

# ***Stretching the Mold or a New Economy?***

## **Part 1: Scenarios for the University in 2005**

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### **Introduction: Scenarios for the University in 2005**

Universities are in a rapid process of change. This change is being driven by a number of factors, both internal and external. Many if not most universities are considering new organizational possibilities with regard to making their offerings more accessible to a wider range of students with increasingly diverse characteristics. Increased flexibility is a key concept and technology a key tool (Collis & Moonen, 2001). Although universities frequently have mission statements that relate to their evolution toward more flexibility, these statements are often expressed in abstract goals ("high quality") and targets ("individualized learning regardless of time and place") rather than in more specific scenarios that present clear alternatives in terms of organizational practice and that can guide ongoing decision-making toward those alternatives.

We have recently concluded a year-long study at the University of Twente in The Netherlands whose aim was to identify such scenarios and demonstrate how the scenarios could be used to guide the current evolution of learning environments at the University (Collis & Gommer, 2001a,b). While the work was done with the intention of being used at a particular university, the analysis and recommendations produced

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were not done in terms of this specific university, but more generally.

In this first article in a two-article sequence, we summarize our analysis leading to two alternative scenarios for the university in the year 2005: We call these *Stretching the Mold* and the *New Economy*. In the second article of the set (to appear in the next issue of this magazine), we indicate a variety of recommendations for moving from current operating procedures toward one or the other of the scenarios.

The methodology we used for our study was a combination of Cole, Gershuny, and Miles' (1978) *profiles-of-the-future* approach and Miles' profile-generation and interview techniques (2000). The *profiles of the future* approach involves the development of a collection of profiles based on a number of contrasting images of the futures and "What if?" questions arising from trends emerging in the present. These profiles are used as vehicles to stimulate experts to speculate on the images and the possible courses of events that could have led to those profiles. This speculation in turn leads eventually to the elaboration of a small number of contrasting scenarios.

Miles (2000) expanded on this approach with a technique for structuring the initial set of profiles. This technique involves an analysis of the emerging contexts identified in a series of exploratory studies to select two aspects of surrounding conditions, which are highly likely to have a future key impact on the domain, and also which could plausibly vary in the future in terms of high or low extremes.

We used a combination of literature reviews; scans of pertinent sites, newsletters, newsgroups, and other Web-based resources; and several series of interviews and discussions in group settings over a nine-month period to carry out this methodology. (The Appendix lists key sources.) Figure 1 shows the categories of investigation. The first stage, resulting in a trends analysis, is summarized in the next section.

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### **Trends and Emerging Contexts**

Emerging developments were categorized in terms of the broader context for universities, the organization of teaching and learning in higher education, secondary services to support the primary processes of teaching and learning, and technology developments.

### **Changes in the Social Context**

Many trends can be identified in developments in the broader context that surrounds higher education. Four in particular emerged in the trends analysis. One of these major contextual trends is *virtualization*. People are becoming more comfortable with Internet technology as an everyday tool. Internet-mediated shopping, e-commerce, is becoming an enormous market, with the USA, Germany, and the United

