well as elearning clusters.

Research findings were also disseminated. Michael Barbour’s multiple presentations including that LCO-related research and other collaborations. Carolyn Bennett and Michael presented her case.
study research to complete her University of Canterbury Graduate Certificate on Online Teaching and Learning in which she “investigated the perceptions of Māori students in the Virtual Learning Network (VLN) on what constituted effective strategies for engaging them in online learning” (Bennett & Barbour, 2012a, para.1), which was supervised by Ann McGrath who has sadly passed. Factors identified by Carolyn’s Māori students that also benefit non Māori included the relevance of their courses, and they had advice for distance teachers too:

While students identified a range of Web 2.0 strategies currently used by their e-teachers, they suggested that more opportunities to collaborate, communicate and discuss with their fellow e-students both in and outside of the set class time would further engage them, leading to a more enjoyable experience. (Bennett & Babour, 2012b. para.1)

Perhaps most surprising finding for those unfamiliar with virtual schooling was that, in general, these students had a different and yet closer relationship with their e-teachers than teachers who were in their school that they met face-to-face. I hope that we’ll see more detail of this research in CINZS before too long, but meantime you can see more on the DEANZ conference web site archive.

From the USA, keynoter Daina Oblinger, CEO of Educause, illustrated new ways to refine and improve learning resources through analysis of massive data sets and services that are being taken up by universities. For example, the Khan Academy has reached over five million learners and the ongoing analysis of this multitude of learners who engage with the learning objects provided for free is informing new understanding of learning, including common misconceptions and the design of online resources. So I suggest that we all visit the Khan Academy web site to see what we can learn, how we can use it as teachers, and also increase awareness of the potential of learning analytics. I also wonder how New Zealand may develop its own expertise in learning analytics, given its relatively small population; this is an application where large scale data is essential.

Finally, a major outcome of our bi-annual national conference was this recognition by Ako Aotearoa CEO Peter Coolbear in his closing reflection: the time for widespread adoption of open flexible and distance learning has come. Virtual schooling and online blended tertiary education and training have matured to the more gradual and sustained rise of the second stage of the “hype curve” (this innovation process is explained well in Horizon reports).

Peter observed that, while the uptake within and across schools and tertiary organisations may appear patchy, depending on local circumstances, it is sustained and will continue to spread and mature in a somewhat organic process. That fits with my view too. While the growth in the school sector is slower, ultrafast broadband in schools and a future national Network for Learning should provide the necessary infrastructure, providing that politicians and their electorates remain convinced of the value of this investment. Ongoing investment from 2012 to 2016 and beyond will require widespread appreciation of the needs and contributions of schools and initial teacher education to justify continued spending. As members of the “cast playing under the limelight” it will be up to us all, including readers of CINZS, to engage with politicians, policy makers, and local communities to inform them about 21st century learning environments, including virtual schooling environments and blended learning.
REFERENCES


Annex 7

Impact of e-learning in the 21st century university

Paul Bacsich

ABSTRACT
This chapter will examine how and why the “Academy” in the 21st century has both deployed e-learning and adapted to the deployment of e-learning by the “other” (including its own students). It will aim to explain why the radical solutions beloved of visionaries have happened rarely and then have mostly failed, and yet how more moderate solutions are emerging that are sustainable and manageable within recognisable paradigms of university governance. The chapter will draw out links from the e-learning phenomenon to wider issues of privatisation, internationalisation, culture, research and funding.

The material is based on studies of the author and his colleagues in this area since his first e-learning study tour (of three weeks) to US universities in 1995. It takes particular advantage of his recent work on the Re.ViCa and CAPITAL projects1 but also from his long experience in many departments of the Open University (UK) and a network of smaller projects and contacts straddling countries as diverse as Australia, Brazil, Canada, China, Colombia, Finland, Hong Kong, Kuwait, Mexico, New Zealand, Norway, Rwanda, Spain, Sweden, Thailand and the United States – together with the four home nations of the UK.2

INTRODUCTION
I was fortunate in the early 1990s to have had a research position at the Open University which gave me time to think deeply about e-learning and to keep in contact with many of the European thinkers in this field. The relatively privileged funding position the OU occupied in these days meant that by the mid 1990s I and most of my colleagues had home computers as well as a computer in the office – and the first laptops were beginning to appear. Email was ubiquitous thanks to the wonderful FirstClass3 bulletin board system we had first installed in 1992 and we spent far too much time far too late at night engaged in what is now called “social networking” – even if our spouses usually called it “wasting time”. All of us on European Commission-funded projects owned mobile phones (many people, thanks to the good links with EU associations and agencies that the OU had – and still has) – even if they were brick-sized and texting had yet to be invented. I well remember phoning my colleague while standing outside a locked door in Brussels when unbeknownst to me he was on the other side of the door – in typical so-called “modern” way I had not bothered finding out how to get to the meeting because I knew I could just phone somebody when I got near. So it is not surprising that many “OUies” were quietly impatient with recent “insights” into the digital natives/immigrants “divide” and welcomed the more recent nuanced approach.4 We were a bubble of people “living the 21st century” by the mid 1990s. In fact one can mark the transition of the OU to the premature 21st century by three main events in consecutive years. The first was a 3-week study tour of the US that I undertook with a colleague (the late great Professor Robin Mason) in summer 1995 to visit universities and companies engaged in e-learning – soon to be called by us (in fact by the time of EdMedia 1995) “virtual universities”. The second was the setting up of the Knowledge Media Institute in early 1996 – this was a key part of the OU’s “Technology Strategy for Academic
Advantage” set up largely to combat the soon-expected competitive pressure on the OU from global players and UK “upstarts” in distance learning. I can’t exactly remember when the phrase “tanks on the lawn” was first used by the OU VC to refer to these global players but it was in that era. And the third was the publication of the Dearing Report in July 19975 which set the basis for the reforms of the university system in the late 1990s, many of which are still ongoing.

How impatient we were when Sir Ron Dearing6 said that “change would take a generation”. How we laughed! How close the future looked! But not for the last time the noble Lord-to-be was wiser than us. Some of the changes are only now really happening and not even now across all advanced countries.

In this chapter I shall try to maintain a mid-Atlantic perspective – and closer to Europe than North America – but some of my examples will be taken from further afield.

THE ACADEMY AND ITS SUBSPECIES

“The Academy” is a convenient phrase – and conveniently vague. Institutions engaged in higher education have many common features but revel in diversity. A typical four-level construction is as follows – I shall primarily use UK nomenclature but a similar pattern would be found in much of Europe.

1. The “old” universities, self-defined as leading in research, with a traditional and rather vague governance model, in some cases dating back to mediaeval times.

2. The “new” universities – in the UK set up in 1992 mostly by upgrading the polytechnics, typically set up as private foundations (“companies limited by guarantee” in legal terms) but with access to substantial state funding. Several European countries still have a specific subsector of “polytechnics” or “universities of applied sciences” with different oversight and funding arrangements.

3. The “university colleges” – in the UK set up mostly from 2002 onwards – in governance and funding terms similar to new universities but with some restrictions on the kinds of qualifications they can award (for example, inability to award doctorates). Many specialist institutions of art, music, dance and drama are university colleges.

4. The “colleges”, mostly oriented to immediate post-secondary education, but an increasing number of which carry out higher education as part (but usually only a small part) of their overall function.

The term “university” would not normally cover the fourth tier. In Europe, this divide between tiers 3 and 4 is not an issue – unlike the US, there is little concept in most of Europe (with some exceptions such as Scotland) of the “community college” offering a range of further education and higher education functions in an integrated way.

However, the above classification ignores some specific “modes” of institution; and it is also a statist view.

On the whole, western governments are not usually particularly concerned with how students are taught. It is assumed that full-time students have a campus to go to – but what they might do there
remains a mystery to government (not only to their parents) – until recently, as the economic pressures mounted. In fact we were at such a point before – from the 1970s a movement swept the world to provide a different form of higher education to part-time students, to combine wider access to higher education – open education – with a different mode – distance education – believed by governments of the time (as now) to be cheaper.

There is a bit of a beauty contest among open universities as to “who was first”. More importantly since those thrifty beginnings (some were nearly strangled at birth and others have had repeated funding crises) the open universities have matured across the world into powerful and influential institutions key to many governments’ agendas of widening access. Interestingly, with some notable exceptions (such as India and Spain) there is rarely more than one open university in a country.

The other weakness in the classification is the absence of the private sector.

Private universities – like private schools – operate in many countries, in fact most. There are only a few countries that have mostly held out against them – France and UK come to mind, though things are changing there too. But in many countries they often operate “under the radar” – thus ministries tend not to bother about them, except to complain – they get left out of official lists, and so on. I should stress that by “private” I do not mean the legal way they are set up – many universities across the world have the governance form of a private institution (even if this alarms some northern Europeans) – but the way they are funded. Private universities do not get direct funding from the state – though in some countries (such as the US) some students can get public loans to help finance their studies. Note also that many public universities charge fees – and especially high fees (in the US) to out-of-state students or (in the EU) to non-EU students.

**Adventures in e-learning**

It was around 1999 when in various countries governments got very interested in modern versions of distance learning – but this time the focus was different – not so much on access by disadvantaged groups in the home country, but by advantaged groups in other countries – though not so advantaged (in money or time) that they could actually travel to the home country and study there for some years (this dichotomy being one of the fatal flaws). The proximate cause appears to have been the Business of Borderless Education reports done by Australian and UK teams but the more strategic reason seems to have been a kind of educational imperialism from the “Anglosphere” allied to a “build it and they will come” mentality typical of those far-off dot.com days when business plans were little more than a winning smile and catch-phrase, and market research was done too little too late. The timing is also interesting in that it was a generation (as Dearing had predicted) after the founding of the first open universities. Not surprisingly to some, but annoyingly to others, the open universities often were seen as too old, tired and traditional to be suitable for this new era, being stuck (so it was said) in various print- or TV-based paradigms rather than being “net-ready”.

A paradigmatic example – one of many – was the UK e-University. This was conceived in early 2000 and a number of technical studies and market studies done (using “market” in a charitable way). After some ministry dithering and regime changes the final management team got going in early 2002. I joined in early 2003 but by early 2004 it had come under orders to close, and was wound up by that summer. To quote myself, “even by the standards of e-learning burn-outs that was fast”.
There was quiet satisfaction in a number of countries including in Asia that the “Brits had messed up” but the UK e-University was not alone in its meltdown – it was just that it happened much more publicly that many others due largely to the high hopes for it and the Parliamentary Enquiry9 that followed. The Hall of Infamy also included several US failures (Fathom, etc) and Scottish Knowledge (reborn as the Interactive University which then in turn failed), Dutch Digital University, Open Learning Agency, TechBC, Universitas 21, NetUniversity and many more. Several more just “ceased” or were quietly merged into other entities – sometimes closing down completely was seen as too costly politically or financially.

Interestingly and pertinently, several of the much-maligned open universities went on, more slowly but inexorably, to become major players in distance e-learning – including the Open University, Dutch Open University, Athabasca University and University of Maryland University College. “We are the e-University now” said one smug Vice-Chancellor. Also a very few of the ceased/merged ones got a new lease of life in their new forms – at least in British Columbia with both the Open Learning Agency and TechBC eventually doing well in their new shapes as Thompson Rivers University and the Surrey Campus of Simon Fraser University – but maybe not in Quebec.

Complicating factors in a number of these failures were complex consortia and public-private partnerships, the latter a feature of the “third way” politics of the time. Both are best avoided – though there are a few examples where consortia work if well managed – Open Universities Australia being a key exemplar.

The IT infrastructure

But away from the noughties world of breathy press reports and e-learning gods or heroes “striding the world like a colossus” though often “with feet of clay”, more interesting to the Academy are the changes in the situation with e-learning on campus. We begin with the Information Technology environment.

Though there are apocryphal tales of European universities still to complete their master plans for full re-equipment of their classrooms with overhead projectors, the IT situation in much of the Academy has been transformed in recent years, across the developed world. This transformation is in fact relatively little to do with e-learning, at least not in a narrow sense, though e-learning (and its enthusiasts) often takes the credit (while, its enemies say, being mysteriously absent when bills are to be paid). It is much more to do with the IT-isation of the world – including the staff and students within it.

Students expect to find a campus with a good range of IT facilities, with desktop computers available in computer labs (seen as boring) and also (more fashionably) in learning centres – with better decor, nearby coffee facilities and comfier chairs and tables. Depending on the student demographics, many students will bring a laptop with them when they arrive at university – and more and more will want to bring their laptops on campus and connect to the network anywhere on campus – in the lecture theatre, tutorial rooms, library, coffee bars, corridors and even outside (where the climate allows it). Wireless is increasingly the mode of connection as there are too many problems with cabled connections and wireless is nearly as fast.
Students will expect the university-supplied IT to include a full range of standard office tools so that they can produce assignments, search the web and do all the other things that students want to do (including social networking). They will also expect to have access to any course-specific software – CAD packages, compilers, simulation tools, symbolic manipulation systems etc.

Staff also expects to each have their own desktop PC (or in some cases laptop) in their office (the office may be shared, but not the PC). Most staff will want a PC at home (which might be their laptop, but many staff still prefer a desktop PC). Even ground-breaking researchers are traditionalists when it comes to offices – business concepts of hot-desking are strongly resisted.

*All this costs the university a great deal of money.* Worse, in most universities all this has to be paid for without any reduction in the *other* university costs (such as staff salaries, staff pensions and non-staff costs). While this equation may have been soluble during the last economic boom, it is now becoming intractable.

By and large, the IT departments have done a good and largely unsung job in providing all this. Staff and student users have little idea of what has to go on behind the scenes to provide universal network access and the servers on campus – plus the backbone connectivity out to the external services that students and staff increasingly want to access. Wireless access may be cheaper to provide but most campuses (unless built very recently) have already paid the cost of universal wired access – thus IT directors tend to groan when the University President comes back from a Presidents’ meeting to say “we must have a wireless campus too!”

The IT director also has to supply a range of administrative IT systems. Many of these – for payroll, estates planning, etc – the students will not see. Other systems – for enrolment, module selection, timetabling, etc – they will see. But the main pedagogic system the students will see is the Virtual Learning Environment (VLE). Virtually every university in the developed world now deploys a VLE – in the Anglophone world this is often the commercial system Blackboard (or in some cases Desire2Learn) or the increasingly popular open source system Moodle. In the rest of the world there are other commercial choices but Moodle is very popular too.

There has been a lot of talk about the “death of the VLE” but surveys show (and my travels anecdotally confirm it) that the VLE is alive and well – though there is increasing debate as to what subsystems it contains – what about assessment, plagiarism detection and the web 2.0 features such as blogs and wikis?

And what about email? One service that IT directors are increasingly not offering (via the VLE or otherwise), but outsourcing to the “cloud”, is email. Until recently it was mark of pride among IT directors that they ran an excellent email service for students. Increasingly they hand over the problem to Microsoft or Google – for students, not for staff (there is a different set of issues for staff email). In some cases universities just work with whatever email address the student arrives with – in an era of lifelong learning, a lifelong email address makes sense for students.

**PEDAGOGY**

This brings us to pedagogy – and a reopening of the issues not solved by the grand-scale initiatives of the early 2000s.
Among e-learning enthusiasts there seems to be a lack of a clear long-term vision and little consensus on preferred directions for the evolution of e-learning.

The zealots, most often not actually in universities or, if in them, not closely associated with substantial teaching or management duties, seem to foresee de-institutionalisation in an impending era of informal learning. Like the Marxist state, the campus is supposed to wither away – and not only the campus but all the “apparatus” associated with it. The issue I have with all such visions is to foresee the intermediate state – what is the missing link between “now” and “real soon now”. There is in fact a certain amount of more substantial analysis on possible models which was done by consultants in preparation for the UK e-University – it is not much read now as much that was good went down in the debacle along with the bad.10 (Phrases such as “navigator” and “unbundling” are again heard.) This is a pity because similar ideas are again surfacing afresh in more than one country including UK and New Zealand – in connection with such opposite poles as private providers (how to accredit them) and the OER University.11 But politicians, just like some research assistants, do not care to read the literature.

The distance learning optimists imagine that as e-learning becomes more and more pervasive, distance e-learning will somehow lift off from the “base metal” of the campus. In other words, a distance teaching university butterfly will rise from the chrysalis of the campus university which will then wither, its true role completed. There is not a shred of experimental evidence that this has ever happened – and it is not a view that most existing management are sympathetic to, for obvious reasons. In contrast, as the distance education enrolments and team start to grow, counterforces arise to inhibit its further “ascension”13 when distance learning rises to the attention of senior management once the budget goes above a key threshold.

