

# Virtual Universities – Necessities and Virtues

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## 1 Introduction

Virtual universities are commonly defined by what they do *not* have: They have no campus, no lecture halls, no lectures, maybe not even faculty buildings. There are even some which do not have any salaried staff but are operated by volunteers, scientists working for other institutes but dedicating some of their time to virtual teaching and research.

Such a negative definition tends to lose sight of some indubitable assets of virtual universities: Their costs are low, their faculties and their students are (ideally) not restrained by distance, geographical or political frontiers. This offers unique opportunities for creating an atmosphere of true academic freedom, unhampered by political systems, ideologies, or culture-dependent prejudice—though not free from economic constraints.

In fifteen years of its existence the AIS San Marino has collected considerable experience in the field of virtual teaching and research. This text attempts to summarise this experience in an abstract way useful also for other organisations.

## 2 Virtual Communication

Though distance learning and distance mentoring have existed longer than the Internet it is true that the spreading of the Internet gave an incredible boost to the concept of virtual universities. Electronic mail, the World Wide Web, Internet Relay Chat, virtual reality, video conferences—these and similar techniques have made physical presence unnecessary in a lot of communicative scenarios, though not in all. Still we must not lose sight of the fact that these new techniques require new approaches to communicative situations in academic teaching and research and, therefore, make new demands to teachers and researchers, and also to students. These new demands could easily lead to a motivation problem, so it seems appropriate to briefly point out the chances and the new possibilities arising from virtuality.

## **3 New Chances by New Techniques**

As seen above, new techniques (sometimes called “technologies”) in communication have fundamentally changed circumstances in many everyday situations, and it is up to their users to benefit from these changes, by communicating in ways that were barred or stony in more traditional environments.

### **3.1 Interdisciplinary Communication**

In a traditional university campus, each faculty has its own building or section in a larger building, and similar faculties are often grouped together while others may be situated at the other end of the campus, or of the town, or even in another town. This is an additional reason for limited communication between distant disciplines which, traditionally, tend to erect conceptual barriers between them.

The virtual world, with communication at the speed of light, offers a chance to make a breach in these barriers. An increase in interdisciplinary communication will, however, not come by itself but must be encouraged by administrative conditions. To name a few examples, students may be encouraged or even compelled to take courses in other faculties, a student’s thesis may apply techniques to a problem from another discipline, or observers from other faculties may be invited to graduation exams.

At such occasions it will turn out that quite often the common cognitive basis for a discourse is narrower than expected. People will find themselves explaining things they never thought needed an explanation. Such situations should be welcomed as opportunities to broaden one’s view and to look at things from different angles.

### **3.2 Inter-Cultural Communication**

A university with a locally fixed campus by necessity has strong ties to the local culture(s). This has advantages but can lead to ideological blinkers which constitute a barrier to scientific progress. Moreover students from abroad are not only faced with a lot of subject-matter but at the same time have to accommodate to a new cultural environment. This is possible only during a longer educational stay, and while such a stay is certainly profitable for the evolution of the student’s personality it is not possible for everybody.

International scientific conferences seem a good opportunity to become acquainted with the views of other cultures. They are, however, often dominated by the customs and habits of either the local or an economically predominant culture. And it is true that giving the customs of all cultures equal rights can result in organisational chaos. The author remembers a conference in continental Europe where the participants of a session waited for the chairman to put a motion

to the vote while he, American, waited for somebody to second the motion. Such situations require a certain amount of tolerance, good will, and mutual respect.

There is no doubt that even a virtual university needs an organisational framework with basic (written) rules. On the other hand it pays to leave organisational details to the natural play of forces and to accept, even encourage, the reciprocal contact (and occasional clash) of cultures. This also applies to academic courses and lectures, which imposes an extra intellectual burden on the teachers, who have to prepare and even—in face-to-face or “on-line” situations—spontaneously adapt their lessons to a variety of cultural target groups; on the other hand it (partly) relieves them from the emotional strain of feeling oneself in a superior or inferior cultural position.

### 3.3 Inter-Ethnic Communication

Nearly all kinds of human communication carry a linguistic component, especially in science, and linguistic diversity can hamper communication on all levels. Though mathematicians as well as chess players claim a truly international language (or notation), even they have their linguistic variants; there are different notations for chess moves, and there are parts of colloquial language in mathematical formalism: where German mathematicians a few years ago used to write “f. ü.” (*fast überall*) they now tend to write “a. e.” (*almost everywhere*), etc.