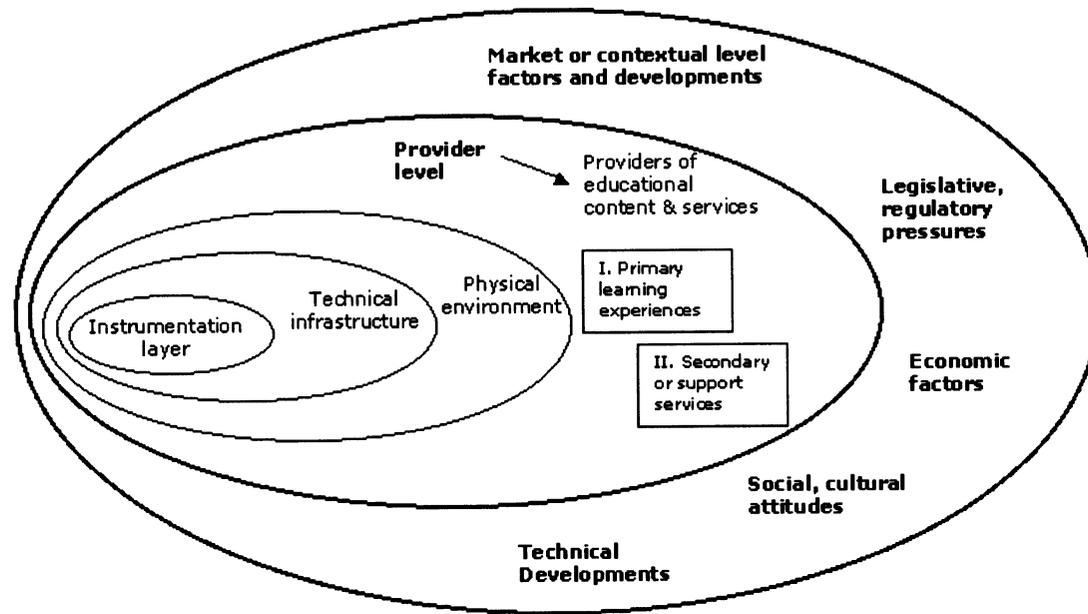


Figure 1. Categories of investigation.

Kingdom the world leaders. The economic aspects of using the Internet are also being rapidly discussed by major businesses in relation to their training programs. The e-learning market for training is expected to jump from \$1 billion in 1999 to \$11.4 billion in 2003 in the USA alone. This relates to a second major contextual trend—*lifelong learning*. New forms of corporate training programs are being seen as necessary because of fast-paced technological developments. New student demographics in higher education itself are also part of the changing context. Because of these new groups of learners, there is also a need to make education more *flexible* and customer oriented (or *individualized*). These adult and part-time learners will have more need for time- and place-independent education and to be able to choose different courses or even modules from different institutions. Traditional structures of education, such as diploma granting, authority, and state and local accreditation, will find it difficult to coincide with increasingly flexible education. This flexibility will be enhanced by a fourth trend in society: *globalization and internationalization*. Throughout the world, business is more and more taking place as a combination of local and international activities. People still go to local shops, even as they shop online. Businesses are forming alliances with each other to take advantage of each other's local markets and to have the combined resources to operate internationally.

These trends suggest two main lines of development. One is the line relating to *quality control*: Who does this quality control, by what criteria, using what forms of control interventions? At one extreme, the Internet can be seen as a free channel, allowing anyone to access and contact anyone else. At the other extreme, the Internet can be seen as needing to be ordered; made secure; made a place to do business with consumer confidence. A second line of development relates to *local vs. global* aspect: Will the consumer shop at the corner store or via a virtual portal whose server may be continents away? Where will the consumer in 2005 go to meet friends and socialize?

### Changes in the Organization of Teaching and Learning in Higher Education

**Flexibility.** Changes occurring in the primary processes of higher education—courses and degree granting—are closely related to the contextual trends of virtualization, internationalization, lifelong learning, and customer orientation that are part of society in general. Flexibility is seen as the key idea, and flexibility requires technology. There are many forms of flexibility, not only time and distance (Collis & Moonen, 2001). Learning environments of the future are being envisioned to include many other aspects of flexibility, such as flexibility in the student's choice of

modules to combine together to meet course and degree requirements (Ben-Jacob, Levin, & Ben-Jacob, 2000). More and more courses or entire degrees are being offered online. Many different players are looking to provide more flexible and new forms of course delivery to reflect these trends of student diversity, the need for flexibility, and the use of the Internet.

