Typology of Virtual School and College Services

VISCED

A Transnational Appraisal of
Virtual School and College Provision

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Abstract	This report, lead author Sero, describes the typology of virtual school/college services that analysts in the project will use for taxonomy and categorisation of Exemplars (including on the wiki). It will draw on sources including: (1) Re.ViCa categorisation (2) the 4-box model in Leadbeater and Wong (3) concepts of e-maturity; and (4) MIT90s.
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1. Introduction

1. The brief

This is Deliverable 3.1 of Work Package 3. The Deliverable Title is:

Typology of Virtual School and College Services

The Work Package Title is:

Analysis and Recommendations

It runs from month 6 (June 2011) until the end of the project (December 2012).

Deliverable 3.1 is the only Deliverable from Task 1:

Typology of virtual school and college services, led by Sero, which will provide a classification of the various types of virtual school and virtual college Exemplars

2. Clarification

A preliminary task is to clarify what we mean by "Exemplar". When the VISCED project was being formulated, it was by no means clear that outside the US we would find *any virtual schools at all*. Indeed, several European ministries had stated to us before the project started that they had been involved with virtual schools around 10 years ago but they "seemed to have died out". (We knew we would find virtual colleges since colleges had been in scope for Re.ViCa and indeed we had found several virtual colleges around the world including Ufi in the UK and NKI in Norway.) Consequently we coined the neutral word "exemplar" to cover a kind of school whose use of ICT was "interesting" but which might not be a virtual school in the strict sense (of a distance learning provider of school-level courses to school-age pupils). In slightly more recent discourse we have used the word "virtualisable" to describe the kind of ICT-based practice found in such schools – that is, practice which is (as it happens) being deployed in a physical school but which could without change be deployed in a virtual school.

In similar vein we used the words "programme" and "notable" in Re.ViCa to cover the kind of ICT-based interventions in universities and colleges that we were interested in.

Fortunately our work on Work Package 2 has established that it is not only in the US that there are significant numbers of virtual schools. While no other country has nearly as many as the US (even allowing for its large population) there are substantial numbers in Canada, Australia, New Zealand and the UK. They are found to a lesser extent in continental Europe, most prevalently in Sweden and Finland. We also find them in Latin America and to a lesser extent in Asia and Africa. (Deliverable 2.5, Final List of Exemplars, goes into this in more detail.)

Thus there is now no longer any need to use the word "exemplar". We are looking at all the virtual schools and colleges in the world and our typology must apply to all of them. Thus Task 1 of Work Package 3 simplifies to:

Typology of virtual school and college services, led by Sero, which will provide a classification of the various types of virtual school and virtual college

2. Prior work from Re.ViCa

The Re.ViCa Handbook[1] devotes a whole chapter (Chapter 3) of nine pages to the topic of "Types of Virtual Campus" and since this document is easily available we do not intend to repeat it here. What is more useful is to extract the relevant material from the wiki page on Categorization.[2] This is a good summary of the material in the Handbook and consistent with that, since although the wiki has undergone many updates after the Re.ViCa project formally finished at the end of September 2009, the Categorization page has had only three updates, all minor, since that date

1. Current categorisation

(taken from http://virtualcampuses.eu/index.php/Categorization)

There are six axes of categorisation of a virtual campus programme/initiative and a seventh that we do not use (yet).

1) UNESCO categorisation of initiative
2) Political level of initiative
3) Existence of initiative
4) Internal scale of initiative
5) Academic level of initiative
6) Distance education initiatives

UNESCO categorisation of initiative
We aim to classify each virtual campus as one of the following four types derived from the UNESCO categorisation:

- Newly created institution
- Evolution of existing institution
- Consortium
- Private provider

We also distinguish the special category of

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[1] See http://revica.europace.org/Re.ViCa%20Online%20Handbook.pdf
[2] See http://virtualcampuses.eu/index.php/Categorization

- private nonprofit provider

such as the charitable or religious university foundations in many countries.