A virtual university, with its teachers, researchers, and students (potentially) coming from different countries, is faced with a language problem, or, rather, a language challenge every day, every hour. This challenge can be accepted in different ways, and the necessity to communicate on scientific topics can give rise to the virtue of the capability of inter-ethnic communication, which in itself is certainly desirable. We will return to that.

## 4 Challenges to Academic Teachers

It is a challenge to academic staff to realise the potential lying in the concept of virtual universities in the ways described above. Left to themselves, virtual universities may tend to ignore this potential and to become nothing more than copies of traditional institutions.

Three basic scientific virtues are needed to benefit from the mentioned potential: Tolerance, open-mindedness, and the will to learn. Still virtues alone will not do the job; some organisational or even legislative work is needed as well. Let us have a look at some particularly important issues.

## 4.1 Academic Credits

In many cases a virtual university will not be able to offer a virtual course on a certain topic. Some courses require practical training and, therefore, physical presence in a laboratory etc., at least at the present state-of-the-art of virtual reality. In other cases distance mentoring might be considered inadequate, or the virtual university might even lack an available teacher for a certain subject. In all these cases it must fall back on the help of other institutions. In other cases students might want to change to another university without losing the credits acquired. All these cases require a practicable and dependable credit exchange system.

At the moment there are two complementary approaches to this problem. One relies on governmental control over universities and their academic level, the other on academic self-control. The latter requires a network of academic contact which allows scientists to judge the academic level of institutes where they know part of the academic staff. This is comparable to the system of peer-reviewing applied by scientific journals. It is an important question whether the relations in such a network should be transitive, i. e. whether a university should trust the credits of an institute where colleagues of colleagues etc. work.

## 4.2 Academic Degrees

In some countries the right to confer or use an academic degree is controlled by the government; in others it is completely free, and the value of a degree depends only on the reputation of the issuing institution. In any case there are situations where it is required to judge the value of such a degree, e. g. when it is to serve as a basis to acquire a higher-level degree. Just as with credits, there is a governmental and a network approach to this problem.

As a general rule it is important to provide adequate mechanisms of supervision, so as to allow independent control of the level of graduation exams. (This is of basic importance for virtual universities, which lack a campus where one can go every day to see that actual academic work is done there.) Graduation exams should be (at least in part) public, e. g. in the form of a lecture with subsequent discussion in the form of a *viva voce*. They must be announced so early that external observers can plan their participation. In many cases it is useful to bring in external experts and ask their opinion.

## 4.3 Sessions and Meetings

Beside scientific conferences, which are traditionally open to anyone, academic bodies need regular meetings of committees on all levels, such as the Academic Senate, the faculties, etc., which deal with administrative and organisational questions.

To allow efficient working of these bodies, a basic set of procedural rules concerning at least attendance, agendas, motions, and voting, is indispensable. They should be laid down with care and after an open discussion, so as to avoid the impression of arbitrariness. Even though some general agreement on the necessity of procedural regulations can be expected they are not always easy to handle in practice, as even the attitude towards regulations is very culture-dependent.

A special field are virtual (or “on-line”) meetings in the Internet, be it via electronic mail, IRC (“chat”), or video conferencing. In addition to the problems known from personal meetings there are the problems of cost, availability of equipment, technical reliability, and different time zones; in a truly world-wide organisation a meeting at any time of the day may occur at dead of night for some participants. E-mail discussions suffer from this problem by longer reaction times. Practical experience shows that virtual discussions require stricter moderation and clearer rules than face-to-face meetings, at least when more than three persons are participating.

Distance mentoring of students via e-mail has turned out to be a very successful approach. Common text or HTML editors seem to be suitable tools to insert the mentor’s remarks into the student’s texts; only where a special formula language is used (mathematics, chemistry, etc.) or non-verbal information is exchanged specialised tools must be applied.

## 4.4 Publications and Copyright

More and more courses offered by virtual universities are published in the Internet, as the easiest medium to make information available to a wide circle of readers. This medium, however, does not allow authors to benefit from their work materially, as it is difficult to collect fees for access to an Internet information resource<sup>1</sup>.

Again, there are several approaches to this problem. A university might pay a teacher for producing a course and make it available freely for its own students as well as for others. Or it might password-protect the access to the course documents and distribute passwords only after payment of a fee (at considerable organisational overhead).