**Models.** There are many ways that this flexibility increase is being realized. The individual institution can become more flexible in its own practices, can join with other universities in a variety of models, or can join with other partners in a variety of models. Also, new players, both related to traditional universities and not, are also becoming providers of the primary processes of teaching and learning. The individual university is responding in a number of ways. Some are setting up for-profit ventures, sometimes calling these a *virtual university*, sometimes to try to sell courses and programs to individual students, other times to target corporate employers. Many traditional universities are joining distance-education universities in making courses available to students. Web environments are becoming the portal through which course registration occurs, course materials are obtained, course interactions and communication occur, and course examinations or final projects are managed. Another way that the individual university is responding is that it is not necessary to offer courses at a distance, but to make the course-participation process more flexible in other ways, even for students who occasionally are physically on campus. This approach, stressing quality improvement, is expected to draw students to the home campus and program.

At the learner level, many developments can be seen. Digital portfolios are being used more and more in education for progress monitoring and assessment. By keeping a portfolio, students take responsibility for their own learning processes. Students taking a more active role in their courses is a major trend. The use of Web-based course-management systems provides a convenient platform for these new forms of learning activities, such as students submitting additional resources or case materials to a course Web site; students working together with the support of groupware available via their course Web sites on the communal production of course materials; students giving each other peer feedback via being able to view each other's submissions in the course Web environment; and students engaging in activities with students in other countries or making contact with experts via use of Web and other Internet technologies.

In addition to the traditional university becoming more flexible on its own, a number of other types of models can be identified in which universities form consortia with other partners:

- new alliances, such as *university networks or consortia* and *international educational consortia*

(and variations of these with non-university partners);

- *corporate universities* (companies now offering onsite training programs for their employees are moving to online variations);
- *mega-universities* spanning national boundaries (moving from earlier technologies of print and local tutors to the use of the Web); and
- *virtual universities* that operate entirely online and may offer an entirely Internet-based degree.

Looking at these trends, two main lines of development can be noticed. One relates again to the local vs. global issue. Strengthen the home base or move toward a future in a multinational partnership? What if the individual institution decides to go it alone? Can it compete, or will the big partnerships dominate client attention? Or will a swing back to the basics occur, as a backlash against failed attempts at globalization if these should occur? A second line of development relates to the program and content to be offered. How should this be obtained and offered to clients? As total programs? As individual courses? As portions of courses (modules, or learning events of different types) which can be combined in different ways? What if the *choose-your-own-combination* idea takes root, stimulated by competition for fee-paying professional clients? Can the local institution handle this sort of individualization itself?

### Secondary Services

At least two major trends can be spotted in the category of secondary services. The first one is the *commercialization* of education as an online market. The second relates to the emergence of portals and brokers, such of which may also be commercial enterprises.

**Commercial support enterprises.** Online commercial companies have discovered the educational market and are targeting both students and instructors. Some combine services relating to maintaining the institution's Web site (public or intranet) combined with advertising content. As the cost for building and maintaining an intranet and external Web site is estimated to be \$2 million for a middle-sized US institution, and since institutional Web sites are now a major way for students to obtain information about an institution, the burden of tolerating advertising does not seem so great a price to pay. Other kinds of services include online note services where students can buy and sell college notes, tests, and abstracts; or e-commerce sites that supply students and teachers with items such as study materials, pens, and classroom equipment. In competing with each other, these online service centers for students offer a wide range of possibilities, including chat sessions with instructors, movie tickets, course registration, and online book

ordering. The key idea is that physical space is no longer a limiting factor for doing business.

**Portals and brokerships.** The second major trend is that of portals and *educational brokerships*. Portals at their simplest are lists of links, but most now offer added value of various sorts. Libraries are moving toward electronic portal roles for their institutions. Some portal services are moving toward brokerage and added-value enterprises. There are educational or commercial institutions that do not offer any teaching themselves, but operate as intermediaries (*infomediaries*) in the offer and demand for education. Such an institution offers all educational services except direct teaching, for example: assessment, educational brokering, academic advising, and credentialing. This organization operates at a distance, using the Internet (with online library and bookstore) rather than having physical facilities to which students come. Portal initiatives also are involving institutions agreeing to a common meta-data description of courses and services for sharing of their resources.

The many new permutations of services relating to more flexible learning suggest two major dimensions of trends. *One is quality control*: Who controls what is available via portals, or what is chosen in enterprise services? What if there is no assurance of quality; to whom does the purchaser turn? The other trend relates to the *location and management* of these services: Which services are best done locally by personally known and trusted supporters, and which can benefit by economy of scale?