Political level of initiative
For any initiative which lies above the level of one or a few institutions, we consider whether it is a:

- National initiative – from one country or a region, state or province within that country
- Multinational initiative – from a few countries acting together
- International initiative – from a supranational body such as the EU, World Bank or UNESCO

Existence of initiative
A number of initiatives do not now exist. For these we distinguish between:

- Ceased e-Learning Initiative (CELI) – one which came to a planned end
- Failed e-Learning Initiative (FELI) – one which went bankrupt or had to be closed

Internal scale of initiative
We have a four level scale:

- Notable E-Learning Initiative (NELI)
- Major E-Learning Initiative (MELI)
- Giant E-Learning Initiative (GELI)

There is an indication given of the scale of these in terms of benchmark measures but what is more important is to give an informal sense of the scale.

Academic level of initiative
We classify this as

- School – these are not covered in the current Re.ViCa wiki
- College
- University college
- University

It is often quite difficult to distinguish between some of these levels.

Distance education initiatives
A few of the initiatives focus on distance education. For these we note if the institution is an:

- Open university

Size and status of institution
At present we do not categorise on these axes since there is as yet no evidence that they are relevant to e-learning initiatives.

2. Modifications since Re.ViCa finished but before VISCED started

A great deal of information was added to the wiki in late 2009 and throughout 2010: the period of over a year since the funding for Re.ViCa ceased (at the end of September 2009) yet before VISCED started officially (1 January 2011). (In Re.ViCa-related documents this is caused the Re.ViCa exploitation phase.)

This work included general updating of entries on Programmes – plus entries on a few virtual schools – and a number of short country reports, focussing on the more disputed and/or war-torn regions of the world, in particular parts of the former USSR (e.g. Transnistria) and disputed states in Africa (e.g. Sahrawi and Somaliland). This meant that by the time Re.ViCa started there was an entry of some sort on every single country in the world extant at the time, using a fairly broad definition of "country". In particular every single internet top-level country domain was linked back to the respective "country" (including the overseas domains and collectivities of France) via the Country codes page[3] and two other "spinal" country indexes created, countries by income and countries by population.[4] This began to socialise the editors and users into more "numerical" ways of categorising countries and looking for indicators (or even predictors) of emerging phenomena. (This work was applied many to looking for universities but has obvious application to virtual schools also.)

 In addition the process was started of adding political entities below the nation state level in countries such as Canada and Germany where education (even higher education) is devolved – although countries such as the UK and Belgium which are divided into a small number of devolved regions were treated at that regional level even in Re.ViCa, and a small number of US states were also added in the Re.ViCa days in order to pilot a more fine-grained classification.

Finally a considerable amount of work was done as a spin-off from other projects to identify the VLEs and other software systems used by virtual campuses. See the categories for:

- Sites using Blackboard (48 members)
- Sites using Desire2Learn (9 members)
- Sites using Dokeos (9 members)
- Sites using Elluminate (8 members)
- Sites using FirstClass (4 members)
- Sites using Moodle (38 members)
- Sites using OLAT (2 members)
- Sites using Sakai (12 members)
- Sites using WebCT (5 members)
- Sites using home-grown VLEs (2 members)

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[3] See http://virtualcampuses.eu/index.php/Country_codes – this contains some intriguing
[4] See http://virtualcampuses.eu/index.php/All_countries_by_income and
http://virtualcampuses.eu/index.php/All_countries_by_population

However, apart from this work – and the beginnings of categorisation at the regional level as well as the country level, no real *conceptual* work on taxonomy was done in that period – thus the team entered the VISCED period with a taxonomy which in its non-country aspects was essentially the material treated in subsection 1 above.

3. Virtual schools

1. A reminder

When developing such typologies, our general principle is to "start with the data, not the theories". This is a fundamental tenet of Grounded Theory,[5] the methodological basis of our work – and of much other evaluative work. It is particularly important for VISCED, because in contrast to Re.ViCa where there were several international experts on virtual campuses on the project team, in VISCED there were *no* expert researchers in virtual schools on the team – indeed there appear to be no expert researchers on virtual schools outside the US (though some of us are learning fast). Thus there were no realistic theories to fall back on (which did not stop various members of the project team and IAC pronouncing on various theories).

Grounded Theory has a close relation to tagging, and one of the reasons that we like wikis is that tags correspond to Categories on the wiki. They are not quite the same – for example the need for human readability yet speed of coding puts a lot of pressure on analysts to come up with an understandable but brief phrase to represent each Category.