A rule of thumb in the UK about this “second-stage ignition problem” is that when distance learning enrolments rise above 1000, further growth is hard and in fact growth can turn into decline – usually the distance learning director leaves, reviews sap the energy of the team, etc. Other countries manage it better – such as the rest of the Anglosphere (especially US and Australia). Yet it is still very hard to evolve a true dual-mode institution where the campus-based and distance learning components are in approximate balance and have parity of esteem with senior management. The best known Canadian example, Thompson Rivers University, did not evolve that way, it was created thus (from the fusion of the Open Learning Agency and an existing college whose upgrade to a university had dual-mode as a mandatory condition). In Sweden there are said to be some universities where the rectors worry that they have “too much” distance learning.14

This set of conflicts means that e-learning is still conceived by senior management (on the rare occasions when they think about it) as more in the nature of a problem than a solution. The campus is so comforting, being central to the founding myths of the Academy.

These strategic issues are in fact much more important than arguments over pedagogy. In fact from the mid 1990s what I earlier called the “tacit pedagogic consensus” spread across the UK and US and then to most of the Western world and other parts that look to the West for educational models (more than often admit they do).15 This – sometimes called by me “conservative constructivism” – has the following features:
1. Content is important but “content is not king”

2. Collaborative working among students is important but they have got to have a starting point and scaffolding

3. Interaction with the professor is important but there have to be some ground rules especially in the online situation

4. Interaction online should be mostly asynchronous (what used to be called bulletin boards) as this fits best the busy lives of student and staff

5. But there are pedagogic occasions and scenarios where synchronisation is key

6. Always add a bit of spice typical of the era (yesterday: blogs, today: podcasts).

Some of the underlying principles come direct from Chickering and Gamson, as reinterpreted by Ehrmann.16 (Not many young academics read such papers now.)

There are still many arguments over pedagogy but they are arguments over detail – and tools – academics do love arguments. In many institutions the academic has very little control over the fundamentals of how much they teach and how they teach – but at least they can tweak the details – a wiki here, a podcast there.

Blogs and wikis have proved much more intractable in use than earlier enthusiasts imagined – but such issues do not impact much on university management except to increase their worries about reputational risk caused by such systems. Surprisingly to some, podcasting is the new technology that has far greater potential impact on management.

Although for years it has been possible to develop audio-visual materials to support learning, the costs of doing this in traditional ways to traditional quality levels are high – and many universities have in fact downsized their audio-visual departments. This is also true of distance teaching universities – which have their cost pressures too. Thus e-learning was in danger of again becoming a silent exercise, in particular putting heavy pressure on student’s reading skills, a difficulty especially for those who are studying in their second language. Podcasting reverses that. Despite the years of evaluation literature criticising educational radio and educational television (“too long”, “too linear”, “too boring”, etc), the realisation grew that short, fit-for-purpose audio snippets had values of immediacy, warmth, and a different mode of discourse.17 Podcasts can be made by professors for students, or by students for professors as assignments – or by students for students. Podcasts can become the basis of the iTunesU offering for the Academy, especially when made by charismatic professors, leading to enhancement of brand and positive impact on recruitment and on funders. At this point senior management get interested.

Of course podcasting is not new in concept – I well remember making cassette tapes for OU students in the 1980s, in the teeth of opposition from the BBC who feared for “production values” (and their jobs – which did go, in time). But the technology and its ease of use has changed out of all recognition with the advent of the MP3 player and iPod in particular.
Apparently flying even more in the face of the literature, lecturecasting is sweeping the Academy in the developed world. Many universities have replaced their analogue video recording systems by modern digital equipment to record and digitise complete lectures. In my view the case for this is less clear – coming back to “why are the students not in the lecture?” (There is an old cartoon of the professor’s tape player giving the lecture to a bank of student tape recorders.) But lecturecasting is happening on a large scale. Again convenience and fitness for purpose wins out over educational theory and production values. Students are now customers.

THE LIBRARY AND ITS USERS

In the 21st century university, the Library is evolving in two ways:

1. Into a learning centre, where students can study singly or in groups using PCs to support their work in a more comfortable and appropriate environment than the serried ranks of desktop PCs typical of computer rooms. This has been already touched upon.

2. Into an electronic library – or more pedantically a hybrid library – with a mix of electronic and physical resources, the balance depending on time, the topic and the user community.

The users of the library are also evolving. Whatever the reality of the “net generation” phenomenon, the teens and twenties who form the prime cohort of full-time students are increasingly used to PCs and mobile devices and are reasonably skilled at word processing and browsing (but less skilled than they think and that they need to be). This is admittedly much less true of the “new majority” cohort of part-time (including distance learning) students, especially those from less advantaged backgrounds, but of course every year the real “old-timers” grow less and less. And it always comes as a surprise that most part-time students are youngish adults even though they are adults – with in some cases (as at the OU) a median age in the 30s.18

My son and daughter, now in their mid ‘30s, have grown up with computers since they were young children – first a BBC Micro, then a Mac, then PCs for years. So have many others. Many adults have in fact learned to use computers when they were adult – including many professors. The divide is not as fixed or hard to bridge as naysayers think. But it is there.

To their credit, librarians in several countries (UK, US, Australia) have been faster than many stakeholders in the Academy to react to the changes in their service function – in their case caused by the rapid digitisation of resources and the changes in user skills/behaviour/needs from a library. Even more unusually they have accepted that this implies that the expenditure on the specific “library” functions may well decrease.

Library 2.0 is “a loosely defined model for a modernized form of library service that reflects a transition within the library world in the way that services are delivered to users. The focus is on user-centered change and participation in the creation of content and community. The concept of Library 2.0 borrows from that of Business 2.0 and Web 2.0 and follows some of the same underlying philosophies. This includes online services like the use of OPAC systems and an increased flow of information from the user back to the library.” [our italics]19
In the UK and elsewhere several studies have been done to put flesh on the bones of the Library 2.0 concept.20 Furthermore, many librarians are experimenting with blogs, wikis, and other web 2.0 systems including social networking, to better track and gain feedback from their users. There are even a few innovative Library 2.0 systems in operation. Open source systems like Evergreen21 are slowly coming to fruition and beginning to challenge the dominance of the proprietary Library Management System in the university library – which has reigned unchallenged by open source much longer than its sister the proprietary Virtual Learning Environment.

Librarians do not forget the needs of their users in subjects where it is as yet not possible to provide electronic versions of all relevant material. They would call this being “service-oriented” rather than being “conservative”. A recent study for an open university made it clear that many distance learning providers still feel that they have to – and do take care to – provide a quality service of posted or scanned material to their students at a distance – in the province, in the country and in some cases even internationally.

INTERNATIONALISATION

Most universities in the developed world have students from beyond their host country’s borders – on their campuses or attending virtually. Most of these will want to ensure that there is something in their curriculum to attract such students – in other words, to give a more international feel to their curriculum.

Universities do not have to be in the Times Higher Top 20022 to have to worry about internationalisation. They do not have to be distance teaching universities to worry about it. They do not have to want to attract US students – or Malaysian or Chinese students – to have to worry about it. It affects more and more universities. The major open universities have been concerned with the issue for at least 15 years.

All of this makes it strange that it still appears to be a relatively new topic in a number of universities. One suspects that a number of universities were proud of their nationally-specific curriculum and saw the occasional foreign student as at best an irritation. But as the numbers of foreign students grew (whether face to face or via distance learning) and as universities and governments released that there are no votes lost by charging high fees to foreign students, the picture changed.

The good news is that an internationalised curriculum is easier than ever to develop, at least for those universities who teach in one of the world languages, not just English. (But note in passing that teaching in English, for some parts of some courses in some universities, is far more widespread than many governments realise.)

This is not because of e-learning – e-learning is one of the causes of internationalisation, but not (directly) the cure. However, the same underlying processes that have brought about widespread e-learning have also brought about a widespread multi-language web, which academics are regularly perusing – for example for their own research. The resources on this web available in English far exceed the resources in any other world language, and many more academics can read English well enough to carry out research than have to teach in English.
RESEARCH

In the early 1980s, even in distance teaching universities the IT systems the academics used for their research were completely different for those that they used (or were forced to use) for teaching. Over the next 30 years there was a slow but steady convergence of systems. This has undoubtedly encouraged the embedding of e-learning into the university mindset.

In the early 1980s, research – or at least the literature search part of the research process – was about reading books and journals – often retrieved after perusing abstracts via a proprietary library search system (often accessed by the librarians, not the academics directly). Teaching was, in distance learning, about writing instructional texts for later printing, and perhaps some use of teleconferencing or video conferencing for some ritualised interaction with students. In the campus universities, the overhead projector was king. Some advanced academics used email; students used it not at all.

By the late 1980s, the Apple Mac and Windows PC computers were becoming common in the richer universities – among staff, not among many students – except a few adult students engaged in distance learning. Desktop publishing had arrived, with Microsoft Word establishing an early dominance even though MacWrite was beloved by many Mac users including the author. Many more academics used email, although very few senior academic managers and very very few administrators. Some privileged distance learning students from a few universities were using specialised email and bulletin board systems, although often not connected to internet email. Academics (in campus and distance teaching universities) used PowerPoint to produce overhead project transparencies. Many used Word to produce papers but academics in technical subjects but scientific users often preferred systems such as TeX and TROFF to produce their papers despite their lack of WYSIWYG capability (I suspect some academics relished that lack, separating them from their lesser peers and the students).

By the early 1990s, the first uses of bulletin boards for education were well under way, especially with the flowering of the FirstClass system. A few specialists had heard of WWW, but no one had any idea of how pervasive it would be. Energies instead went into populating bulletin boards with content pages and posting out CD-ROMs of content. (At least no one tried to build online courses using Gopher.) A topic crying out for research is whether the fashion of the age for constructivism (which downplays content in favour of interaction) was a cause or a consequence of the content impoverishment of the systems of the time.

From time to time over the years a number of people and institutions tried to encourage convergence of systems between academics and students. It did not always work. For example, at the Open University, FirstClass became the email system of choice among academics, and its bulletin board system was widely used by academics, not only by students. This certainly helped to form a common mindset. I tried to repeat the experience when in 1997 I brought in FirstClass as the email system for academics at the university I was then at – but I never succeeded in getting the administrators to use it and this tactical defeat led to the strategic result of the university abandoning the system shortly after I left.
It was not until the late 1990s – amazingly to the modern reader – that the power of WWW became clear – and it was not until then that the VLE (Blackboard and its ilk) made its appearance. Academics and students rapidly agreed that WWW was a good idea but the VLE was left as a system only for students – and seemingly not one chosen by them. This is the case to this day – and this seems to be one of the reasons why despite its widespread use there are continued papers on the death of the VLE and desires to move to a post-VLE environment.

The digital projector had become pervasive and academics no longer had to carry around bulky backup copies of overhead transparencies just in case there was no digital projector in the host location. However, there was a new source of stress in that it was by no means infallible to connect one’s laptop to a digital projector. I well remember one dreadful morning in Queensland when just off the plane from Singapore I tried and failed to get the projector to work even though it was from the same manufacturer as my laptop. When an eminent e-learning friend in the audience came to my rescue the results were no better. “How many professors of educational technology does it take to change a projector?” came the irreverent drawl from the back of the room. That’s Australians at their best.

By the mid 2000s the convergence was getting even closer. Academics and students were getting used to “searching the web” and Google was beginning its rise to be the dominant search engine. Disappointingly for some in the library community, academics rapidly adopted Google in preference to proprietary library search systems – and in some reports it was suggested that academics had become rather too much like students in their inability to carry out complex searches – even Google Scholar being a bit advanced for them, let alone Boolean searches. Later in the decade the use of web 2.0 techniques such as blogs, wikis and podcasts became prevalent with the general public being in most cases ahead, and in the case of wikis (especially with Wikipedia), well ahead of the academics. Only an academic could write an article on “how I learned to like Wikipedia”.

Now in as the early 2010s there is an almost complete convergence. The last major gulf to be closed was the one between the professional social networks (LinkedIn etc) and Facebook. But increasingly academics and other professionals are under strong pressure to become Facebook friends with those who IRL (In Real Life) are not friends or even close business colleagues. There is strong pressure to do so – for social networking reasons and convenience reasons (one less system to have to learn). Except that one can rarely drop out of the old system. There are also many ethical issues – in particular should professors become Facebook friends with students – in their university, in their class? It has been suggested that if they do so, they should do so via clones – alter egos. But that has its own dangers and would be no defence if it came to lawsuits.

I said “almost complete convergence”. Except for the VLE. There have been attempts, even well-funded ones, to develop and promote suitable VLEs for researchers (VREs) but without great adoption. This does raise continuing questions as to how sustainable the VLE is in the 21st century university. But it is easier to theorise about doing it than doing it – no VLE based on Facebook, Google etc has been at all compelling. So “don’t buck the market!” – but what to do if the market does not deliver what you want?
Which brings us neatly to the marketplace – or marketspace as some would call it. What has e-
learning done to the market for higher education? Basically, competition is much greater.

First, despite the various failures of e-universities in the last 10 years, distance e-learning has now
substantially increased the “reach” of many universities, including many who were not originally
open universities or even largely focussed on distance learning. While we are some way from the
“free market in global distance learning” envisaged by some GATT theorists,26 more and more
universities take a higher and higher percentage of their students from outside the home nation and
outside the home continent.

This is happening not only in the Anglophone community but also in some other world language
communities. It is clear that it occurs in the Hispanophone community (UNED, UOC, etc) and in the
Arabic-speaking community (e.g. the Arab Open University operating across seven countries) and to
a lesser extent in the Dutch-speaking community (OUNL). It has happened for some years in the
Chinese-speaking community although one might have to consult a politician to determine whether
the situation of mainland China students studying virtually at a Hong Kong university is international
or not (Taiwan seems less interested in distance learning). There is much less information about the
Lusophone community although general considerations would support it – as they would in the
Russophone community. The situation with the Francophone community seems also not well
documented.

It is likely that only in the Anglophone community is there substantial studying by students at a
distance not in their first language. Again, information is scanty.

Admittedly there still are some restrictions on these flows even within linguistic regions. For
example, UK universities have made only very limited inroads into North America (for cultural
reasons – the USOU subsidiary of the OU was a failure, perhaps it was started too soon) or South
America (linguistic reasons – though there are a few exceptions) – but have done rather better
(relatively speaking) in the Caribbean. The counterflow of UK students studying remotely at North
American providers seems similarly small, for reasons that are less clear but perhaps to do with the
dominance of the Open University in the UK distance learning market.

What is clear is that this is happening without changing the fundamental characters of the
universities involved.

It has also been happening during a period of both strong government pressures in many western
countries on universities to expand their foreign student face to face enrolments, and historically
low air fares across the world. Under the impact of stricter visa restrictions and rising oil prices (due
essentially to long-term scarcity) these conditions are no longer valid and are unlikely to return for
some years if ever. Electric planes? I think not.

Second, many campus universities have substantially expanded their catchment areas (the locations
from where students travel to study) for so-called face to face students, under pressure to expand
enrolments, but facilitated overtly or covertly by e-learning (usually covertly). Basically, techniques
like lecture capture, web-based resources and use of online interaction allow students to choose
more carefully when they will actually make the investment to travel to the campus – although it is
usually only for part-time courses (and not always then) that universities do any actual planning of which days/hours courses are offered on and why. This means that catchment areas are more overlapping.

It is worth noting – especially to those that resist the “Anglo Saxon” approach in language and concepts – that this market is not dependent on universities levying fees. The competition can be for the quotas (and associated funding) from the ministry. Thus even in countries with nil fees (such as Sweden) there is intense competition for students. Student demand for places is one of the levers that universities deploy to influence ministries, whether or not funding flows through the student.

**Funding**

Across the world, the concept of free higher education is in peril. As the years go by, fewer and fewer countries offer free higher education even to their own citizens. Even in Europe the trend is clear, but slow.27 A rather faster trend is that institutions are increasingly charging full-cost fees to non-EU students and can enrol as many as they can find. The UK has done this for years, Denmark more recently and Sweden has just followed suit. More will follow. The implications are clear: a market for non-EU students familiarises universities and governments with the concept of a market for all students.

Again e-learning cannot be held directly responsible for this – wider societal changes and the ending of the “days of abundance” are more to blame – but e-learning allows users to have more choice over *where* to study. There used to be a comforting myth in many countries that one went to school, got good grades and went to one’s local college. But in many of the more densely populated countries of Europe there is no one “local college”. An example may bring this home. My home town of Sheffield has a population of 555,000 and thus general considerations suggest that it should support around two universities. It does – and a bus ride of 30 minutes takes me to two good universities, the University of Sheffield and Sheffield Hallam University. But a train ride of an hour from my local station takes me to two more in Manchester, another in Derby, two more in Leeds – and I might even drive over the hills to Huddersfield. Oh – and I could study for some degrees at Sheffield College or Chesterfield College. For a full-time student living in Sheffield, any of these destinations are feasible. For a part-time study, several more – slightly further away – come into play.