These examples show the sort of overlap that is now occurring between primary educational processes and secondary services. In all cases, technology is essential.

### Trends with Technology

**Network and access.** Many trends can be identified in the technology of learning environments. Network developments, such as Internet 2, will make access to the Internet much faster and give more possibilities for its use, for example, for more use of video on demand and multicasting in education. Where video-related applications have been often avoided because of low speed or quality, in the near future, this will no longer be a problem for a wide audience. Server farms will become a major new commodity and will bring back some of the strengths and vulnerabilities of older mainframe, terminal systems. Another major development (that is also related to developments in Internet connectivity) is *wireless* or mobile computing. Wireless Internet connections, handhelds, and Internet telephones are getting more and more popular, and the first experiments on using this technology in traditional education institutions have already started.

**Tools and products.** Laptops are becoming very small and handheld devices also are a new type of interface. Thus, mobility is increasing. Electronic books

and electronic magazines are new products that are moving from the R&D stage to the market. *E-books* are becoming available and some educational institutions have made contracts with publishers in order to make electronic access to journals and databases available for all of their students. Also, educational materials are increasingly being offered in digital form. One problem which is emerging is how to store and reuse these digital educational materials. Standards and metadata are major topics of discussion, as competing consortia strive to capture the market. An educational variant of XML is being developed to address this reuse problem. A related problem to reuse is copyright, with a solution being presumed in terms of software tools and secure systems. With regard to Web-based course-management systems, the market is growing quickly. Major players have emerged in the commercial market, and they compete with each other via auxiliary services (user support) more than via differentiation of their products. Proprietary approaches are still a major limitation for interoperability, metadata, and reuse of resources. The role of the *bricoleur* who picks and chooses a selection of resources from a database and assembles them into a new course environment is being studied carefully. Will this be the instructor? Or someone in a new sort of professional category?

While there is no doubt that technological change will continue, there are several major trends that are emerging. One is that technology is rapidly changing, but is it moving to a point where it will become too exotic for the average user? Does the average instructor want to plan educational uses of virtual reality rooms or pervasive 3-D settings? Will there be a backlash? The dimension is one of less technology/more technology. A second dimension relates to the vulnerability that comes from depending on a server and system (such as a Web-based course-management system) and network for so many important transactions. The dimension is one of low vs. high technological risk.

### Choosing Dimensions

The summary of the trends analysis given above has been only a brief comment on what is now an explosive growth area: post-secondary education as a vast market, and technology as the lever to open this market. Many different ways could be found to zoom in on key aspects of these developments and emerging contexts. In each of the sets of summaries above, we concluded with an identification of two major dimensions that seem now to be particularly important for the future evolution of post-secondary learning environments. Table 1 summarizes these analyses.

Combining all of these into a final set of two dimensions, the following emerged as most likely to be critical in terms of options for the learning context for higher education in 2005:

**Location:** Local vs. global

**Quality control:** Control the responsibility of the individual or of an expert/institution

The dimension "Location: Local vs. global" relates to the term *place and form of transactions*, which is commonly used in discussions of the *new economy* (Kelly, 1998). Similarly, the dimension "Quality control: Control the responsibility of the individual or of an expert/institution" relates to the idea of *individualization of consumer choice* in new-economy discussions. Thus, the dimensions can also be related to the eventual effect that the new economy in society might have on the educational market (Moonen, 2000a,b; 2001). In the following section, the dimensions are used to identify, first, four profiles, and secondly, two final scenarios for the future.

### Profiles and Scenarios for Flexible Learning

In this section, four profiles based on the key dimensions emerging from the trend analysis are identified and discussed. Following this, the relationships of the profiles to each other and to different types of learners are elaborated. From these relationships, two scenarios for the university in 2005 are presented.

#### From Dimensions to Profiles

Combining the dimensions relating to place and form of transactions (local vs. global) and individualization of consumer choice (consumer choice vs. quality control by an expert institution), four profiles were derived (see Figure 2).