2. Modifying the Re.ViCa tags

Another problem became evident as we dug into the US country reports – and became crystal clear when we first met Susan Patrick, CEO of iNACOL,[6] at the second partner meeting in September 2011 and began to compare notes on virtual schools – *there are more virtual schools in the US than in the rest of the world put together*. Thus we had to take pains to ensure that the typology was not dominated by particularities of US virtual schools. For example the US not only has a very devolved approach to schools but also is unusual among nations in having a species of state-financed schools which are private – the so-called charter schools – and very often outsourcing the ICT provision to one of a number of large companies.

There was a final operational problem. Creating a typology is an exploratory process – yet the operational burden of several times recategorising hundreds of virtual schools is too high. Consequently in this deliverable we *propose* a typology but have not yet *instantiated* the typology

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[5] See e.g. http://en.wikipedia.org/wiki/Grounded_theory for an introduction. The author recommends "Constructing Grounded Theory" by Kathy Charmaz for a readable introduction – see http://books.google.co.uk/books/about/Constructing_grounded_theory.html?id=v1qP1KbXz1AC
[6] iNACOL, The International Association for K-12 Online Learning, http://www.inacol.org

across all the entries on virtual schools – and may never fully do so. Wherever possible we use the US virtual schools as a pilot for ideas, without committing to apply the scheme across all virtual schools in other countries.

So now let us see how the Re.ViCa scheme has to be modified for virtual schools.

Re.ViCa proposed six axes of categorisation of a virtual campus programme/initiative:

- UNESCO categorisation of initiative
- Political level of initiative
- Existence of initiative
- Internal scale of initiative
- Academic level of initiative
- Distance education initiatives

A.   UNESCO categorisation of initiative

Re.ViCa classified each virtual campus as one of the following four types derived from the UNESCO categorisation:

- Newly created institution
- Evolution of existing institution
- Consortium
- Private provider

It also distinguished the special subcategory of private nonprofit provider (such as the charitable or religious foundations in many countries).

We have not found the first three aspects of this particular approach particularly helpful overall. The vast majority of virtual schools were newly created (at some time within the internet era) – very few seem to have slowly evolved as e-learning often does (or is alleged to do). The general bottom-up approach that consortia tend to demonstrate seems to happen much less in schools – which are much more under the control of higher-level agencies.

However, the category Consortia is used where appropriate.

In contrast, the public/private division is of value, but needs a more detailed analysis. The main divisions seem to be:

- state-run state-funded schools
- private non-profit state-funded schools (often run by foundations or trusts)
- private for-profit state-funded schools
- private non-profit parent-funded schools
- private for-profit parent-funded schools

There are in theory (remember our warnings) some possible hybrids of these, for example where parents pay some level of contribution to fees, but so far such examples seem few (in the developed world at least.

In particular in the US we have categorised the

- US charter schools (83 members)

There is no point yet in categorising the free schools in Sweden or the Academies or free schools in England as none have yet engaged with providing virtual schooling.

B.   Political level of initiative

For any initiative which lies above the level of one or a few institutions, Re.ViCa considered whether it was a:

- National initiative – from one country or a region, state or province within that country
- Multinational initiative – from a few countries acting together
- International initiative – from a supranational body such as the EU, World Bank or UNESCO

VISCED has taken the view that for schools a more refined taxonomy is required.

To begin, each virtual school is categorised with the name of the continental region it belongs to, within the following scheme – note that US and Canada are treated as "continental" because of the large number of virtual schools in each. Thus one gets the following categories:

- Virtual schools in the US (261 members)[7]
- Virtual schools in Canada (33 members)
- Virtual schools in Latin America (6 members)
- Virtual schools in Europe (43 members)
- Virtual schools in Africa (2 members)
- Virtual schools in Asia (4 members)
- Virtual schools in Australasia (5 members)

So far we have not found virtual schools in the Caribbean or the Pacific and Indian ocean islands, but the relevant categories await.

In addition, for a number of countries not on the list above, there are categories set up for virtual schools:

- Virtual schools in Australia (9 members)

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[7] The number of members in each category was checked on 29 November 2011 and is subject to small but rapid increase as the wiki is cross-checked.