This approach holds true for staff too – nowadays full-time staff are even less full-time in attendance than full-time students are – thanks to the technologies that underpin e-learning. There is a market for staff too. An address list for any UK university of where the staff live makes fascinating reading.

Even in countries where there is still substantial funding (grants or subsidised loans) the way that funding is allocated is often under review. In fact in several countries in Europe (Denmark, Sweden) and outside (Australia, New Zealand, several states of the US) *performance-based funding* is either operational or under consideration.28 This ties funding not only to the number of student places in a university but also to course completions, student feedback and other measures of *quality*. It is not by any means clear how this will change the Academy if the approach becomes widespread across the developed world.
Quality and Regulation

The discussion in the last section has been phrased in terms of public universities. But in almost all countries there are also private universities – some even are run not as foundations but as businesses for profit. In the US and UK particularly there have been recent concerns over the quality of the education such private providers will deliver. This issue comes into particular relief when government funding is involved – students at such universities can be eligible for government-subsidised student loans – as they are in the US and as they possibly will be soon in the UK under certain conditions (such as maintaining fees at less than a certain level).

Most countries that have accepted the phenomenon of private universities have some kind of accreditation body which approves the setting up of a private university. Indeed the existence of such a body – rather than either no regulation or direct ministry regulation – is a good touchstone of whether a country is comfortable with the concept of private universities. But even if a university is fully accredited there is nothing to stop it drifting off course unless there is an ongoing quality regime.

However, as important as the issues are with private providers, are the current concerns from several governments that all is not well with the quality of the public university system. Increasingly feedback from students, their parents and a growing set of experts – including in the UK 29 – is raising questions about the way that universities appear largely to regulate themselves – and even when (as in most countries) there are national or regional quality agencies they are often run by “university people”. Not that student feedback is the be-all and end-all – students are not only customers, nor the only stakeholders in the survival and quality of universities. But students’ views are important.

Most countries are in the process of improving their quality systems for universities. In the international arena, quality is seen (by governments) as a key component of reputation. In several countries – often in Asia – where there is a somewhat separate distance education sector, there are also moves to define, implement and refine specific quality systems for distance learning providers.30 (Quite why these moves are not always coordinated with broader quality agendas is a mystery.)

However, with some very rare exceptions, none of these quality systems take account of e-learning. (In fact, none of them take account of any kind of non-standard learning – e.g. in the workplace or at overseas campuses – taking place outside the classical paradigm of on-campus lectures and associated activity.) While it can be argued that this is perfectly acceptable when e-learning is a minor or non-strategic component of a course offering (for example when access to library books is replaced by access to e-books) the case seems far less convincing when a whole programme is offered by e-learning, as it is from many distance learning providers.

There have been a number of attempts from experts and agencies to address this issue – but all have so far failed. The reasons are varied but probably boil down to the following three: quality of e-learning is not (yet) an issue for international agencies; quality of e-learning is never a high enough priority for a national government; and that those involved in quality both within universities and the national agencies are by and large conservative personalities.
Perhaps the most concerted attempt in recent years to define a regime for quality in e-learning took place in Sweden when the National Agency produced a well-researched set of guidelines.31 Unfortunately the government changed shortly afterwards and the guidelines were not implemented. This is despite the fact that distance e-learning is a significant fraction of total student learning in Sweden.

A somewhat different situation took place in the UK. In 1999 the quality agency produced a respectable but traditional set of guidelines for distance learning, with a number of experts consulted. The guidelines rapidly went out of date during the explosion of e-learning in the early 2000s: in fact the UK e-university went from birth to death before the guidelines were revised, not very well, in 2004, in a cumbersome document. In the last two years a Special Interest Group of experts spent considerable energy on a further revision, producing an excellent report, only to find that the quality agency largely ignored it.32

A number of projects at the European level – funded by the European Commission – have also analysed these issues and produced recommendations. The problem there is that the EU has no jurisdiction over national quality agencies and so if the national quality agencies are not listening then there is no route forward for any recommendations that ensue.

My view is that longer term such guidelines belong and should be developed for (or by) a new set of non-governmental accrediting agencies more appropriate to a mixed economy of public and private providers in an internationalising world. I feel that valuable lessons could be learned from the way the US accrediting bodies operate, from international schemes for accrediting business schools and from the way that benchmarking e-learning has developed a set of standard methodologies (in UK, US, Australia and New Zealand and via some EU projects) with relatively small amounts of national funding and little or no help from most national quality agencies.33 In such schemes, and true already for all modern benchmarking schemes, the student voice must be a key input.

**THE STUDENT**

Along the way in this chapter, students have been a constant refrain – as they should be. However, one key aspect of student behaviour has not yet been discussed – changing student attitudes to copyright. Copyright, especially of audio-visual materials, is increasingly an esoteric (and boring) topic to students. This has serious consequences for those concerned with combating plagiarism.

Plagiarism is one of these issues which is at the heart of the Academy. Superficially it seems an issue just to do with students and their tutors, but in reality it reaches deep into the system of administration of the student experience, and right up the hierarchy, up to Deans and beyond – as any academic who has been involved in plagiarism cases can attest. This is why we discuss it. In Academy terms it can be a capital offense – expulsion from the Academy being a kind of intellectual death. And as with all potential capital offenses in most countries, a balance must be maintained, evidence must be compelling and high levels of scrutiny must be brought in.

However, this caution must not be confused with the special pleading one often hears, including from experts who should know better. “This student is from a disadvantaged background, she didn’t know that this was wrong.” (Did we ever tell her?) “That student comes from a culture where they
venerate professors: he thought it was respectful to copy the professor’s material." (Nice to be a professor in such a culture, but not the point.)

Recently, a long-serving professor put the key point pithily. “Plagiarism is in essence laziness”. But how to combat it? In addition to the obvious (but often missed) point that students have to learn the academic culture (of respect, comparison, referencing etc), the key techniques are not just plagiarism detection but also plagiarism avoidance.

Plagiarism detection is the use of software tools to process files to detect plagiarism by comparing text in the files with a vast database of other material, including on the public web. But it has to be text. This brings up the key point is that one cannot blame e-learning for plagiarism. Plagiarism became an issue as soon as students started submitting word-processed assignments – on paper – exacerbated by professors having less contact with each student as class sizes grew. In fact automated plagiarism detection became far easier when assignments were submitted as actual files – despite students putting misplaced energy in trying to fool the system.

Plagiarism avoidance is in essence the setting of assignments which are “keyed” to the student’s own unique life experience and thus difficult for another student to submit. As an example, in an international distance learning course on networking, one assignment was “describe the barriers to telecommunications operators providing a faster broadband service to your home, and what is being done to overcome these barriers”. Since the population for such courses are usually quite low and thinly spread we had very few cases of more than one student living in the same town.

Using situated assignments and the above approaches has many other advantages: assignments become fresher, more authentic and, last but not least, as at KTH in Sweden, more relevant to an international student body.

Coming back to students in the international arena brings us full circle – and to some conclusions.

**Envoi: The institution endures**

The “flip” answer to the question the chapter title poses – “What is the impact of e-learning in the 21st century university?” is “not much” – to which I would add “and that’s the problem”.

Especially in the elite universities, those high in rank and with few difficulties in attracting good students, there can be large amounts of e-learning, both supporting the learning of on-campus students and directly teaching off-campus students, without university presidents being unduly aware of this or factoring it into their planning. Wealth and the former “culture of abundance” in developed economies meant that hard decisions on costs and trade-offs could be avoided. Of course, two levels down from the top there are usually talented directors running the various e-learning-related services.

The criticism many make of the for-profit distance teaching universities is that while they may be effective in e-learning – and even have lessons in service levels to teach other kinds of universities – they lack the depth of research and scholarship which many believe are central to a university. Has their effectiveness in e-learning come at the price of not being “full-service” universities?
Less prestigious universities often turn to part-time campus and distance learning students – and to a focus on disadvantaged students – to break out of the numbers trap and gain additional income especially from international students. But so often their e-learning growth reaches a peak and seems to stall – staff leave, the government climate changes, students move on. These universities get bogged down with endless discussions on costs and reorganisation.

The open universities have had their near-death experiences over the years but have mostly managed to provide a workable balance of research, scholarship, teaching and service levels. But there are so few of them – and so few new ones are being developed! If one looks at all the new universities founded each year across the world, a tiny fraction have any visible focus on distance learning – despite exhortation from experts and international agencies. Yet in almost every other sector business is rapidly moving online – including in training, teaching’s ugly sister.

Of course, universities are often criticised for being one of the few entities unchanged from mediaeval days. And we need anthropologists to determine why the “rite of passage” that is a 4-year (or 3-year) undergraduate degree remains so stable, flying in the face of any cost-benefit analysis especially for arts graduates from less prestigious universities. The wisest of all my research assistants, when asked the question “why do students go to university?” replied “to fall in love” – and went on to argue that this process required at least two summers to be effective (I did not follow that part of her reasoning). But the summers of love are long gone and little remembered now.

My personal observation – from a non-standard academic career unlike that of most academics – is that change really is slow but those in the system do not realise it. I had a generation’s gap – 24 years (remember Dearing?) in my face-to-face teaching career between Oxford 1972 and Sheffield Hallam 1996. I came back to computers and projectors and email, not typewriters and blackboards and fax/telex, but the essence of lectures, timetables, supervisions, and departmental politics was unchanged. At the Open University, I worked in operational departments and not on course development between 1977 and 1988 – when I returned to course-writing, change in fundamentals was minimal – except that academic productivity appeared to have declined (measured as Stakhanovite37 “authored modules per year”).

What seems to be missing is an ongoing process of innovation in institution-building. How to bring it about is not clear. Theories I have earlier floated about demergers and regionalisation of providers find little favour and win few friends. There is a particular problem in Europe. Such models as might be the precursors of the kind of institutions I favour are much more common in other continents – whatever direction one travels in. This must at least in part be due to the increased role the private sector plays in other continents. Part may just be European ennui (we can seem to others to be a tired continent) – or it may be that some massive quantum of population (above that in any one EU country) is required before such an ongoing process becomes feasible.

In Europe at least the freeing up of institutional innovation would have to be coupled with more effective yet student-friendly ways of winding up institutions that no longer meet student needs. In our analytic project on virtual campuses, we took care rarely to use the word “failed” about initiatives – instead we talked about “ceased”. Students may fail, but “the system” should never
fail to serve the student. “No experiment can be an experiment on the student” we used to say at the OU. Yet to talk about “the system” could be seen to challenge the autonomy of the institution. Something has to give before we can release the institutional innovation that the Academy – and the students it serves – merits for the 21st century.

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1 See http://revica.europace.org and http://www.lsri.nottingham.ac.uk/capital/
2 Fuller details of all acronyms and of e-learning in/at countries and entities discussed can be found on the virtual campuses/schools wiki whose home page is http://www.virtualcampuses.eu/index.php/Main_Page
3 See http://www.softarc.com
8 Bacsich, P., 2005, Lessons to be learned from the failure of the UK e-University, http://www.virtualcampuses.eu/index.php/Lessons_to_be_learned_from_the_failure_of_the_UK_e-University
10 PricewaterhouseCoopers, 2000, Business model for the e-University (Report 00/44), http://www.hefce.ac.uk/pubs/hefce/2000/00_44.htm

The *mainstreamers* foresee e-learning becoming more and more pervasive – “there’s already an ‘e’ in learning”, they say. The subtext is that they hope e-learning will go away as an issue – and the enthusiasts with it, so that they can stop being pestered about pedagogy.

12 As for example in http://www.slideshare.net/ranihgill/theres-already-an-e-in-learning

13 By analogy perhaps with http://en.wikipedia.org/wiki/Ascension_(Stargate)#Ascension

14 The detailed evidence and figures to show why they might be concerned are in Swedish on the site http://www.hsv.se


21 http://open-ils.org

22 http://www.timeshighereducation.co.uk/world-university-rankings/2010-2011/top-200.html


25 See http://www.jisc.ac.uk/whatwedo/programmes/vre.aspx
26 See http://www.wto.org/english/tratop_e/serv_e/education_e/education_e.htm


30 Jung, I., Editorial: Regional Focus on Asia Major: Changing Faces of Open and Distance Learning in Asia, 2007, International Review of Research in Open and Distance Learning, Volume 8, Number 1, http://www.irrodl.org/index.php/irrodl/article/download/1096/1915 – and see the articles referenced there


36 For those too young to remember, it may help to look at http://en.wikipedia.org/wiki/Summer_of_Love

37 http://www.soviethistory.org/index.php?page=subject&SubjectID=1936stakhanov&Year=1936

38 The nearest I was allowed to get to that zone recently in public reports (as opposed to private briefings) was Bacsich, P. & Pepler, G., 2009, Organisational Change – first report, CAPITAL Horizon Scans

ABOUT THE AUTHOR
Paul Bacsich was at the Open University for many years including as Head of the Electronic Media Research Group (one of the founding parts of the Knowledge Media Institute). He started his research on virtual universities in 1994. In 1996 he was appointed Professor of Telematics at Sheffield Hallam University where he set up the Virtual Campus and the Telematics in Education Research Group. After that he consulted via his company Matic Media Ltd, and was Director of Special Projects at the UK e-University – later he took on long-term consultancies on benchmarking and change management in e-learning for the Higher Education Academy. He is also Senior Consultant at Sero Consulting Ltd, where he successfully bid for and now runs two large Lifelong Learning Programme projects in virtual schools and in open educational resources respectively. In addition he is Visiting Professor at Middlesex University. He has university clients in England, Wales and Sweden and research collaborators in many countries.

DESTINATION
To appear as Chapter 9 of:

Virtual schooling is well established and reasonably widely distributed throughout Higher Education today. There is now a significant body of research concerning virtual learning in HE, dating from before the millennium. However, with the exception of North America and Australia, virtual learning is almost invisible pre Higher Education. Similarly, until the VISCED Project, there was no – notwithstanding North America and Australia - systematic inventory, or indeed, body of research concerning virtual learning pre Higher Education.

With widespread education reforms across Europe proclaiming that decentralisation and heterogeneity will drive improvement through innovation (Gove 2011) it would appear that the climate is fertile for virtual schooling. There are clear analogies between, for example, Charter schools in the USA which have already diversified into virtual learning and the Swedish (Björklund et al 2004) or English Free Schools and Academies.

This paper argues that policy makers within individual European nations and at Commission level are yet to grasp the profound nature of the changes afoot. Consequently there exist policy fault lines which could a) seriously restrict the expansion of virtual schooling and b) allow inherent weaknesses to become embedded - which could be damaging for learners, Governments and public perceptions of virtual schooling - and could result in the misuse of significant public and private sector investment.

A brief comparison of VISCED findings for Europe with those for North America and Australia will provide the context for these arguments. This will include observations on the spectrum of virtual schooling models and definitions, and policy issues and responses.

VISCED – a partnership from eight European countries - is a global study of the current state of ‘virtual schooling’ for the 14-21 age group. This entails a systematic review at international and national levels including case studies of virtual schools and colleges. The outputs of this work are being analysed and compared to identify relevant parameters and success factors for classifying and comparing these initiatives. This analysis will be used to provide detailed policy guidance to individual European countries and the European Commission.

Applying the experiences and lessons learned (although not always acted upon) from North America and Australia to the European education landscape illustrates a number of areas where without policy refinements the same tensions evident elsewhere will be repeated – seriously inhibiting the success of the schools and colleges - and the student experience and possibly heralding critical failures.

http://www.education.gov.uk/inthenews/speeches/a00200484/michael-gove-speaks-to-the-schools-network

http://www.nek.uu.se/staffpages/publ/p374.pdf
Annex 9

*Alternative models of (formal) education delivery, an alternative intervention of Paul Bacsich at the EIF*

A small study project from the UNESCO Institute for Information Technologies in Education (IITE) requires the specification of around five alternative models of education delivery for the formal education sectors. These models should be compelling IT-enabled archetypes of education delivery, generalisable, scaleable and sustainable, for deployment in a variety of socio-economic situations in the more developed countries or regions of countries. All models must be deliverable within current operational technology. It is likely that there will be one archetype from the primary sector and two each from the secondary and tertiary sectors.

The session will begin with a helicopter summary of the state of the art in virtual schools and virtual/hybrid campuses, continue with some theoretical issues (quality, cost and time) and conclude with an open audience-led discussion on relevant models, looking at them in terms of their generalisability, scalability, advantages, disadvantages, and implications for current policies. If the audience does not have ideas, the presenter will put up some of his own, for example Multiversity (http://www.virtualcampuses.eu/index.php/Multiversity) and draw on insights from the POERUP, VISCED and Re.ViCa projects.