Still, the problem is not really new, as printed books can be (and have been) photocopied at much lower cost than their original price for many years already. A common solution is a tax on photocopiers, whose returns are distributed to registered authors (at a somewhat reduced organisational overhead)<sup>2</sup>. It is very

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<sup>1</sup>In summer 2000, Stephen King started publishing his novel “The Plant” in the Internet and announced that he would continue the novel only as long as 75 % of all downloads were paid for. Though this is certainly an interesting approach it does not seem feasible in general, as a comparatively small number of vandals can easily ruin the whole system.

<sup>2</sup>In Germany, for example, the *GEMA* organisation deals with this for musical works, and *VG Wort* for textual works.

probable that such taxes will be extended to computer modems, networking hardware, and even CD writers and storage media. There is still the unsolved question how to treat texts that have been published exclusively in the Internet, and not previously in printed form.

## 4.5 Language Problem

Virtual universities are not the only ones to face the problem of linguistic communication between different mother tongues, still they often enjoy more freedom in the choice of the languages they use, and so have more chances to realise their own ideas in this field.

Nobody can learn all languages, and only the most gifted can acquire a working knowledge of a considerable number of major languages. As a consequence scientific branches have always known predominant languages, and they were not always the same for all branches. The rôle Latin played centuries ago is now largely being taken by American English, and more, because contrary to American English, Latin at that time carried little of a culture of its own.

To have at least one common language is a prerequisite for scientific communication of any kind. In many disciplines English is more and more used to this end. This is very profitable for native speakers of this language, while it puts others in an unfavourable position and effectively excludes many of them from an active participation in scientific research.<sup>3</sup>

## 5 Conclusion

Virtual universities bring new opportunities as well as new challenges to academic staff. It is important not to lose sight of the opportunities over the problems caused by the challenges. These problems are only to a small part of technical nature, most of them are on the organisational, motivational, or even legislative level.

In an era of world-wide interweaving not everything can be regulated by national governments, or even by international treaties. Rather, a network approach is required, where academics find solutions to their own problems as far as this is possible without interference of governmental authorities.

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**Resumo.** Virtualaj universitatoj donas novajn ŝancojn kaj novajn defiojn al la universitata instruistaro. Estas grave ne ignori la ŝancojn pro la problemoj, kiuj situas nur

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<sup>3</sup>The AIS has decided to use a neutral language for its teaching and administration. Scientific lectures in any language are welcome at AIS conferences provided there is an audience which understands the concerning language. This neutral language policy not only solves the linguistic communication problem at the AIS but also contributes to an atmosphere of equality and so goes hand in hand with the intercultural efforts of the AIS.

malgrandparte sur teknika, pliparte sur organiza, motivada kaj jura niveloj.

Novaj solvoj necesas ekzemple por internacia agnosko de studaj kredit-unuoj kaj de akademiaj gradoj, sed ankaŭ por la organizado de plurnaciaj kunvenoj kaj kunsidoj, ĉeestaj aŭ virtualaj (retaj). Afero centra al ĉio ĉi estas solvo de la lingva problemo. Teknike kaj jure interesa estas la problemo, kiel doni al ĉiuj liberan aliron al informoj kaj tamen doni justan kompenson al la verkintoj.

En erao de tutmonda interplektiĝo ne ĉio estas solvebla de naciaj registaroj aŭ eĉ per internaciaj traktatoj. Necesas reta aliro, en kiu akademianoj mem trovu solvojn de siaj problemoj.

**Zusammenfassung.** Virtuelle Universitäten bringen neben neuen Chancen auch neue Herausforderungen an das akademische Lehrpersonal mit sich. Es ist entscheidend, über den Problemen, die weniger auf technischem, sondern vielmehr auf dem Gebiet der Organisation, Motivation oder auch der Gesetzgebung liegen, nicht die Chancen aus den Augen zu verlieren,

Neue Lösungen erfordert zum Beispiel die internationale Anerkennung von Studienleistungen und akademischen Graden, jedoch auch die Organisation internationaler Zusammenkünfte und Sitzungen, seien sie mit persönlicher Anwesenheit oder virtuell. Von zentraler Bedeutung ist hier eine Lösung des Sprachenproblems. Technisch wie juristisch interessant ist das Problem, wie sich bei freiem Zugang zu allen Informationsquellen eine angemessene Entlohnung für Autoren sichern lässt.

In einem Zeitalter weltweiter Verflechtungen ist nicht alles durch nationale Regierungen oder auch durch zwischenstaatliche Abkommen lösbar. Vielmehr ist ein Netzwerkansatz erforderlich, nach dem Hochschulangehörige selbst Lösungen zu ihren Problemen erarbeiten.