The profiles have been given names as shown in Figure 2 to capture their flavors. These are as follows:

**Profile A. Back to Basics.** What if students still prefer to come to a local institution, to have face-to-face contacts with their fellow students, and to relate to their instructors in familiar and, to their perception, effective ways? *Virtual this and that* are seen as just hype; real learning takes place in a fine campus setting with its library, computer labs, instructors with office hours, students to interact with. What if students still prefer to leave the task of choosing courses and organizing requirements for a degree to the institution? Experts in the institution are in a better position than the student to indicate what courses are useful and the order in which they are taken. How can the student decide this when he or she is just being introduced to the field and doesn't have a basis for these decisions? Technology appears here in sensible ways; using word processors, using e-mail and Web browsers, getting course information via Web environments. Web sites are good for extra-course resources and to make communication

**Table 1.** Summary of major aspects affecting the future evolution of flexible learning in higher education.

Key aspects	Key dimensions	Directions for influence
<b>Social context</b>	Quality control: Individual vs. expert	A. The Internet as an open system; the user takes responsibility B. Intranets or controlled Web sites as closed systems; expert responsibility for quality
	Local vs. Global	A. Personal, local transactions, context specific B. Transactions via the network, context neutral
<b>Primary processes</b>	Local vs. Global	A. Based in home institution B. Can be distributed among many different settings
	Program vs. self-choice	A. Expert determines program B. Learner determines choices
<b>Secondary support</b>	Quality control: Individual vs. expert	A. User takes responsibility for choice and consequences B. Trusted agency or institution provides the services
	Local vs. global	A. Support takes place locally, face-to-face, and in context B. Support takes place via the Internet
<b>Technology</b>	Backlash vs. pervasive	A. Become less dependent on technology B. Become more dependent on technology
	Vulnerability: Local vs. distance	A. If technical problems occur, a local helpdesk B. If technical problems occur, remote or non-available support

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

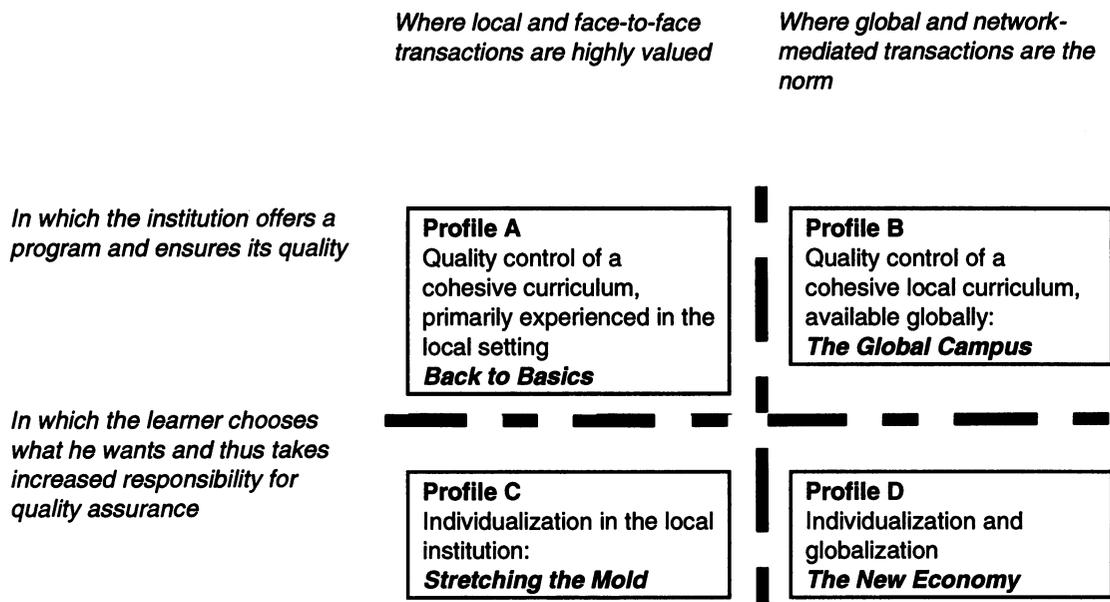


Figure 2. Four profiles for flexible learning in 2005.

easier. But the basics are still what matter: a well planned curriculum and regular face-to-face contacts.