*This session replaces a cancellation in session 1 on the 6th of September and will be presented by Paul Bacsich.*

Some interesting background papers for the audience:

- Presentations and videos at “The VISCED Colloquium for Virtual Schools” (http://www.virtualschoolsandcolleges.info/visced-colloquium-for-virtual-schools)
- “Growing the OER u” (http://toucansproject.wordpress.com/2012/04/16/growing-the-oer-u-a-pre-conference-workshop-at-cambridge-2012/ /)
Annex 10

Virtual School MOOC - Introduction to K-12 Online Learning Research

(10 September-07 October 2012)

Welcome to Virtual School 2012 MOOC. This massive online open course (MOOC) provides a broad overview of the field of K-12 online learning, specifically what is currently known based on the research that has been conducted in the field. This is my first attempt at leading a MOOC and I have relied heavily upon the format used by David Wiley in his Introduction to Openness in Education (and I have noted specific instances at the bottom of each of the pages). Having said that, I like to lead a longer, more developed MOOC during Summer 2013 (possibly with the opportunity for university credit). The main goal of this course is to give you a broad grounding in the research related to the field of K-12 online learning. Never fear, however – as you review the badges available for this course you’ll see that you have plenty of opportunity to dive deeper in the specific areas that interest you.

Week 1

Classifying K-12 Online Learning (10-13 September 2012)
Michael Barbour, Wayne State University

History of K-12 Online Learning (14-16 September 2012)
Tom Clark, TA Consulting

Week 2

Research into K-12 Online Learning (17-20 September 2012)
Rick Ferdig, Kent State University

Research into the Design of K-12 Online Learning (21-23 September 2012)
Michael Barbour, Wayne State University

Week 3
Research into the Teaching of K-12 Online Learning (24-27 September 2012)
Kathryn Kennedy, Georgia Southern University

Research into the Facilitation of K-12 Online Learning (28-30 September 2012)
Matt Irvin, University of South Carolina

WEEK 4
International Research into K-12 Online Learning (01-04 October 2012)
Paul Bacsich, Sero Consulting Ltd/Virtual School and College Education for Teenagers and Young Adults

Concluding the Introduction to K-12 Online Learning Research MOOC (05-07 October 2012)
Michael Barbour, Wayne State University
Annex 11

Innovative good practice in virtual schooling in Europe

Paul Bacsich will review the current “state of the art” among the 50 or so virtual schools in Europe in the context of an overview of the key relevant differences between the US educational system and that in most European countries. Many of the European virtual schools (such as in England, Wales and Sweden) are pure virtual schools but there are some blended learning offerings in Scotland and Finland. He will focus on issues of sustainability, innovative practice and staff development but also suggest some wider political lessons and reflect on possible differences in pedagogy.
Annex 12
VIRTUAL SCHOOLS AND COLLEGES IN EUROPE: LOOKING FOR SUCCESS FACTORS

Ilse Op de Beeck, Wim Van Petegem, KU Leuven,
Anthony F. Camilleri, Marie Bijnens, EFQUEL, Sally Reynolds, ATIT, Belgium,
Paul Bacsich, Giles Pepler, Sero, United Kingdom

Introduction

Practically everyone has the same understanding of a school or college as a place where students go to learn. But what about the students who find it difficult to go to a place of learning? What if they are scared of school, ill or unable to access school for some other reason? What about students who want to take subjects which they can’t access in their local school or college or young people who are incarcerated and who want to find a way into further or higher education to increase their life chances?

Schools will be changing and it is clear that ICT can play a role in order to set up more open and pupil-centred models of schooling. As the demand for more flexible learning paths grows, virtual schools and colleges are becoming an increasingly important alternative and are becoming more and more prevalent all over the world. However, little is known in Europe about how they operate or what makes them successful. Many people are suspicious of these new structures particularly when they are offered as a replacement for compulsory level-education. Yet, a lot of virtual schools and colleges now exist and have been the subject of a recent investigation within VISCED, a project supported in part by the European Commission.

In this paper we first provide the reader with the definition and characteristics of virtual schools and colleges and a selection of different examples to illustrate the types of virtual schools and colleges that already exist. Then, we elaborate on a number of factors that were identified during our research which help to make virtual schools and colleges successful.

Definition of virtual schools and colleges and prevalence in Europe

Virtual schools and colleges are usually defined as institutions that teach courses entirely or primarily online. These courses are generally similar (in purpose and outcome) to those taken by school or college-age students. In a virtual school pupils learn mainly at a distance over the internet and any activity in a classroom
takes no more than around 15% of study time (1 day per week in a full-time school). The pupils will normally be based at home.

In our research the main focus is on secondary level education aimed at the 14-21 age group as well as colleges providing opportunities for students including those moving between school and higher education. We have found that virtual schools are not that common in Europe and in many countries there are simply none (this is particularly the case in countries which prohibit or strongly discourage home-schooling). Currently, almost 70% have been identified in Europe distributed across 18 different countries. However, we are aware of virtual primary schools and other related virtual initiatives aimed at young people and if these are taken into account, the number of institutions in Europe would probably rise closer to 100. In contrast, virtual schools are quite common in the United States – there are several hundred and also already large numbers of them are operating in other parts of the world.

**Examples and characteristics of European Virtual Schools and Colleges**

Within the VISCED project, an overview has been made of currently operational examples of virtual schools and colleges across the world and several in depth case studies were also written. Examples include amongst others Bednet (a regional project in Flanders set up in 2005 whereby students suffering from long term and chronic diseases follow lessons and interact with their own class through videoconferencing), Nettikutio – Otava Folk High School (Otava Folk High School in Finland launched in 1996 the project Internetix and within this project Nettikutio, a fully virtual upper secondary school), “Ensino a Distância para a Itinerância” – previously known as “Escola Móvel” (a distance learning project of the Portuguese Ministry of Education and Science aimed at ensuring regular schooling of travelling children whose families work in circuses and fairs), Sofia Distans (established in 1994 to enable expatriate Swedish students to study within the Swedish school system),…

This small selection of examples already shows that a lot of the European virtual schools initially came into being to address issues of pupil inclusion:

- Students who are long-term sick and/or hospitalised
- Students with disabilities
- Young parents or pregnant young women
- Travellers
- Students who have been bullied or are school-phobic

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1 see http://virtualcampuses.eu/index.php/Category:Virtual_schools_in_Europe
• Students with behavioural problems
• Students who left school with no or few qualifications
• Students who are imprisoned
• Geographically isolated students
• Students with specific language needs (immigrants with poor host-nation language skills)
• Expatriates – often the children of diplomats or executives in multi-national companies
• Elite performers – e.g. athletes, sportsmen, child entertainers.

Also in the United States there currently is a huge variety of students involved in virtual schooling, including for example those that are medically fragile or those in rural communities. However, it is interesting to know the initial impetus in many places came actually from the need to provide virtual schooling for gifted children (Patrick, 2012).

To classify the many different types of initiatives and organisations a five level description was used within VISCED:

1. Fully virtual school/college: this includes brick and-mortar schools offering a full distance education in parallel with face-to-face classes.
3. Virtual school-in-school: a virtual school within a school or college which does not offer a full curriculum.
4. E-mature school or college making good use of blended learning.
5. Informal school/college: organisations such as Notschool or Mixopolis.

Within these five levels, virtual schools and colleges are tagged along five main dimensions:

1. Geography especially continent, country and region.
2. Catchment area (international, national, state, school district etc.).
3. Full-time or supplementary.
4. Ownership and flow of funds (state, foundation, company etc.).
5. Size band.
On the basis of the evidence and research available at present, the split between those established by public or private providers is estimated to be approximately 50:50. Almost all the private organisations are non-profit.

The typical size of European virtual schools, where enrolments are quoted, is around 450-500 students; the smallest identified has 25 students and the largest has over 16,000. A significant proportion of these schools offer a full, or broad, curriculum and in several European countries there appears to be a growing interest in virtual schools providing supplementary or specialist courses and/or revision lessons.

There is a broad pedagogical spectrum – from 100% online through to significant face-to-face interaction – and a variety of communication tools including Skype and commercial videoconference systems, e-mail, telephone and learning platforms. In many cases the virtual schools reflect local or national circumstances – either in support of policy priorities or to meet demands not sufficiently catered for in their host region.

All in all, the examples and case studies demonstrate that European virtual schools form a very diverse constituency – ranging from quite sophisticated and high-tech through to what many would consider fairly basic, low-tech solutions and through the spectrum of blended learning (from significant face-to-face to primarily online) to pure online learning. What seems to be in common though is that they almost all have developed pragmatic solutions to meet existing learner needs.

**Success factors**

If e-learning initiatives in schools and colleges are to be sustainable and cost-effective, it is of the utmost importance to identify those factors that are contributing to that sustainability and that will enable setting up successful virtual schools and colleges in the future. The more online education and virtual schooling shifts from small-scale experiments to large-scale, mainstream operation, the more important these factors will become.

During our research, a number of factors which help to make virtual schools and colleges successful were identified. The outputs of the review of virtual schools and colleges have been analysed and compared to identify relevant parameters and success factors for classifying and comparing these initiatives. The aim was to create a set of critical success factors and key success factors to cover activities in the area of strongly ICT-imbedded schools and colleges such as virtual schools, notschools, e-matures schools etc.
Since the virtual schools sector bears strong similarities with virtual campuses in higher education, the approach being taken was to develop a scheme for virtual schools integrated with the existing Re.ViCa scheme for virtual universities and colleges. Re.ViCa “Reviewing (traces of) European Virtual Campuses” (2007-2009), the predecessor project of VISCED worked towards producing a list of critical success factors in this sense, with the explicit purpose of being short enough to be useful for strategic management functions within virtual campuses in higher education (Schreurs, Bacsich, Bastiaens, Bristow, Op de Beeck & Reynolds, 2009). A critical success factor is defined there as “an element that is necessary for an organization or project to achieve its mission” (Wikipedia, 2012). This differentiates it from other factors, which are “important” or “nice to have” but not necessary. Benchmarking in e-learning typically looks at a wider range of factors, and quality systems for e-learning at an even wider range. This is sometimes represented as a “pyramid of factors” (Bacsich, 2009).

As a starting point for defining a list of potential success factors for virtual schools and colleges the set of Re.ViCa critical success factors was thus used\(^2\), to be adapted and reworded to fit more the schools and colleges sector (Schreurs, Bacsich, Bastiaens, Bristow, Op de Beeck & Reynolds, 2009).

Being already the main source for the Re.ViCa critical success factors, also for VISCED the Pick&Mix criteria were reconsidered. Pick&Mix consists of a core set of performance criteria, scored on a scale of 1-5 for application in higher education institutions, and tailored towards institutional benchmarking (Bacsich, 2005)\(^3\).

In general, there has been substantial literature on success factors for e-learning. Also benchmarking and quality schemes contain relevant information on what is important in e-learning. A number of those e-learning quality, certification and benchmarking schemes and methodologies were looked at in order to compare the list drawn from Re.ViCa and Pick&Mix with the success factors elucidated in those other schemes, so as to (a) ensure consistency of style, (b) harmonise of similar factors and (c) identify lacunae in the coverage of the original set of critical success factors. Descriptions of the schemes (e.g. ACODE benchmarks, e-Learning Maturity Model, UNIQuE,...) that were examined for VISCED are available on the VISCED wiki, brought together under the “Methodologies” category\(^4\).

Each scheme has its own particular approach and focus, some more relevant than others in view of the VISCED work. The majority of benchmarking or quality

\(^2\) see http://virtualcampuses.eu/index.php/Critical_Success_Factors
\(^3\) The full list of criteria can be found at http://www.matic-media.co.uk/benchmarking/PnM-2pt6-beta3-full.xlsx
\(^4\) see: http://virtualcampuses.eu/index.php/Methodologies
schemes are however focussing on higher education. On the other hand, schemes and methodologies that are specifically addressing virtual schools and colleges are scarce. One important exception is the iNACOL National Standards. iNACOL, the International Association for K-12 Online Learning is a US-based non-profit membership association facilitating collaboration, advocacy and research to enhance quality K-12 online teaching and learning. They have issued National Standards for Quality Online Courses, Teaching and Programs\(^5\) which provide quality standards for evaluating online courses, teachers and programs with common benchmarks.

For the school sector also interesting to mention are Quality Matters – a peer review process to certify quality of online and blended courses in higher but also primary/secondary education and tools such as MIICE – Measurement of the Impact of ICT on Children’s Education (a tool developed by the University of Edinburgh, by which schools can measure their progress in the quality of learning and teaching incorporating the use of ICT) and NCTE e-learning Planning (a tool developed by the National Centre for Technology in Education in Ireland to assist schools in developing their e-learning plan).

Based on the extensive desk research of the different schemes a master list of success factors was created. Each of the success factors was then measured against SMART criteria, i.e. refining each criterion to ensure it is specific, measurable, attainable, realistic and time-bound. Based on the evaluation of the SMART indicators, a shortlist of critical success factors is currently being composed, consisting of success factors matching each of the SMART indicators.

The applicability of each factor was considered, as well as any requirements for new ones, by the project partners in consultation with an International Advisory Committee, made up of experts from around Europe and beyond, who are specialised in the domain of virtual schools. Outcomes from the previous meetings were recorded and success factors mentioned during those gatherings are considered strongly in the final selection of success factors. Feedback from them will be asked once again in the coming months.

In the following, a preliminary list of factors that appear to be key to success is presented. In the final months of the project, these will be refined into a set of approximately ten factors which are critical to the success and the sustainability of virtual schools and colleges, and which can be used in defining monitoring indicators and performance benchmarks within institutions. They will be useful

\(^5\) see http://www.inacol.org/research/nationalstandards/index.php
both in monitoring internal processes as well as benchmarking institutional performance against other actors in the field.

**Usability of the system being used to support students, teachers and others involved.**

It is clear from our investigation into virtual schools and colleges that the technical infrastructure they put in place has to meet very high standards of usability, even though the technology employed may be relatively old and simple. There are many different systems in place, sometimes tailor made by the schools themselves, including a wide variety of online learning platforms and video conferencing systems. No one system dominates the market and practically all the schools and colleges that were investigated used a mix of synchronous and non-synchronous with a blended approach being the dominant learning model. Whatever the system, the extent to which it is user-friendly and fit for purpose is a key consideration.

**Extent to which a clear e-learning strategy is in place**

A complete commitment to e-learning is core to the rationale of the school or college and not only does it define the school or college as being different but it is also fundamental to how it operates. Arguably without the e-learning aspect, many of the virtual schools and colleges we investigated simply would not exist. E-learning provides the means and the basis for the success of the school; the strategy may be implicit, rather than explicit and frequently operates on a pragmatic basis – the strategic elements relate to usability and accessibility.

**Appropriateness of recruitment and training policies**

Many of the job roles in virtual schools and colleges are multi-faceted and complex, demanding a mixed set of skills and competences as well as high levels of empathy and understanding related to the specific nature of the students involved. Virtual schools and colleges have to identify staff that brings together not only professional skills and empathetic attitudes but also strong technical skills and competences. The most successful approach chosen by those charged with recruitment seems to be to choose staff with the relevant professional background and experience and to provide on-the-job training and support in respect to the technical aspects. Regular updating of skills is very important for most schools and colleges who often depend on a high level of peer support amongst staff.
**Extent to which regular evaluation is in place**

Given the highly innovative nature of the virtual schools and colleges we encountered, it is hardly surprising to note that most of them are engaged in the regular evaluation of all their processes, particularly learning/teaching processes and curricula. They tend to use a variety of different approaches including feedback from stakeholders and involving outside agencies where appropriate; often evaluation is conducted implicitly and informally, completely unlike the formal processes in universities and large colleges.

**Robust and reliable technical infrastructure**

To be successful, virtual schools and colleges all agree that their technical infrastructure needs to be extremely dependable. For many the quality of the technical support needs to be particularly high when it comes to dealing with users as they are generally not technically expert and may require sensitive management when it comes to their local technology set-up.

**Strong leadership skills and competences**

Many of those involved in virtual schools and colleges are pioneers, comfortable with overcoming challenges and breaking down barriers. Most have strong beliefs when it comes to topics like equity in education and the importance of lifelong learning and it is clear from our work that strong leadership skills and beliefs and a value-system that enjoys overcoming challenges are vital components when it comes to creating successful virtual schools and colleges. These leaders need to also be able to make clear decisions regarding staffing, student issues, and virtual school administration which command support across the organisation.