- Virtual schools in Brazil (1 member)
- Virtual schools in Finland (6 members) – there are rather more in reality
- Virtual schools in Ireland (1 member)
- Virtual schools in New Zealand (3 members)
- Virtual schools in Sweden (3 members)
- Virtual schools in Turkey (2 members)
- Virtual schools in UK (10 members)

Several more are likely to be added.

In addition, each virtual school is categorised by the country it is in – using a lower-case convention to distinguish virtual schools from virtual universities/colleges. See for example the lower-case entries in http://virtualcampuses.eu/index.php/Category:United_Kingdom

For a small number of countries where education is devolved to the first-level administrative divisions, virtual schools are tagged with the administrative division as well as with the country, using the same lower-case convention. The countries with entries for each first-level administrative division include:

- United Kingdom – the four home nations (done in the Re.ViCa era) – and also the Crown Dependencies and the colonies
- Belgium – Flanders and Wallonia (done in the Re.ViCa era)
- Australia – the nine States and territories
- Canada – the 13 Provinces and territories
- US – the 51 States – and also the Territories
- Germany – the 16 States (Länder)
- India – the 28 States and 5 Union territories
- Spain – the 13 Autonomous communities and cities

A few other countries have partial entries including:

- Brazil – a few of the Federative units
- France – the Overseas departments and Overseas collectivities
- Netherlands – the member states of the Kingdom

It becomes too complex to tag virtual schools with administrative divisions below the first level but the general typology is given below with 11 levels:

- international
- groups of countries
- country
- groups of "states"
- state/province/Land/home nation/autonomous community

- groups of "counties" (as in England)
- county
- groups of school districts (as in US)
- school district
- groups of schools (within school district)
- school

In theory, group of schools not all in the same school district could collaborate to set up a virtual school, but schools (if state funded) tend not to have that freedom.

A pilot categorisation of US schools has been done as follows:

- US statewide virtual schools (105 members)
- US multi-school-district virtual schools (19 members)
- US single-school-district virtual schools (30 members)

 A similar one may be done for Canada and Australia.

C. Existence of initiative

A number of virtual campus initiatives do not now exist. Re.ViCa distinguished between:

- Ceased e-Learning Initiative (CELI) – one which came to a planned end
- Failed e-Learning Initiative (FELI) – one which went bankrupt or had to be closed

By the end of Re.ViCa these particular abbreviations were falling out of favour, but the principle is important. A category has been set up in VISCED for:

- Ceased virtual schools (4 members)

D. Internal scale of initiative

Re.ViCa had a four level scale;

- Notable E-Learning Initiative (NELI)
- Major E-Learning Initiative (MELI)
- Giant E-Learning Initiative (GELI)

This scheme, which was not purely size-based, is not being used for Re.ViCa. See also G below.

E. Academic level of initiative

Re.ViCa classified this level as

- School (which was not covered as such in the Re.ViCa wiki)
- College
- University college

- University

It was often quite difficult to distinguish between some of these levels. We shall return to this issue in the next section when we consider colleges.

F. Distance education initiatives

Virtual schools are distance education by definition so that this distinction from Re.ViCa was not relevant. Re.ViCa did categorise those initiatives which were open universities and VISCED categorises open colleges, but the concept of "open schools" has not so far been seen as clear enough to be relevant.

G. Size and status of institution

Re.ViCa did not categorise on these axes since there was no evidence that they were relevant to e-learning initiatives (in universities and colleges).

In contrast, VISCED has considered this issue. It seems to be the case that outside the US and Canada, most virtual schools are rather small (a few hundred pupils at most), but in the US there are large virtual schools. Thus a pilot categorisation has been done for the US as follows:

- Small virtual schools (21 members) (<100 students)
- Medium virtual schools (72 members) (100-999 students)
- Large virtual schools (40 members) (1000-4999 students)
- Very large virtual schools (11 members) (5000-9999 students)
- Mega virtual schools (8 members) (>10000 students)

H. Issues raised just in VISCED

One of the advantages of changing some (but not all) of the partners in a consortium is to get a fresh way of looking at the same underlying issues. A number of typology issues came up which had for various reasons not been explored in Re.ViCa.