**Profile B. The Global Campus.** What if students want to study in a well-planned program, but they want to stay in their own locations and continue their own lives at the same time as they are studying? Then they are able to participate online in the program of a university, even if they don't physically ever come to that university (or only come once or a few times). Technology here becomes very important. Perhaps the student needed to use technology to find out about the program of the university that she has chosen? Perhaps she needs to use the technology to register for the program? She will certainly need technology for stable access to all the course materials and her assignments. She communicates and interacts primarily via the Web site.

**Profile C. Stretching the Mold.** What if the student has no particular interest in being involved in a program or course at a distance, but would appreciate more flexibility in his local study setting? Perhaps he would like to substitute some courses from outside the home institution for courses in his own program? Or maybe he would appreciate some variety of the types of assignment that he is required to do, or some

flexibility in the resources he reads or the type of didactic approach that he participates in (for example, face-to-face groups vs. individual). For all of these, technology is an important if not essential condition. The institution responds to the learner by increasing its flexibility in a number of ways, not only relating to distance and timing but also to content, assignments, prerequisites, resources, and other aspects of course participation. A Web-based course-management system is currently the most appropriate technology for this flexibility and also in terms of anticipating its further implementation.

**Profile D. The New Economy.** What if the student wishes to make his own decisions about what, when, how, where, and with whom he learns? He perhaps is a working professional, and has a good idea of the types of courses or learning experiences that would be useful to his work setting. He (or his employer) looks to an advisory person (via the Web) to help him better define what he wants, and then when he gets some hints, he goes to the Web site to search for himself (or uses a portal) to locate where, how, and when he can do the sort of learning he wants. He doesn't mind where the course or learning module is coming from; it does matter to him that the learning experience is up-to-date

and directly relevant to his own situation. He can stay near his home and work for at least the majority of his participation. He requires flexibility in terms of time-related commitments as work responsibilities will always take priority over learning-related tasks. It also doesn't matter to him whether it involves an entire curriculum or eventual degree; he knows what he needs to know and doesn't have the time or interest to take a structured set of courses. Often, in addition, he will not want to commit himself to an entire course, but only portions or it. He is a lifelong learner, wanting his learning just-in-time and customized.

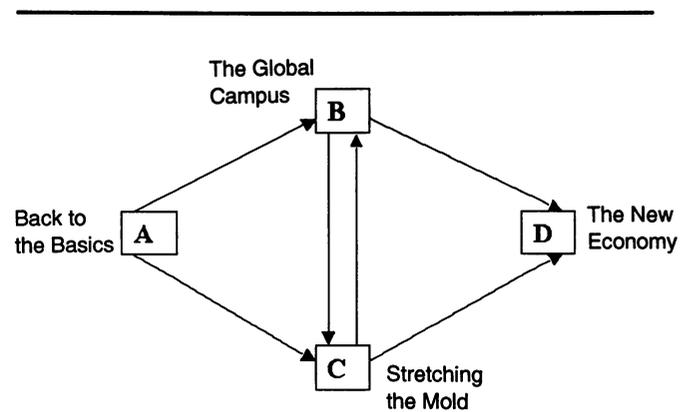
### Relating the Profiles to Each Other

In a series of interviews based on these profiles, it became clear that a single profile would not be present in isolation but instead all four profiles to different extents will be likely to be present and interrelated in 2005. The balance and organizational center will vary from institution to institution. The interrelationships can be expressed in the sense of a migration from one profile to another, where the earlier profiles still remain but in a less-dominant form as the newer profiles begin to get established.