**Strong emphasis on learning outcomes – often on an individual basis**

Given the fact that many virtual schools and colleges provide learning opportunities for individuals who do not for various different reasons fit into the main stream, it is logical that learning outcomes will receive considerable attention. Most of the organisations we investigated were able to describe clearly defined learning and development goals, which can be assessed, where appropriate, for purposes of certification and progression.
**Availability of appropriate digital learning resources**

Some virtual schools and colleges create their own digital learning resources while a few either buy in commercial materials or use a mix of both. What is core to all is the accessibility of the material and the extent to which it meets the curriculum needs. There is an increased interest (from a very low base) amongst this sector in OER and some are now implementing systems based on Open Educational Resource (OER) principles.

**Clarity of the organisational system underpinning the operation of the school or college**

Everyone involved in virtual schools and colleges needs to have a clear idea of the rules governing the school, the different progression options offered by different learning pathways and of the relationship of the curricula to national or state requirements, especially as many do not cater for what can be considered mainstream students. All of the successful schools and colleges that we investigated made very explicit what students could expect in terms of achievement and progression and set meaningful goals based on these projects on an individual basis.

**Conclusion**

Virtual schooling has huge potential to widen choice for learners, to contribute to improved attainment and to reach learners who may otherwise be unable or unwilling, to access high-quality education.

In this paper we have provided the reader with the definition and characteristics of virtual schools and colleges. The next paragraph laid out the procedure for isolating, elucidating and defining key and critical success factors, through a process of reflection, research and consultation and presented also a number of key factors that were identified which help to make virtual schools and colleges successful.

In the coming months, a key outcome of the project will be the Virtual Schools and Colleges handbook which includes a summary description of virtual schools worldwide as well as a detailed description of the case studies gathered and the piloting work of innovative ICT practices supported during the project lifetime. It also contains chapters on teacher training, success factors and policy recommendations and is a useful resource for anyone who would like to learn more
about virtual schools and colleges. Furthermore, VISCED also supports a website\textsuperscript{6}, where all public project outcomes and the latest news are gathered, and a research wiki\textsuperscript{7}, open to all interested researchers and policy makers to share information about developments in virtual schools, colleges and universities around the world.

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3. Bednet (Belgium): http://www.bednet.be


5. Ensino a Distância para a Itinerância (Portugal): http://www.dgidc.minedu.pt/ensinodistancia/

6. iNACOL, International Association for K-12 Online Learning: http://www.inacol.org


8. NCTE e-learning planning: http://www.ncte.ie/elearningplan/


12. Re.ViCa “Reviewing (traces of) European Virtual Campuses” project website: http://revica.europace.org/

\textsuperscript{6} see http://www.virtualschoolsandcolleges.info

\textsuperscript{7} see http://virtualcampuses.eu


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- Aarhus University (DK) and
- TIEKE (FI).
2. THE VIRTUAL SCHOOL PHENOMENON ACROSS THE WORLD

Introduction
The text for this chapter draws on five of the VISCED public deliverables:
- D2.4 – Final Country/Region Reports
- D2.5 – Final List of Exemplars
- D3.1 – Typology of Virtual School and College Services
- D3.2 – Influence Maps for EU Countries
- D3.7 – Case Studies

All the source material for D2.4 and D2.5 can be found on the VISCED wiki.

Developing a Typology for Virtual Schools and Colleges
The project plan for VISCED states its aim is "to compile, inventory and to carry out a systematic review of international and national levels of innovative (IT-enhanced) learning innovating/Exemplar initiatives and ‘innovators’ major secondary and post-secondary education providers for the 14-23 age group (including Virtual Schools and Colleges)." These aims have led to extensive debate between project partners and within the International Advisory Committee in clarifying the different levels of online learning relevant to VISCED.
1. INTRODUCTION

Virtual schools and colleges are an increasingly important alternative for students and are becoming more and more prevalent all over the world – including Europe. Not little is known in Europe about how they operate or what makes them successful. This two-volume handbook will provide you with a sound understanding of virtual schools and colleges, provisional policy recommendations to support effective virtual schooling and information about where you can find out more.

Outline of the Handbook

The handbook is divided into two volumes. This book is Volume 2. It contains an Introduction (this chapter) and chapters on:

- Good Practice in Online Learning
- Teacher Training
- Critical Success Factors
- Policy Recommendations
- Conclusions
- References

Detailed Outline of Volume 2

Good Practice in Online Learning

Based on a survey of the literature on innovation and good practice in virtual schools (undertaken in 2011 and then updated in 2012), this chapter seeks to provide general analysis and preliminary recommendations for innovative good practice in planning and developing virtual schools. It includes the results of a literature review on the topic of innovative good practice for teachers.

Sources and Methodology

Sources

As the critical success factors are implicitly dependent on the structure of the virtual school sector, they are initially based on a research overview of the sector, which is presented in Volume 1 of this handbook.

Key and critical success factors are represented in the following diagram:

[Diagram showing the structure and relationship between factors such as temporal factors, competitive strategy, geographic logic, industry position, and environmental factors.]

Structure and critical success factors defined and elaborated by the VISCED consortium.
Annex 14


Nikolaos Zygouritsas & Eleni Maria Chelioti, Lambrakis Foundation, Greece; Nikitas Kastis, MENON Network EEIG, Greece

Over the last decades we have been experiencing rapid changes in learning as well as teaching, with ICT holding an important part in reinventing learning experiences and contexts while multiplying the ways one can access formal, non-formal or informal learning opportunities. Education models are changing since more and more innovative ways of experiencing learning and delivering education are emerging.

The VISCE D project\(^6\) - a transnational appraisal of virtual school and college provision – is a two year initiative which is currently funded by the European Commission and aims to identify and understand virtual schools across the world, not ignoring the US but focusing mainly on Europe and to some extent on other countries in the world which are often seen as relevant to Europe. The ultimate goal of the project is a better understanding of the reasons why some countries foster virtual schools, others discourage them and a third group (a large group including many countries in Europe) seem to ignore them, so to provide recommendations in the field likely to support policy makers in making the best use of the most adequate education model for their needs.

VISCE D has made an inventory and carried out a systematic review at international and national levels of innovative ICT-enhanced learning/teaching "Exemplar" initiatives and "e-mature" major secondary and post-secondary education providers for the 14-21 age group (including Virtual Schools and Colleges). This inventory aims to supply adequate comparative data, statistics and analyses to underpin policy recommendations, critical/key success factors and teacher trainer recommendations - for policy-makers, advisors, government, education authorities and the e-learning industry in the EU.

Pilots at schools in three countries valorised the review. The key aspects of innovation that the project was looking for in schools and colleges were "innovation in scale" and "innovation in sustainability" - that is, large-scale routinised solutions aligned with pedagogy and institutional/national goals, from socio-economic contexts with some relevance to EU realities. Good practice examples of fully virtual schools and virtual colleges have been studied as well as all major ICT-based "notschool" initiatives.

There was a learner focus on those not in, or in danger of not being in, employment, education or training (NEET) but there is not an exclusive focus on NEET - other types of inclusion issues will be

\(^6\) www.virtualschoolsandcolleges.info
analysed including facilitation (e.g. by university courses delivered online to schools) of more students from lower socio-economic groups to go into higher education.

The project took a global viewpoint in line with the latest thinking of analysts that there are models in a wide range of countries that are relevant to Europe, in both public and private providers. We ensure that conclusions are relevant to all EU countries, largest to smallest.

Investigating virtual schooling in Europe is not however an easy task. Although plenty of practices, experimentations and initiatives exist in the field of ICT for learning in school, that of virtual school seems to be a rather unknown concept and few examples which can be defined as “mature” can be found in the European landscape.

During the two years of activity, the VISCED project has carried out a significant amount of research to explore the size and impact of the virtual school phenomenon in Europe (and the world) and identify some interesting trends in a comparative education perspective. Research, consultation and piloting undertaken by VISCED produced:

- the results of the inventory and of the systematic review of "notable" Virtual Schools and Colleges (including Gymnasia, etc) and related "e-mature" major secondary and post-secondary education initiatives covering the age range 14-21 at European, national and regional levels - excluding university-level initiatives except for those delivering university-level education into schools.

- the results of the comparison of in-depth studies of European cases to selected non-European initiatives (from all populated continents, not only US and Australia) in order to refine and elaborate parameters and success factors and to formulate a set of action points that can be applied to ensure the realisation of successful European Virtual Schools/Colleges initiatives

- relevant parameters and success factors for classifying and comparing Virtual Schools/Colleges, based on thorough research and expert input.

- the socio-economic contexts most likely to foster Virtual Schools/Colleges.

- advice to stakeholders at all levels (from policy level through institution level to classroom level) in a range of EU countries large and small.

- a set of Critical Success Factors (CSFs) - vital for success - and a set of Key Success Factors (KSFs) - desirable for success - to cover activities in the area of strongly ICT-imbued schools and colleges such as virtual schools, notschools, e-mature schools, etc.

As already mentioned, few examples of virtual schools were found in European countries, although some interesting experiences exist and are being explored in depth with a case study approach with
the purpose of advancing substantially in the understanding of a “European way” to virtual schooling and elaborate adequate recommendations for policy and practice.\(^7\)

VISCED research results highlight that e-learning and distance learning initiatives have often been too focused with technological issues, and suggests that teacher training towards successful distance education offers must focus clearly on IT pedagogy and development of skills different from those suitable for teaching in class or lecture rooms. The issues in teacher training for virtual school are all centered on questions of teacher roles and attitudes towards course and task design and towards the leadership role in respect to students. This calls in particular for attitude changes from teacher roles established in traditional classroom.\(^8\)

But the transformation processes at stake on the teaching/learning side are only one part of the issue. The needs for institutional and organizational frameworks and policy steering able to adapt to and support new and diverse school models are another equally important part. These frameworks could equally support effective pathways to lifelong learning and employability making smart use of technology and re-inventing learning contexts. This is however closely relater to the wider issue of accreditation and recognition of learning acquired out of traditional context.

In that respect, the effort of the VISCED project is also meant towards better understanding the European specificities in order to elaborate recommendations for policy. Recommendations that are relevant to the creation of the institutional, financial and organizational framework which would make virtual schooling a quality option for European pupils and their specific needs within the broader political, social and cultural context.

This necessarily includes the need to find adequate quality and accountability criteria to protect such a sensitive and key education sector as school is. According to Phillips, Member States with support of the EU might bring virtual schools and colleges within a regulatory and accountability framework which protects but does not disadvantage learners – or the schools, when the latter contributes to the achievement of its educational, economic and social goals.\(^9\) The same remains true when it comes to the development and consolidation of adequate mechanisms of accreditation of learning acquired though different learning experience.

As the outcomes of VISCED have so far demonstrated, the viability of a virtual school as an integral part of the recognized education offer depends on not only the teaching and learning process but also on the wider cultural, political and institutional specificities where learning is taking place.


Annex 15

Policy Brief - September 2012

ALTERNATIVE MODELS OF EDUCATION DELIVERY

CONTENTS:

- Introduction: context and outline of the requirement
- Key issues
- Best practices
- Less successful practices
- The five archetypes and their advantages and disadvantages

INTRODUCTION: CONTEXT AND OUTLINE OF THE REQUIREMENT

The aim of this piece of work is to produce a number of alternative models of education delivery. In discussion this was clarified to mean "for the formal education sector", since it was felt that the space of possibilities in the informal education sector was just too vast for this length and type of policy brief to encompass.

Conventional wisdom, as codified by the UNESCO Institute for Statistics (2012), divides the formal education sector into seven layers:

0. Pre-primary education
1. Primary education (first stage of basic education)
2. Lower secondary (second stage of basic education)
3. (Upper) secondary education
4. Post-secondary non-tertiary education
5. First stage of tertiary education (Bachelor degree)
6. Second stage of tertiary education (Higher degrees)

We take the view that there is no consensus on the wisdom of provision of IT equipment to very small children - consequently we do not further discuss layer 0, pre-primary. We also feel that there is limited value in IT terms in separating layers 5 and 6.

Thus we focus on layers 1 to 5.

And finally we feel that there is an important "horizontal" division, conventionally thought of as between "vocational" and "academic" tertiary education - which ISCED denotes as 5B and 5A.

The focus on five key layers led us further to hypothesise that the creation of five
alternative models of education delivery would sufficiently populate the space within the constraints of length in such policy briefs.

KEY ISSUES
When constructing such models we bore in mind the following key issues.

ARCHETYPES
The models had to be compelling. In other words, they had to be

- easy and quick to describe - the classic "elevator pitch" but for a short elevator ride in a crowded elevator
- memorable
- repeatable to others without distortion even in the same language
- translatable into other languages

This is what we call archetypes. Wikipedia - itself just the latest instantiation of a compelling archetype - currently states that:

- An archetype is a universally understood symbol, term, statement, or pattern of behaviour, a prototype upon which others are copied, patterned, or emulated.
- Archetypes are often used in myths and storytelling across different cultures. Archetypes are likewise supposed to have been present in folklore and literature for thousands of years, including prehistoric artwork.
- The use of archetypes to illuminate personality and literature was advanced by Carl Jung early in the 20th century, who suggested the existence of universal content-less forms that channel experiences and emotions, resulting in recognizable and typical patterns of behaviour with certain probable outcomes.
- Archetypes are cited as important to both ancient mythology and modern narratives.

A number of more detailed consequences follow logically from the definition of archetype, but it is more useful to identify them separately.

A good example of a concept which does not seem to be an archetype is the current definition of Open Educational Resource (UNESCO 2012). This has consequences to be discussed later.

GENERALISABLE
Each archetype has to be generalisable. Even if located in some sector (layer) of "ISCED space", it has to be applicable to some extent in adjacent layers. A virtual school is a good example - it is, and should be, cousin to a virtual college and a virtual university. It should be only fools and snobs who cannot see the similarities - yet many vendors locked into a sector are unaware that their products would apply to adjacent sectors - and vice versa.
SCALABLE
Each archetype must be scalable, so that it can be implemented in educational systems of a wide range of sizes - from a small rural primary school (one class of 20 students) through a typical large comprehensive school in England (1000 pupils), up to a large campus university (40,000 students) and beyond to the even larger mega-universities (over 100,000 students) found among the distance learning providers.

SUSTAINABLE
Each archetype must be sustainable. In other words, its existence cannot depend on constant grants from US foundations, from European or national funds (EU Lifelong Learning Programme, JISC, SURF) or from aid agencies. Even if the archetype is not a business, there has to be a business model (Curry 2001, Thompson 2001). Recent events have shown that the laws of economics were not suspended in real life or in university life - even if some people believed that they were.

DEPLOYABLE
Each archetype must be deployable in a variety of socio-economic situations in the more developed countries. We feel that it is a little restrictive to limit this category to the 34 countries in the OECD - thus we also include all the other high-income economies as categorised by the World Bank (2012). Finally, it seems unfair to omit high-income regions of the countries outside the high-income economies since many such regions are larger than many high-income countries and can have a high degree of autonomy, such as provinces in India and China. This approach gives us around 100 high-income countries and regions to consider.

DELIVERABLE
Each archetype must be deliverable "right now" in such countries/regions without doing any research or building any essentially new technology or software. For example there are (and have been for years) proposals for new kinds of assessment based on continuous speech recognition or handwriting style/speed analysis - but both of these, as with many other artificial intelligence techniques, still require massive R&D before they can be deployed. In contrast, techniques based on "unintelligent" statistical analysis of text are said now to be able to be deployed in novel assessment systems for textual answers - and we creep ever closer to "unintelligent" (essentially crowd-sourced) language translation -for some languages now good enough for educational researchers to use, if not yet good enough to teach students with.

BEST PRACTICES
There are many compendia of best practices, but the majority of such research is not useful for this study, since it focuses on best practices for teachers, or in some cases learners, not for institutions. We here have to focus on institutional best practices. There is much less literature on that (Bacsich & Pepler 2009, Bacsich 2012a).

Fortunately there is a series of EU-funded projects which in the last five years have covered the ground in sufficient detail to be useful:

1. Re.ViCa - Reviewing (Traces of) European Virtual Campuses, 2007-09 (Schreurs (Ed) 2009)
2. VISCED - Virtual Schools and Colleges for Teenagers and Young Adults, 2011-12 (Pepler & Andries (Ed) 2012)

3. POERUP - Policies for OER Uptake, 2011-14 - in progress

To these must be added a number of prior and parallel projects such as CAPITAL (Bacsich & Pepler 2009, Bacsich et al 2010), LUOERL (Bacsich et al 2011) and "Time" (Bacsich 2012a).

VIRTUAL UNIVERSITIES

By a virtual university we mean a tertiary institution (ISCED 5 or 6) where students study online, usually at home but sometimes at their place of employment, for most of their study time, with physical attendance very much in the minority, though in some institutions very much a key component.

Virtual universities are a development of systems of correspondence teaching dating back to the 1800s or even earlier. One might set 1858 as the start of the virtual university era as that was when the University of London launched its External Programme.