Technology

An activity started after Re.ViCa but before VISCED got under way was to begin to tag virtual institutions with the specific *technology* they used. This has been extended into VISCED using the same lower-case convention used for country/region categories. See for example

- Sites using Blackboard (48 members)

Service providers

An extension of this is to identify – specifically for US virtual schools – the virtual schools using a particular service provider or those in fact owned by a provider. See in particular:

- K12 Inc virtual schools
- Connections Academy virtual schools
- Insight virtual schools

- iQ Academy virtual schools
- Kaplan Academy virtual schools
- Giant Campus virtual schools
- Advanced Academics virtual schools
- Apex Learning virtual schools
- Aventa Learning virtual schools

If Sweden had free schools that were virtual, this approach would be relevant there too.

Supplemental provision

But perhaps the key difference in taxonomy comes when one reflects on the different approach in schools to looking after their students. By and large, school students are not adults and schools have a pedagogically marginal but socially key role in looking after the students while their parents are unavailable. It follows that school is aimed to be a full-time commitment – in some ways like a job – whereas universities and colleges are not – even in so-called "full-time" courses (which rarely are).

But what is to happen when the full-time school cannot provide the range of courses that a student wants? This is where the *supplemental virtual school* comes in – it offers subjects that (for a variety of reasons) the student's main school cannot. For the US we have categorised virtual schools as:

- US full-time virtual schools (144 members)
- US supplemental virtual school providers (107 members)

Some are both. This divide also happens in Canada. It seems that in Europe (except for Britain and Sweden) most virtual schools operate in the supplemental virtual school mode.

It is likely that a similar category to US supplemental virtual school providers will be used world wide for what are currently called

- Virtual schooling providers

3. Background that was not useful

The original plan for the typology was also to draw on three other sources:

- the 4-box model in Leadbeater and Wong's seminal report on "Learning from the Extremes"[8]
- concepts of e-maturity
- MIT90s

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[8] See http://www.cisco.com/web/about/citizenship/socio-economic/docs/LearningfromExtremes_WhitePaper.pdf

However the second and third of these became irrelevant when it became clear that there was no need to look at schools which were not already e-mature enough to be virtual schools.

The first is more interesting – essentially the 4-box model has two rows, one for conventional provision and one for innovative provision. We look just at innovative provision. The columns are essentially cover the full-time and supplemental aspects and so have been dealt with already.

4. Virtual colleges

The taxonomy for virtual colleges has already been dealt with in Re.ViCa and so might be thought to require little strategic attention. Some minor enhancements are obvious:

- we now have a more careful tagging of geography – often to regions not just to the country
- we can tag the systems used

In particular there are geographic categories as follows:

- Virtual colleges in the US (3 members)
- Virtual colleges in Australasia (3 members)
- Virtual colleges in Europe (7 members)
- Virtual colleges in Latin America (1 member)
- Virtual colleges in Brazil (1 member)
- Virtual colleges in New Zealand (3 members)
- Virtual colleges in United Kingdom (2 members)

But what is most interesting is that the main issue with virtual colleges is that most do not offer only a virtual college service – they are often virtual universities as well. See

- Virtual colleges (27 members) – very few are "just" colleges

So the taxonomy needs to distinguish between:

- virtual colleges as their core business – and
- virtual colleges mainly universities

There may also be a few

- virtual colleges mainly schools

However, this needs further investigation.

5. Conclusions

Virtual schools

The main dimensions along which virtual schools should be tagged are:

- Geography especially continent, country and region
- Catchment area (international, national, state, school district etc)
- Full-time or supplementary
- Ownership and flow of funds (state, foundation, company etc)
- Size band

It is also useful to tag for:

- Technology used
- Owning company/organisation

Virtual colleges

The taxonomy follows Re.ViCa with a more nuanced taxonomy for regions not only countries and a tag to mark whether "virtual college" is the core business of the institution.

6. What next?

Some work in progress items are:

- When should we start tagging for language of instruction? (The majority of virtual schools teach in English.)
- Is it relevant to consider the size and coherence of the virtual school relative to any parent organisation?
- What is the value of extending the detailed US-style categorisation to other countries, and which ones? (Probably Canada, Australia, UK and New Zealand in that order – just possibly Finland and Sweden also.)