**Profile A** is the current dominant situation for many traditional post-secondary institutions. In the future, **Profile A** may also become a response to a pendulum-swing, away from increased *virtuality* and commercialism in education, and back to what universities are "really about." However, it is also the case that many universities are starting to experiment with distance participation in their established programs. This can lead from **Profile A** to **Profile B**. What if pursuing and serving these off-campus students becomes the dominant mode (as is already happening in several Australian universities) in the institution?

The migration from **Profile A** can also be to **Profile C**, where the latter relates to flexibility extension within the institution: More flexibility within courses and sometimes the opportunity to participate in some courses outside of the institution and outside of the chosen study program can be made available for the student. Many traditional universities are now moving toward some forms of **Profile C**, by offering more flexibility for participation within their pre-set programs.

**Profile B** and **Profile C** are already evolving, in often an overlapping way, for many universities (Collis, 1999; Collis & Gommer, 2001a). At the same time that programs are becoming available to students at a distance, new flexibilities are being integrated into both local and distance courses. The idea of distance is already beginning to fade in meaningfulness, as students make an increasing number of choices about where, when, what, and how to study. The course Web environment is becoming the technology for interaction and communication for much of the learning



**Figure 3.** Evolution toward the new economy in higher education (Roosendaal, cited in Collis & Gommer, 2000b; p. 9).

experience; the core technology. Other communication and interactions experiences that may occur (such as face-to-face contacts) are complementary to this core, and thus differ in their value for different students.

**Profile D** is the most radical; a systematic example of **Profile D** does not yet seem to be available in most traditional universities. It is most likely to be a migration from **Profile C**. **Profile D** is particularly relevant to learners who are in a work situation in which tailoring learning to their own contexts is essential. This tailoring will frequently be done by the employer for some number of his employees. As more and more flexibility is offered to the learner or made available on demand or negotiation in terms of choices in content, sequences, types of learning experiences, and original of courses or modules, the migration from **Profile C** to **Profile D** will occur. However, it will be difficult to scale up the sorts of organizational arrangements that are likely to characterize **Profile C** and **Profile D** developments unless institutional change occurs. The migration from **Profile A** to **B** and **C** can occur as an evolution within existing institution structures, but the Migration to **Profile D** will at some point require a deep change in organizational procedures.

Figure 3 represents the progression toward a new economy in education in terms of the four profiles.

### Relating Types of Learners and Profiles

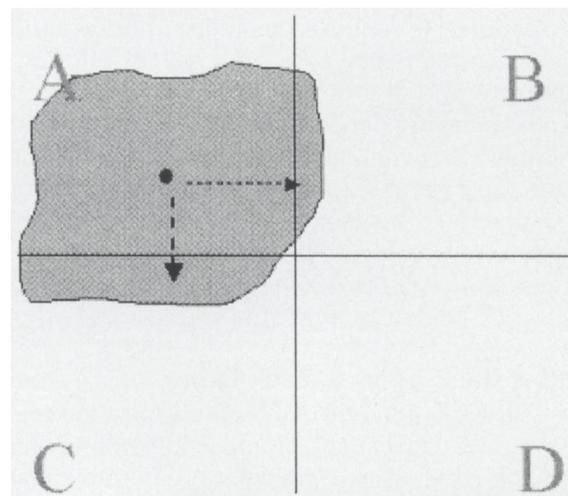
In the interviews for the study, in which respondents reacted to the implications of the profiles in 2005, it became clear that the desirability of individual profiles depends on the type of student involved. It may be that at the same time as **Profile D** the *New Economy* evolves as an extension of *The Global Campus* and

**Stretching the Mold** for some learners, an institution may be supporting different blends of the profiles for other types of learners. In this section, different balances among the profiles are shown that may all be present at the same institution, to cater to three different categories of learners.