The second phase of the virtual university era might be conventionally dated to 1969 when the Open University in the UK opened its doors - it claims to be the first modern "pure-play" virtual university (to use the modern jargon) in that it is not in a host institution delivering face-to-face courses. Whatever the historical arguments the archetype of the open university spread rapidly round the world and modern listings give nearly 100 entries even though not all have the word "open" in the title. The "pure essence" of an open university is that it is open to anyone to enter, from anywhere, and with an open approach to curriculum - but modern political realities force compromises to be made in all these aspects under the impact of performance indicators, cultural restrictions and funding issues - so that the product is more of a base alloy - yet without, surprisingly, compromising the underlying aspirations.

The third phase of virtual universities is a more gradual change and one that is not complete even in all high-income countries - the replacement of print (and sometimes television) and correspondence teaching with internet resources and web 2.0 approaches respectively.

VIRTUAL SCHOOLS

By a virtual school we mean a school (ISCED 2 or 3) where school-age students study online, usually at home (but sometimes in a hospital, care home or other school) for most of their study time, with physical attendance to their "base school" very much in a minority. This modality is not only for students in island or mountain regions who find it difficult simply to go to a place of learning. It is also for students who are ill, scared of school, or unable/unwilling to access the school for some other psychological reason. It can also serve students who want to take subjects (not only STEM subjects) which they cannot access in their local school, and of course young people even in custodial situations may want to improve their life chances.

Virtual schools are an increasingly important alternative for these students and are becoming more and more prevalent all over the world. They are plentiful in North America (both USA - over 500 - and Canada), and significant in Australia New Zealand, Asia and Latin America. They are surprisingly
prevalent in Europe despite restrictions (to be discussed later) - around 100 on current estimates. They are much less prevalent in Africa (which is understandable from the requirement for good online access from home), but more surprisingly they are not common in island regions (such as Oceania and the Caribbean) even where communications are effective.

LESS SUCCESSFUL PRACTICES (SO FAR)
Again we have to remind readers that we are taking a helicopter view, looking at approaches which typify whole institutions, not pedagogies on specific courses.

VIRTUAL COLLEGES
By a virtual college we mean a post-secondary non-tertiary (i.e. non higher education) Institution (ISCED 4) where students study online, usually at home but sometimes at their place of employment, for most of their study me. The students are adult (or at least beyond the age when childcare should be an issue).

Strangely, there are far fewer virtual colleges in the world than virtual institutions of the two other main types and they seem to be much more struggling. There are several reasons for this, different in different countries:

- vagueness of definition, defined more by what a college is not than what it is - and there is no consistent definition across countries
- general policy and financial neglect of the college sector by political elites
- over-regulation, leading to suppression of IT-based innovation as "too risky"
- talent-drain to universities, not primarily of staff, but as successful colleges are "elevated" to ISCED 5 (usually 5B) status

Only in a few countries (e.g. US and Scotland, maybe Australia) where colleges are more integrated with ISCED 5 are these issues, to some extent, solved. It is also helpful that in a few countries policymakers are beginning to reconceptualise the college modality, e.g. the University Technical Colleges in England (Baker Dearing Educational Trust 2012).

BLENDED LEARNING
Blended learning is education that combines face-to-face classroom methods with computer-mediated activities. According to its proponents, the strategy can provide a more effective education while avoiding the "loneliness of the long-distance learner" that can occur in purely virtual institutions. According to its opponents, it just costs more (classroom costs plus IT costs) without clearly delivering more. One challenge is that there is no consensus on the definition of blended learning or even on its name - the terms "blended", "hybrid" and "mixed-mode" are used interchangeably.

In the "days of abundance" which, in much of the world, typified university planning in high-income countries until the end of the last decade, this dilemma was not acute. It is now much more intense. How can one make a business case for injecting IT into the classroom situation when the research evidence on learning gains is so contested? If one cuts occupancy of lecture theatres (to save costs)
does one imperil the campus experience and the brand values of the institution delivering this? If one replaces face-to-face interaction with tutors with internet-mediated interaction with tutors (e.g. via forums), does one actually increase tutor me (and perhaps tutor cost due to higher skill levels needed)?

Even a empts to run a pure-play virtual institution alongside a blended campus institution as a so-called "dual-mode" institution seem somewhat unsuccessful in many countries (except Australia) despite the optimistic literature.

**RESOURCE-BASED LEARNING**

This is not a Policy Brief about MOOCs but it is necessary to men on them. Drawing with care on Wikipedia resources, one can define a massive open online course (MOOC) as a type of online course aimed at large-scale participation and open access via the web. MOOCs are thought by most to be a recent development in the area of distance education. MOOCs typically do not yet offer credits awarded to paying students within a national quality frameworks for universities.

MOOCs originated from within the open educational resources movement with some aspects of connectivism (Siemens 2004) grafted on. However recently a number of MOOC-type projects have emerged to public gaze, such as Coursera. The prominence of these projects' founders, contributing institutions, and investment helped MOOCs gain significant public a en on in 2012. Some of the attention behind these new MOOCs centre on making e-learning more scalable, more sustainable or more profitable (generating more surplus as a non-profit institution would call it).

While there is no commonly accepted definition of a MOOC, two key features seem prevalent:

- **Open access.** MOOC participants do not need to be registered students in a university to "take" a MOOC, and are not required to pay a fee.

- **Scalability.** Most traditional courses (even online ones) depend upon a small ratio of students to teacher (often around 20:1), but the "massive" in MOOC indicates that the course is designed to support an indefinite number of participants with just a few teachers. Of course there are a few truly massive courses but increasingly many MOOCS are much more the size of other large online courses in universities - though with far fewer teachers.

Clearly to achieve this some pedagogic compromises have to be made. The first is that, as in open universities from their beginning, there is a much greater focus on resources. Several MOOCs look like, or indeed are, a large Wikipedia-like wiki, with various other tools grafted on. While resource-based learning has many advantages from the point of view of a provider (in particular, far lower running costs even if the capital costs are high - and they may not be high if OER can be used), there is an extensive literature on the problems this modality causes learners, either teenager or adult, if there is not adequate tutorial support.

Despite the literature, it has to be said there are still some virtual institutions, including some public providers, who provide very little or no tutorial support on many of their courses.
AUTOMATED ASSESSMENT

A related approach to reduce the teaching "burden" (a telling phrase) on institutions is to replace human-based assessment (whether for credit: summative - or for feedback: formative) by automated assessment. Again, some open universities have been doing this for years but in conventional institutions many teachers and professors are resistant to this approach, perhaps fearing for their jobs, while at the same time complaining vociferously about the assessment "burden" (that word again) on them. At long last, developers are managing to push beyond the limitations of multiple-choice assessment (however elegantly provided) to which the technology has been restricted for over 30 years, but such forays, while found in some high-profile MOOCs, are still relatively rare. Given the concerns expressed recently on the level of thinking skills that students have (Arum 2011), and the need for much more practice in essays (longer textual assignments), the technology limitations are still of great concern.

OPEN EDUCATIONAL RESOURCES AND PRACTICES

This is clearly an emerging practice group but it is rather soon to say what the best institutional practices are within that group or which have archetypal potential. Open Educational Resources (OER) are defined by UNESCO (2012) as "teaching, learning or research materials that are released with an intellectual property license that allows for free use, adaptation, and distribution". Open Educational Practices (OEP) are defined by ICDE (nd) as "practices which support the production, use and reuse of high quality open educational resources (OER) through institutional policies", but then goes on to talk about policies "which promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path" which have rather little to do specifically with OER and which precede OER by decades.

The OER definition with all the multiplicity of license options and impassioned debates about "no commercial" clauses is not simple and compelling enough for an archetype. Students have a much simpler definition: "stuff I can use" - not "stuff I am allowed to use" - and not even "stuff I can reuse" unless it is textual resources to paste into an assignment. The LUOERL report (Bacsich et al 2011) is eloquent on this.

THE FIVE ARCHETYPES AND THEIR ADVANTAGES AND DISADVANTAGES

The methodology for developing these archetypes owes nothing to the recent literature since we could find no relevant literature on methodologies - however, a number of the archetypes have been seen before or come out of business models work. The author is however indebted to the e-university analysts and pioneers of the 1997-2002 era, most of whose work on business models is now forgone or even unavailable (but see Thompson 2001 and Curry 2001). The work done over many months for the retrospective on HE Change Management (Bacsich 2012b) was also very helpful.

In summary, after a period of reading and reflection, a presentation on "Alternative Models of (Formal) Education Delivery" was prepared for and presented at a workshop at the EFQUEL Innovation Forum in Granada on 6 September 2012. After discussion at that workshop and during the conference, and then via individual discussion at the ALT-C conference in Manchester on 11-13
September 2012, a revised presentation with five archetypes was prepared, loaded to Slideshare (http://www.slideshare.net/pbacsich/archetypes-of-formakl) and opened for comment via Twitter, Facebook etc. Neither version generated much comment, which is not that surprising given the disconnect between those who think (or used to think) about business models and those who think about pedagogies. But no major criticisms have surfaced via online or face-to-face interaction either. So without further ado we present the five archetypes.

1. Handheld Primary (ISCED 1)

Features:

- Each pupil gets a handheld with age-related capabilities
- Teaching is focused round it - still with teachers - but not teaching the same way
- Low-cost fee-paying school (which might still be state-supported) providing excellent quality provision
- Existence proof: there are many low-cost private schools but with no IT - adding IT is a natural next step

Advantages:

- Socialises children into appropriate professional use of IT
- Fees (even if low) provide a stable revenue stream independent of government policy lurches

Disadvantages:

- Some parental concerns about over-use of IT by young children with consequent adverse health effects and distraction from traditional learning goals
- Could be seen as restricting children's freedom since handheld has locked capabilities
- Children may stigmatise the handheld as "uncool" unless the design is excellent (need to learn from OLPC and Clockwork Radio projects)

Policy shift:

- Real acceptance that (part-)private primary education has a role; move to public/private school system

2. Virtual Supplementary School (ISCED 3)
• Focus on uniform high-quality provision of university-entrance subjects across the nation
• E.g. STEM (including Mathematics and Physics), Computer Science, Languages and other shortage languages
• State-funded
• Each pupil has host physical school where the "common" subjects are taught
• Existence proof: US, Scotland, virtual schools for expatriates run by many countries

Advantages:
• Cost-effective approach
• Fineses the issue in many countries whereby governments insist that children up to 16 must be actually "in" school - thus suppressing or severely restricting the growth of virtual schools

Disadvantages:
• Some will argue that distance online provision is not as good as face-to-face - some will always argue that
• Some problems in handling laboratory work - but there is provision for home experiment kits (as used by UK Open University and US providers) and remotely monitored lab work in the host school backed up by simulations

Policy shift:
• needs per-course not per-pupil school funding - feasible
• needs countries to stop ignoring poor provision of schooling in remote regions and poor urban areas - less feasible

3. OER C (OER College - ISCED 4)

Features:
• Massive use of OER (if relevant) and automated and peer assessment to deliver "trade" qualifications at low cost which have international or vendor certification (in IT e.g. from Cisco, Microsoft etc)
• Fosters acceptance by government by regular correlation of teaching and assessment approach with external test results (from Cisco etc)
• Existence proof: A number of start-ups are targeting the "lucrative" HE market but making it hard for themselves by challenging or ignoring the quality police (both strategies unwise - the above strategy circumvents it)

Advantages:
• Circumvents the HE quality issue (because it is not an HE institution) which affects OER u and similar providers but still targets those skills demanded by employers

Disadvantages:

• Not an HE institution so will tend to be ignored both by government and venture funds (except in US and possibly UK)

Policy shift:

• This modality just needs governments to admit that ISCED 4 (non-HE post-secondary) exists as a viable sector - and to "care for it"

4. Multiversity (ISCED 5B or maybe low-rank 5A, with links to 4 and 3)

This model has had more development than the others since it was originally formulated for an EU study in 2011 and was discussed extensively with many colleagues during the author's study trip to New Zealand in 2012.

The model is archetypal because in many ways it is what polytechnics used to be in several countries before generous funding and pressures of research assessment led them into a quest for research ratings with consequential less focus on teaching.

Features:

• Broad-spectrum yet full university range of work/features
• Good teaching is praised and rewarded
• Scholarship and reflective practice is compulsory and audited
• Research is optional (and not subsidised by teaching)
• Multi-mode according to student demand: pure distance learning, hybrid distance and face to face (e.g. weekend schools, summer schools), traditional blended learning (if it can be cost-justified);
• Multi-site if need be
• Generates "liberal arts" thinkers who are "(e-)business-ready"
• Joins with other universities and employer groups to oversee school-leaving exams in an international perspective on qualifications after school (International Baccalaureate) and university (e.g. HE Olympiads?)
• Links with international partners to lobby governments and set up transnational quality regimes to finesse ranking and price snobbery
• Covers polytechnic (university of applied science, university college) and post-secondary college areas synergistic with the core mission (Cisco Academy, fashion design)
- Bridges into and from upper secondary school, so as to minimise drop-out and "lock on" to schools-level knowledge, thus allowing seamless transition, lower drop-out and accelerated degrees

Advantages:

- Highly cost-aware thus low fees or low government funding per student-course
- No hidden subsidy for research - any research done is transparently charged and paid for

Disadvantages:

- Governments without a national final-exam system for schools may struggle to implement it, but there are other reasons why governments need such a system (PISA, STEM etc) including managing the transition into HE and minimising drop-out

Policy shift:

Governments need to:

- Get away from research as a proxy for teaching quality (it is often negatively correlated with that)
- Understand that the impending open access regime means the decline of nationally bound university-industry links

5. eOxbridge

The reason for including this archetype is to demonstrate to policy-makers that (even) the top universities in their continent, country or region can also be transformed - re-engineering is not just for the "other universities"

Features:

- A set of specialised institutions - "research colleges" - with common support opera on "shared service" (HEFCE 2011) to reduce costs without impacting differentiation
- A focus on the campus as the core but not the only locus of discourse - "near-distance learning" spreading to Halls of Residences and to/through the town
- Research-informed teaching without the distraction of access agendas (these are dealt with in virtual schools) - thus allowing
  - A "freshmen research" culture
  - Problem-based learning
  - Accelerated learning for gifted and talented

Advantages:
Preserves the essential values and modalities of the top university

All-through Masters (3 years in England, 4 elsewhere)

Disadvantages:

• Only to those who do not want change

Policy shift:

Governments must stop acting "hands of" to top universities when it comes to quality and funding issues. Governments must realise that they can commission research from other than their own top universities; in particular:

• from top universities in other countries
• from government or quasi-government research institutes (which work in some countries - e.g. Fraunhofer Labs in Germany - even if not in others)
• from decentralised teams of researchers in NGOs and companies (a national version of the EU Framework Programme)
• from citizen researchers including by crowdsourcing techniques

These routes all becomes easier as open access spreads, so that all researchers inside and outside the country have access to research journals.

REFERENCES


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programmes/elearning/oer/LUOERLfinalreport.docx


Page 104
The key goal of this Policy Brief is to produce a number of alternative models of education delivery in the formal education sector. It was felt that the creation of five alternative models would sufficiently populate the various subsectors of formal education. The models have to be "archetypal" in the sense of being easy and quick to describe, memorable, repeatable to others without distorting, and translatable into other languages. In practical terms they should also be generalisable, scalable, sustainable, deployable without further research, and deliverable in most high-income economies. For each model the features, the advantages and the disadvantages are outlined, followed by the policy shifts (if any) necessary to facilitate their development. The models described are an ICT-rich primary school, a virtual supplementary school for specialist subjects (e.g. science), a college model...
based on OER for trade skills, the Multiversity (a 21st century reconceptualisation of the 20th century polytechnic/university of applied science) and a support/network model for research-intensive elite universities.

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Annex 16

Virtual schools and open schools: a perspective from Europe on Asia

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Abstract
Practically everyone has the same understanding of a school or college as a place where students go to learn. But what about the students who find it difficult simply to go to a place of learning? What if they are scared of school, ill or unable to access the school for some other reason? What about students who want to take subjects which they cannot access in their local school or college or young people who are incarcerated and who want to find a way into further or higher education to increase their life chances? Virtual schools and colleges are an increasingly important alternative for these students and are becoming more and more prevalent all over the world, especially in the United States. But little is known outside the United States about how they operate or what makes them successful.

Many people are suspicious of these new structures particularly when they are offered as a replacement for compulsory-level education. Yet a lot exist now and have been the subject of a recent investigation supported in part by the European Commission. This is the project VISCED – Virtual School and College Education for Teenagers and Young Adults – whose funded phase ran from January 2011 through to the end of December 2012. It was in some ways the successor to the project Re.ViCa on virtual campuses for universities and is now leading into the project POERUP on Policies for OER Uptake in schools and universities.

This paper will exploit the findings from VISCED to provide readers with a basic understanding of virtual schools and colleges, two short case studies, a set of critical success factors which ensure virtual schools will succeed, a list of policy recommendations to support effective virtual schooling, and information about where one can find out more. It contains a selection of different examples of virtual schools and colleges, mostly from Europe, to illustrate the types of virtual schools that already exist.

Definition and prevalence in Europe
Virtual schools and colleges are usually defined as institutions that teach courses entirely or primarily online. These courses are generally similar (in purpose and outcome) to those taken by school or college-age students. While there are large numbers of them (over 400) operating in the United States already and in other parts of the world, 70 have also been identified in Europe distributed across 18 different countries. They are slowly on the increase as demand for more flexible paths to learning increases. The VISCED project focused on secondary level education aimed at the 14-21 age group as well as colleges providing opportunities for students including those moving between school and higher education. However the project is also aware of virtual primary schools and other related virtual initiatives aimed at young people and if these are taken into account, the number of institutions in Europe would probably rise closer to 100.

Characteristics of European Virtual Schools and Colleges
On the basis of the evidence available at present, we estimate the split between those established by public or private providers to be approximately 50:50. There is a spectrum of governance models which includes Public, Private, Public/Private, not for profit and non-profit.

At least 10 European virtual schools were initially established to support expatriates and/or the children of military personnel serving overseas. However a more significant proportion of them (extrapolated to be between 30-50%) were initially established to address issues of pupil exclusion.

Characteristics of pupil exclusion from mainstream national schools addressed by European virtual schools include:

- Students who are long-term sick and/or hospitalised
- Students with disabilities
- Young parents or pregnant young women
- Travellers
- Students who have been bullied or are school-phobic
- Students who left school with no or few qualifications
- Students who are imprisoned
- Geographically isolated students
- Students with specific language needs (immigrants with poor host-nation language skills)
- Expatriates – often the children of diplomats or executives in multi-national companies
- Elite performers – e.g. athletes, sportsmen, child entertainers.

The typical size of European virtual schools, where enrolments are quoted, is around 450-500 students; the smallest we have identified has 25 students and the largest individual virtual school in Europe has several hundred. A significant proportion of these schools (possibly in the region of 50%) offer a full, or broad, curriculum and in several European countries there appears to be a growing interest in virtual schools providing supplementary or specialist courses and/or revision lessons.

There is a broad pedagogical spectrum – from 100% online through to significant face-to-face interaction – and a variety of communication tools including Skype and commercial videoconference systems, e-mail, telephone and learning platforms.

In many cases the virtual schools reflect local or national circumstances – either in support of policy priorities or to meet demands not sufficiently catered for in their host region.

**The Virtual School Phenomenon across the World**

Virtual schools are found in every continent in the world. As noted earlier there are several hundred in the US. There are also many in Canada. Virtual schools are also found in many countries throughout Latin America. They are prevalent in Australia and New Zealand.

It is only in Africa where we found fewer than we expected, except for some across Mediterranean Africa and in Southern Africa. It seems that despite much rhetoric and many advances in school education in Africa (including low-cost and innovative solutions from business and social
entrepreneurs), there is little actually on the ground in terms of virtual schooling. The current needs of many countries and their issues with infrastructure (especially electric power) are more intractable in some ways than networking, due to advances in mobile communications.

There are also virtual schools in Asia in several countries including Korea and Japan. Surprisingly to us, there are few in the Middle East. There also appear to be few in India with the notable exception of NIOS – but we wonder whether this is an artefact of our cultural and linguistic standpoint.

There appear to be several virtual schools in South East Asia. Mainland China has a wide range of developments, with a rapidly growing amount of virtual education but there appear to be no virtual schools in any of the other Chinese-speaking states. However, across Asia we can mainly report only on such evidence of virtual schools as appear (often tantalisingly) in English or languages automatically translated into English. Our suspicion is that we have a reasonably good grasp of the numbers of such schools in Asia, but little grasp of how they work. It is thus very helpful to present to this conference to see whether our initial conclusions are accurate.

There are very few virtual schools in the Caribbean, Pacific (Oceania) and Indian Ocean islands, apart from some out-of-country provision from US (in the Caribbean) and New Zealand (in Oceania). The reasons for this remain unclear.

In contrast with the beliefs in ministries and advice from experts prior to the VISCED bid, there are many virtual schools in Europe; at least 70 – and more in the wider Europe, perhaps even 100. However in no country in Europe does the percentage of children in virtual schools reach even 1% of the school population.

This finding is in contrast to widespread activity in most European countries in virtual universities and colleges. We suspect the reason is primarily the restrictions on or outright prohibition of homeschooling in most European countries (except for a few like the UK). Secondary reasons may be the conservative nature of school ministries; a focus in schools on nation-building not only on education; and obsession with outputs and grades (driven in part by PISA) rather than a more holistic view of education (including but not only grades). The case of Finland, where there is a network of virtual schools, seems to demonstrate this.

VIRTUAL SCHOOLS IN ASIA – MORE DETAIL

Because of funding limitations and the inevitable European focus of a project largely financed by the European Union, we have not had the resources to conduct research across Asia in the same depth as other continental regions of Europe and the Americas. It would appear that whilst there is much activity in distance learning in higher education, there are relatively few indigenous virtual schools in any of the major Asian countries.

However, the NESA Virtual Schools Project – a co-operative venture between the Near East South Asia Council of Overseas Schools and the US Department of State – manages online learning in 25 schools across the Near and Middle East, North Africa and South Asia. Six of these are in South Asia: three in India and one each in Bangladesh, Pakistan and Nepal. Enrolment numbers are not available; it is likely that most of them are expatriates.
India – there are a number of distance learning programmes in higher education, but we have not found evidence of indigenous virtual schools except for the National Institute of Open Schooling (NIOS). There are, however, a number of private companies providing lessons and courses either to individual learners or to schools. With its culture of supplemental learning, growing wealth yet vast poorly educated population, and the Indian government’s stated commitment to developing online learning, it is reasonable to assume that there will be significant growth in the coming decade. There are also three international virtual schools within the NESA network.

Japan – whilst there is legislation promoting e-learning and distance learning in higher education and junior colleges, there are currently just three virtual school wiki entries: the NHK Academy of Distance Learning, the Super English Language Virtual High School and the Nagoya International School. Whilst it is likely that terminology, language and the alphabet have masked some virtual schools from the researchers, it should also be noted that all three are identified as ‘national’ schools.

China – whilst we have not studied China in any detail there is evidence of significant developments in the field of ‘online learning’. Without dedicated native language speakers it is difficult to be unequivocal (particularly about the definition of ‘online learning’) but research elsewhere indicates as many as 200 ‘online schools’ in China serving some 600,000 students. In terms of student numbers these (understandably) appear to be clustered around Beijing with one-fifth of all ‘online students’ native to the capital. Beijing No. 4 school is reported as having 60,000 students. There is also plenty of evidence of distance learning projects for remote rural communities. Further research would be illuminating not only to discover whether this is indeed the full extent of online (pre-HE) education in China, but also to investigate and compare the PISA high-achieving city states of Shanghai and Hong Kong – given their culture of supplemental and/or intensive extra-curricular education. This is particularly pertinent since, whilst national and regional governments were initially the prime funders of school-level online learning, it is now private schools which seem to be driving the development.

Indonesia – there is evidence that online learning is being deployed to provide students with access to courses normally not available to them at their physical schools and self-directed advanced and college preparatory courses.

Mongolia – a set of initiatives and projects have been developed in the country to support mainly non-formal rural distance education. The initiatives and experimentations undertaken so far try to build on the well consolidated network of non-formal education centres. In 2001, the International Development Research Centre of Canada (IDRC) funded the Internet Based Distance Education Project in Mongolia. The project offered experimental web-based instructional courses on specific subjects such as English language, IT and computer skills, gender issues and legal rights.

Singapore – the K12 International Academy Singapore is a private online American school. The school offers a wide range of courses for full or part-time study. There are a number of online learning vendors operating in Singapore but these tend to offer supplemental online resources. Despite its technological sophistication, pure online learning is not common in Singapore perhaps due to the compact nature of the city state.
South Korea – alongside a wide range of digital online services to teachers and schools, we have found at least four virtual schools: The Air and Correspondence High School (ACHS), Cyber High School, Hanse Cyber High School and Kyungbock High School.

Thailand – the national government Educational Development through E-Learning Plan (2009–2012) made provision for significant development of online and distance learning for schools in Thailand. The focus of the investment is on the provision of hardware and online learning resources; specifically for Science, English and Mathematics. Building on its long tradition of distance learning through television, Thailand now has two key organisations operating in the field: Distance Learning Television Station (DLTV) and the Distance Education Institute both of which are involved with both school and continuing education.

Vietnam – anecdotal evidence suggests that whilst the internet is used for teaching, there are no virtual schools. However, the Ministry of Education website suggests that there are some virtual vocational training courses, linked to the college network.

CASE STUDIES
We have many case studies but space limits permit only two to be treated here.

INTERHIGH IN WALES
InterHigh was established in 2005 for students aged 11-16, up to GCSE level. From an initial enrolment of 23 students, by as early as 2009 it had more than 200 pupils spread across its five year groups. InterHigh is a private school registered as a not-for-profit company. Most of the pupils live in the UK; the rest are expatriate children living abroad. The school has proved particularly beneficial for children who are unable to settle at mainstream schools, including children with Asperger’s syndrome and the full range of inclusion issues.

Students study online mainly from home and staff do most of their teaching from home. Lessons follow the National Curriculum with internal tests to assess progress. Recently, InterHigh has expanded by launching three new business divisions: joint ventures with local authorities and individual schools in the public sector, independent schools and tuition businesses. The main new business is Academy 21, which caters for pupils excluded from conventional schools and referred to InterHigh by their local education authority.

SOFIA DISTANS IN SWEDEN
Sofia Distans was established in 1994 to enable expatriate Swedish students to study within the Swedish school system. There are 500-600 enrolments in each year group, now including students in Sweden who are not able to attend conventional schools. Funding is a mix of public and private. There are 20 teachers and every student has a parent or tutor in their home location. Students in Sweden who study at Sofia must have their studies approved by the local school they attend, which then pays a fee to Sofia to cover the costs of the subjects the student studies via Sofia. On average the students study 50% at their local school and 50% at Sofia.

The pedagogical approach is to offer online blended distance learning. Most students are engaged in self-study, following Sofia Distans prepared study plans. Teaching is subject-based. The technology used is a FirstClass platform, with DVDs and extensive use of the internet. Student outcomes are
similar to physical schools: the school conducts the national tests in Swedish, English and mathematics. The qualifications are recognised in Sweden.

**Critical Success Factors**

During our research we identified a number of factors which help to make virtual schools and colleges successful. These are factors that contribute to the sustainability of the different virtual schools and colleges that we have encountered and are factors that are likely to enable the setting up of successful virtual schools and colleges in the future. The factors listed below appear to be key to success.

**Usability of the System Which Supports Students, Teachers and Others Involved**

It is clear from our investigation into virtual schools and colleges that the technical infrastructure they put in place has to meet very high standards of usability, even though the technology employed may be relatively old and simple. Whatever the system, the extent to which it is user-friendly and fit for purpose is a key consideration.

**Extent to Which a Clear E-Learning Strategy is in Place**

A complete commitment to e-learning is core to the rationale of the school or college and not only does it define the school or college as being different but is also fundamental to how it operates. Arguably without the e-learning aspect, many of the virtual schools and colleges we investigated simply would not exist.

**Appropriateness of Recruitment and Training Policies**

Many of the job roles in virtual schools and colleges are multi-faceted and complex, demanding a mixed set of skills and competences as well as high levels of empathy and understanding related to the specific nature of the students involved. Virtual schools and colleges have to identify staff who will bring together not only professional skills and empathetic attitudes but also appropriate technical skills and competencies.

**Extent to Which Regular Evaluation is in Place**

Given the highly innovative nature of the virtual schools and colleges we encountered, it is hardly surprising to note that most of them are engaged in the regular evaluation of all their processes, particularly learning/teaching processes and curricula. Often evaluation is conducted implicitly and informally.

**Robust and Reliable Technical Infrastructure**

To be successful, virtual schools and colleges all agree that their technical infrastructure needs to be extremely dependable. For many the quality of the technical support needs to be particularly high when it comes to dealing with users as they are generally not technically expert and may require sensitive management when it comes to their local technology set-up.

**Strong Leadership Skills and Competences**

Many of those involved in virtual schools and colleges are pioneers, comfortable with overcoming challenges and breaking down barriers. Most have strong beliefs when it comes to topics like equity in education and the importance of lifelong learning and it is clear from our work that strong leadership skills and beliefs and a value-system that enjoys overcoming challenges are vital.
components when it comes to creating successful virtual schools and colleges. These leaders need to also be able to make clear decisions

**STRONG EMPHASIS ON LEARNING OUTCOMES – OFTEN ON AN INDIVIDUAL BASIS**

Most of the organisations we investigated were able to describe clearly defined learning and development goals, which can be assessed, where appropriate, for purposes of certification and progression.

**AVAILABILITY OF APPROPRIATE LEARNING RESOURCES**

Some virtual schools and colleges create their own digital learning resources while a few either buy in commercial materials or use a mix of both. What is core to all is the accessibility of the material and the extent to which it meets the curriculum needs. There is increasing interest (from a low base) in OER.

**CLARITY OF THE ORGANISATIONAL SYSTEM UNDERPINNING THE OPERATION OF THE SCHOOL OR COLLEGE**

Everyone involved in virtual schools and colleges needs to have a clear idea of the rules governing the school, the different progression options offered by different learning pathways and of the relationship of the curricula to national or state requirements, especially as many do not cater for what can be considered main stream students.

**RECOMMENDATIONS FOR INTERNATIONAL, NATIONAL AND REGIONAL POLICY-MAKERS**

Recommendations arising from the VISCED project are aimed at the multinational, national, regional and municipal education policy makers. These recommendations are all inspired by our belief that virtual schooling can contribute substantially to important educational and social policy objectives.

**RAISE AWARENESS AS TO THE VALUE AND IMPACT OF VIRTUAL SCHOOLDING IN MEETING EDUCATION AND SOCIAL POLICIES**

This should include the collection of appropriate data, i.e. figures for the numbers of students taking online/distance learning courses, whether these involve full time or supplementary studies. Potential beneficiaries include students who are school-phobic, excluded, geographically isolated, travelling or transient, young offenders, seriously ill students and young mothers of school age with childcare responsibilities.

**RAISE AWARENESS OF THE POTENTIAL OF VIRTUAL SCHOOLDING IN HELPING STUDENTS MAINTAIN TIMELY PROGRESSION THROUGH THE CURRICULUM**

This should include supporting students who require additional revision, acceleration or have special curriculum needs.

**REMOVE ANY UNNECESSARY BUREAUCRATIC IMPEDIMENTS WHICH INHIBIT THE DEVELOPMENT AND SUSTAINABILITY OF VIRTUAL SCHOOLS AND COLLEGES.**

In many cases this includes bringing virtual schools and colleges within a regulatory and accountability framework which protects but does not disadvantage learners – or the schools. These frameworks should facilitate student mobility between schools/colleges and transition to further and Higher Education.

**ENCourage VIRTUAL SCHOOLING OPTIONS IN TRADITIONAL SCHOOLS AND COLLEGES FOR SPECIFIC PURPOSES**
These should include as part of a strategy for reducing early school leaving and for increasing the uptake of Science, Technology, Engineering and Mathematics subjects (STEM).

**INCENTIVISE TEACHERS TO BECOME ACTIVE IN VIRTUAL SCHOOLING**

Consider introducing a common set of standards for online teaching and online courses and facilitate support for individual countries when integrating these into their teacher training programmes.

**ENCOURAGE AND ADVISE VIRTUAL SCHOOLS AND COLLEGES TO EXPLOIT OPEN EDUCATIONAL RESOURCES (OERs)**

These should include those schools directly or indirectly funded from the public purse as well as allowing any teacher/institution-created content to be published under Creative Commons licenses.

**EXPLOIT THE POTENTIAL FOR VIRTUAL SCHOOLING TO DRIVE INTERNET TAKE-UP, PROMOTE THE INFORMATION SOCIETY, E-GOVERNMENT SERVICES AND IMPROVE STUDENT (AND PARENT) ICT SKILLS.**

Where domestic internet access is limited, individual education departments should be encouraged to develop strategies to ensure that neither existing community users, nor virtual school students, are disadvantaged.

**ADDITIONAL WORK**

The VISCED project also reports on the following matters:

- A set of case studies of virtual schools in Europe and Commonwealth countries
- Topical overviews of the education systems and ICT use in over 20 countries
- Innovative good practice for virtual school pedagogy
- Teacher training aspects
- Specific policy studies for a number of countries

See the next section and the References for further information.

**WIKI AND WEBSITES**

The following are the key websites associated with VISCED:

- VISCED web site including newsletter – http://www.virtualschoolsandcolleges.info
- VISCED wiki (including the Re.ViCa wiki) – http://www.virtualcampuses.eu – edit access to this will be granted to authorised researchers in virtual schooling
- VISCED project management wiki: gives details of the project – http://visced.referata.com
- Mendeley databases: the main database is http://www.mendeley.com/groups/1075201/virtual-schools-and-colleges/ but each topic has its own private Mendeley database also (apply to the VISCED project to request read access to one or more of these databases).

Currently the POERUP wiki resides at http://poerup.referata.com

**REFERENCES**


Annex 17

Virtual schools and open schools: a perspective from Europe on Africa
Professor Paul Bacsich, Sero Consulting Ltd, Sheffield, United Kingdom
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Abstract
Practically everyone has the same understanding of a school or college as a place where students go to learn. But what about the students who find it difficult simply to go to a place of learning? What if they are scared of school, ill or unable to access the school for some other reason? What about students who want to take subjects which they cannot access in their local school or college or young people who are incarcerated and who want to find a way into further or higher education to increase their life chances? Virtual schools and colleges are an increasingly important alternative for these students and are becoming more and more prevalent all over the world, especially in the United States. But little is known outside the United States about how they operate or what makes them successful.

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VIRTUAL SCHOOLS IN AFRICA – MORE DETAIL

NORTH AFRICA
We have found virtual schools in Egypt: a NESA network school in Cairo. There is also evidence of online learning being available to some students at school-level, in Tunisia (Tunisian Virtual School), but none in any of the other countries. Given recent political disturbances and changes well recorded through social media, it is likely that the unrest and instability across much of the region has hindered the development of virtual schooling.

SUB-SAHARAN AFRICA
Whilst there is evidence of ICT capacity building initiatives in many Sub-Saharan African countries, we have not found evidence of any indigenous virtual schools. Telecommunications infrastructure is generally weak and in countries with high school dropout rates and low levels of literacy, there are more pressing priorities.
Rwanda appears to be the country with the best developed infrastructure and evidence of significant capacity building.

There are a number of international organisations providing online resources, training for teachers and, in some cases, online classes, but none of these operate as a fully virtual school. Our evidence from internet searches suggests that international organisations are most visible and active in Francophone Sub-Saharan African countries: the websites of ACTE, ORIDEV and iEARN are all in French.

In some Lusophone countries (e.g. Guinea-Bissau) there are HE links with Brazilian universities, but no such links are evident in the schools sector.

There are a number of relatively small scale ICT projects in individual countries, e.g. Under the Kapok Tree in Guinea.

**SOUTHERN AFRICA**

It is not surprising that we have found a wide range of ICT in education initiatives in the Republic of South Africa, the most developed and economically powerful of the Sub-Saharan countries. Whilst an e-education White Paper in 2004 set a goal of making every learner in both primary and secondary schools ICT-capable by 2013, the existence of well over 30 separate ICT initiatives, several of which are commercially sponsored and driven towards one product range, has meant that progress has been patchy. Whilst there are projects involving the use of mobile classrooms and remote online resources, there appear to be few examples of full virtual schools. **Hatfield Online Christian School** appears to be the only virtual school in the South Africa with features similar to the virtual high schools in US, Canada and Sweden.

We have identified two examples of virtual schooling in countries bordering on South Africa: in Namibia, the **Namibian College of Open Learning** (NAMCOL) offers a range of upper secondary courses online and in Botswana its sister organisation, the **Botswana College of Distance and Open Learning** (BOCODOL), is a private provider offering both secondary and further education through distance learning.

**OUTSIDE AFRICA BUT INTO AFRICA**

There are also a number of initiatives headquartered outside Africa but whose focus is Africa or includes Africa. These include the following.

The **African Virtual School** is a virtual school set up to help students in West Africa pass exams. It does this by helping them revise using quizzes and videos online. This means that they can revise Maths and English any time and anywhere. It also provides supplementary Maths and English revision guides for senior secondary school students. The "spiritual home" of the African Virtual School is Freetown, Sierra Leone. The international partner is HowsonUK, an education company registered in the UK. (The parent organisation is based in London, although the website features the Stars and Stripes.) The exam revision courses are suitable for Junior and Senior Secondary students, focusing on the Waec (West African Examinations Councils), Neco (Nigerian National Examinations Council) and Jamb (Nigerian Joint Admissions and Matriculation Board) Maths and English Exams. Schools from Nigeria, Sierra Leone and Ghana subscribe at approximately $20 per learner year. For
this, students get Maths and English Practice Questions for students, Online Maths Worksheets to help teachers create worksheets on the fly and discounted purchase of Maths books and English readers..

The Africa virtual school (AVS) is the regional arm of the World Virtual School. Figures quoted in November 2011 suggest AVS has over 45,000 students in some 50 countries across the continent. AVS is not actually ‘active’ in all 50 countries but does operate (with local partners) virtual schools in 20 of these.

Pamoja Education is an education company, based in Oxford, England. It is dedicated entirely to providing top quality online courses for the International Baccalaureate® (IB). Pamoja Education, its management and staff are committed to the IB’s overall mission, and particularly to helping the IB increase subject choice and global access to the IB Diploma Programme. Pamoja Education courses are developed and delivered in close cooperation with the IB, and all courses comply with the IB’s rigorous quality assurance standards. The IB provides continuous review and feedback regarding course content and delivery. Pamoja Education was founded in 2009 by Pamoja Capital, an investment group based in Switzerland focusing on socially responsible investments in the areas of alternative energy and education. Profits from Pamoja Education benefit the charitable McCall MacBain Foundation, supporting its commitment to improve health and education in Sub-Saharan Africa.

The Knowledge Channel is a London-based, UK-incorporated not-for-profit organisation which seeks to empower African and Caribbean youth and professionals across the board to access careers at the higher echelons of the corporate sphere in the UK and in Africa. The Channel’s biggest mission, which was also announced at their press launch at the Ghanaian High Commission in Belgrave, is its entry into the African markets planned via Nigeria and Ghana.

**CASE STUDIES**
We have many case studies but space limits permit only two to be treated here.

**INTERHIGH IN WALES**
InterHigh was established in 2005 for students aged 11-16, up to GCSE level. From an initial enrolment of 23 students, by as early as 2009 it had more than 200 pupils spread across its five year groups. InterHigh is a private school registered as a not-for-profit company. Most of the pupils live in the UK; the rest are expatriate children living abroad. The school has proved particularly beneficial for children who are unable to settle at mainstream schools, including children with Asperger’s syndrome and the full range of inclusion issues.

Students study online mainly from home and staff do most of their teaching from home. Lessons follow the National Curriculum with internal tests to assess progress. Recently, InterHigh has expanded by launching three new business divisions: joint ventures with local authorities and individual schools in the public sector, independent schools and tuition businesses. The main new business is Academy 21, which caters for pupils excluded from conventional schools and referred to InterHigh by their local education authority.

**SOFIA DISTANS IN SWEDEN**
Sofia Distans was established in 1994 to enable expatriate Swedish students to study within the Swedish school system. There are 500-600 enrolments in each year group, now including students in Sweden who are not able to attend conventional schools. Funding is a mix of public and private. There are 20 teachers and every student has a parent or tutor in their home location. Students in Sweden who study at Sofia must have their studies approved by the local school they attend, which then pays a fee to Sofia to cover the costs of the subjects the student studies via Sofia. On average the students study 50% at their local school and 50% at Sofia.

The pedagogical approach is to offer online blended distance learning. Most students are engaged in self-study, following Sofia Distans prepared study plans. Teaching is subject-based. The technology used is a FirstClass platform, with DVDs and extensive use of the internet. Student outcomes are similar to physical schools: the school conducts the national tests in Swedish, English and mathematics. The qualifications are recognised in Sweden.

**Critical Success Factors**

During our research we identified a number of factors which help to make virtual schools and colleges successful. These are factors that contribute to the sustainability of the different virtual schools and colleges that we have encountered and are factors that are likely to enable the setting up of successful virtual schools and colleges in the future. The factors listed below appear to be key to success.

**Usability of the System which Supports Students, Teachers and Others Involved**

It is clear from our investigation into virtual schools and colleges that the technical infrastructure they put in place has to meet very high standards of usability, even though the technology employed may be relatively old and simple. Whatever the system, the extent to which it is user-friendly and fit for purpose is a key consideration.

**Extent to Which a Clear E-Learning Strategy is in Place**

A complete commitment to e-learning is core to the rationale of the school or college and not only does it define the school or college as being different but is also fundamental to how it operates. Arguably without the e-learning aspect, many of the virtual schools and colleges we investigated simply would not exist.

**Appropriateness of Recruitment and Training Policies**

Many of the job roles in virtual schools and colleges are multi-faceted and complex, demanding a mixed set of skills and competences as well as high levels of empathy and understanding related to the specific nature of the students involved. Virtual schools and colleges have to identify staff who will bring together not only professional skills and empathetic attitudes but also appropriate technical skills and competencies.

**Extent to Which Regular Evaluation is in Place**

Given the highly innovative nature of the virtual schools and colleges we encountered, it is hardly surprising to note that most of them are engaged in the regular evaluation of all their processes, particularly learning/teaching processes and curricula. Often evaluation is conducted implicitly and informally.
ROBUST AND RELIABLE TECHNICAL INFRASTRUCTURE
To be successful, virtual schools and colleges all agree that their technical infrastructure needs to be extremely dependable. For many the quality of the technical support needs to be particularly high when it comes to dealing with users as they are generally not technically expert and may require sensitive management when it comes to their local technology set-up.

STRONG LEADERSHIP SKILLS AND COMPETENCES
Many of those involved in virtual schools and colleges are pioneers, comfortable with overcoming challenges and breaking down barriers. Most have strong beliefs when it comes to topics like equity in education and the importance of lifelong learning and it is clear from our work that strong leadership skills and beliefs and a value-system that enjoys overcoming challenges are vital components when it comes to creating successful virtual schools and colleges. These leaders need to also be able to make clear decisions.

STRONG EMPHASIS ON LEARNING OUTCOMES – OFTEN ON AN INDIVIDUAL BASIS
Most of the organisations we investigated were able to describe clearly defined learning and development goals, which can be assessed, where appropriate, for purposes of certification and progression.

AVAILABILITY OF APPROPRIATE LEARNING RESOURCES
Some virtual schools and colleges create their own digital learning resources while a few either buy in commercial materials or use a mix of both. What is core to all is the accessibility of the material and the extent to which it meets the curriculum needs. There is increasing interest (from a low base) in OER.

CLARITY OF THE ORGANISATIONAL SYSTEM UNDERPINNING THE OPERATION OF THE SCHOOL OR COLLEGE
Everyone involved in virtual schools and colleges needs to have a clear idea of the rules governing the school, the different progression options offered by different learning pathways and of the relationship of the curricula to national or state requirements, especially as many do not cater for what can be considered mainstream students.

RECOMMENDATIONS FOR INTERNATIONAL, NATIONAL AND REGIONAL POLICY-MAKERS
Recommendations arising from the VISCE D project are aimed at the multinational, national, regional and municipal education policy makers. These recommendations are all inspired by our belief that virtual schooling can contribute substantially to important educational and social policy objectives.

RAISE AWARENESS AS TO THE VALUE AND IMPACT OF VIRTUAL SCHOOLING IN MEETING EDUCATION AND SOCIAL POLICIES
This should include the collection of appropriate data, i.e. figures for the numbers of students taking online/distance learning courses, whether these involve full time or supplementary studies. Potential beneficiaries include students who are school-phobic, excluded, geographically isolated, travelling or transient, young offenders, seriously ill students and young mothers of school age with childcare responsibilities.

RAISE AWARENESS OF THE POTENTIAL OF VIRTUAL SCHOOLING IN HELPING STUDENTS MAINTAIN TIMELY PROGRESSION THROUGH THE CURRICULUM
This should include supporting students who require additional revision, acceleration or have special curriculum needs.

**Remove any unnecessary bureaucratic impediments which inhibit the development and sustainability of virtual schools and colleges.**

In many cases this includes bringing virtual schools and colleges within a regulatory and accountability framework which protects but does not disadvantage learners – or the schools. These frameworks should facilitate student mobility between schools/colleges and transition to further and Higher Education.

**Encourage virtual schooling options in traditional schools and colleges for specific purposes**

These should include as part of a strategy for reducing early school leaving and for increasing the uptake of Science, Technology, Engineering and Mathematics subjects (STEM).

**Incentivise teachers to become active in virtual schooling**

Consider introducing a common set of standards for online teaching and online courses and facilitate support for individual countries when integrating these into their teacher training programmes.

**Encourage and advise virtual schools and colleges to exploit Open Educational Resources (OERs)**

These should include those schools directly or indirectly funded from the public purse as well as allowing any teacher/institution-created content to be published under Creative Commons licenses.

**Exploit the potential for virtual schooling to drive internet take-up, promote the information society, e-government services and improve student (and parent) ICT skills.**

Where domestic internet access is limited, individual education departments should be encouraged to develop strategies to ensure that neither existing community users, nor virtual school students, are disadvantaged.

**Additional work**

The VISCED project also reports on the following matters:

- A set of case studies of virtual schools in Europe and Commonwealth countries (sadly, none from Africa)
- Topical overviews of the education systems and ICT use in over 20 countries
- Innovative good practice for virtual school pedagogy
- Teacher training aspects
- Specific policy studies for a number of countries

See the next section and the References for further information.

**Wiki and Websites**

The following are the key websites associated with VISCED:

- VISCED website including newsletter – http://www.virtualschoolsandcolleges.info
- VISCED wiki (including the Re.ViCa wiki) – http://www.virtualcampuses.eu – edit access to this will be granted to authorised researchers in virtual schooling
- VISCED project management wiki: gives details of the project – http://visced.referata.com
• Mendeley databases: the main database is http://www.mendeley.com/groups/1075201/virtual-schools-and-colleges/ but each topic has its own private Mendeley database also (apply to the VISCED project to request read access to one or more of these databases).

Currently the POERUP wiki resides at http://poerup.referata.com

REFERENCES


Annex 18
Foreword

This, the fifth edition of the *State of the Nation: K–12 Online Learning in Canada* report continues the strong tradition of incisive analysis of the situation and context of K–12 online education in Canada.

Canada was one of the first countries to use the Internet to deliver distance learning courses to students. Though the amount of K–12 online education is far larger in the United States, in many ways Canada is a more interesting exemplar for the rest of the world. This is in part due to its division into 13 provinces and territories of widely varying population, leading to a wealth of relevant comparisons with other countries/regions of similar population, without being overwhelmed by the sheer number of entities involved. It is also in part due to Canada being not only a strong member of the Commonwealth of Nations, leading naturally to comparisons with other English-speaking countries, but also via in particular (but not only) Quebec being linked to la Francophonie, leading to relevant role models for two major linguistic regions. And finally, via its offerings to indigenous communities, it provides a role model for other countries who arguably may not always take the same care with provision of education to their indigenes and minority populations, especially those with different lifestyles to the majority. The vignette on Credenda is particularly compelling.

The "issues" papers in this edition make particularly topical reading: not only those which deal with the eternal problem of training and staff development for teachers in virtual schools, but also the papers approaching these challenges and others with a new twist. I was particularly interested to read about the efforts of Canadian online schools to recruit and teach overseas students, as this is a highly relevant point of contact with many of the virtual schools in Europe, often set up in the first instance to service the educational needs of children of diplomats and other expatriates.

Another feature that served to “ground” the document in the realities of distance education was letting some of the personalities of the online educators shine through. Perhaps we do not sufficiently celebrate the long, hard and often unsung labours of our online educators—less seen by parents than classroom teachers but doubtless no less admired and valued.

There are many points of commonality emerging between Canadian (indeed, North American) K–12 online traditions and those in the rest of the world. Now that many of the formerly little-known initiatives have surfaced in Europe, analysts can begin to cross-correlate approaches in North America, Europe and Australasia—to the great advantage of online education in each continental region.

One point of commonality between Canada (less so, the United States) and the rest of the world (with one exception in Australia) that is surprising is the lack—or apparent lack—of use or development of open educational resources (OER) in service of online schooling. I say “apparent lack” because there is evidence that teachers conceptualize this area differently from university faculty—and indeed differently in different continents. It is also likely due to less obsession with “content” in online schools than we find in universities. However, in the sixth edition—which I look forward to—I am confident that we shall see more about OER, especially as the publishers, or state/region/province government instead of or in collaboration with the publishers, begin to focus more on free textbooks in jurisdictions beyond the US. At the time of writing, this is only just beginning to happen in Europe and the initial skirmishes (as in Poland) are not edifying.

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