The first type of learner we define as the **Entry-level learner**: These entry-level learners can be characterized as learners who probably do not have much professional experience and/or also lack the experience to self-select and self-motivate their learning situations. They need and want a well-planned curriculum and clear expectations as to what and how to learn and what is expected of them. They expect these decisions to have been made for them by the experts within the institution. Also, because of their lack of experience as learners, they appreciate regular face-to-face sessions and guidance. Examples of such learners could be first-year students who come directly from secondary school or international students enrolling in a Masters program for which they have limited backgrounds. This does not mean, however, that these learners do not appreciate some flexibility. Although most of their needs fit into Profile A, they will also probably call for some possibilities for choice within their fixed curriculum and some possibilities for more flexibility of time, place, resources, institutional approaches, assignments, etc., by taking some of their courses online. Figure 4 shows the blend of profiles an institution could offer to support entry-level learners, expressed in terms of the four profiles.

The second type of learner is the **Transitional-level learner**: As learners get more experienced, such as during the latter period of their bachelors' phases, the emphasis of their needs moves more and more to Profile C. Students still appreciate a planned program, but as they get more experienced, the need for more flexibility within a planned program increases. Also, the need for face-to-face guidance decreases, as students gain more capacity for self-guidance, and students can take a larger part of their curriculum online. A small part of their curriculum (perhaps as a component of a local course) may actually be done according to Profile D. Figure 5 shows the blend of profiles an institution could offer to support transitional-level learners.

The third type of learner is the **professional-level learner**: These learners are more mature and can relate their learning to professional and life experiences. This group, which can, for example, consist of Masters students with work affiliations in the areas in which they are studying, postgraduates, and lifelong learners, is more experienced in learning and has to divide its time between learning and other activities, such as work, family, and professional commitments. These learners have a need to select their own curriculum, according to their specific interests or needs. Also, professional-level learners need a high level of



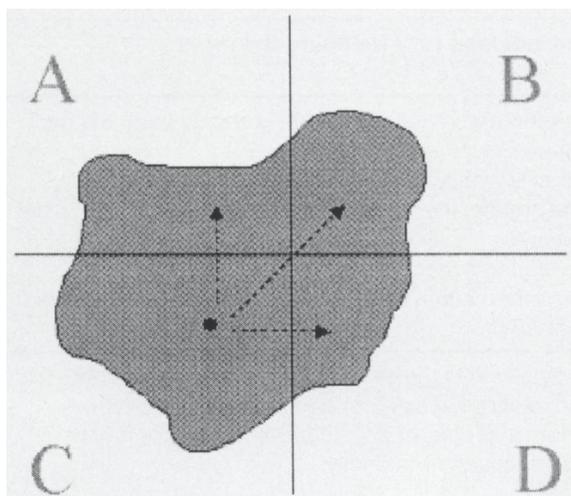
**Figure 4.** Profile blend for entry-level learners.

flexibility of time, space, content, types of study materials and assignments. For this group, the emphasis shifts from Profile C to D. Figure 6 shows this situation.

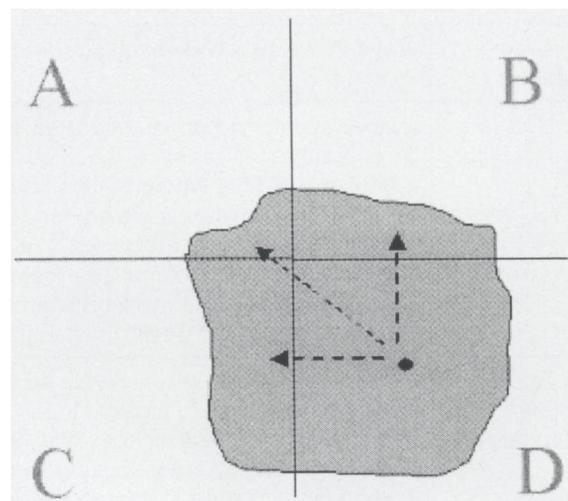
#### **From Learners and Profile Blends to Scenarios**

Each institution should develop a strategic plan relating to the relative importance to the institution of these three types of learners in the post 2005 period. In many countries, higher-education has been traditionally oriented around the entry-level learner evolving to an transitional level while within the system. "International Masters" programs have been emerging as service to transitional learners (although some require entry-level support), and as undergraduate education becomes more and more flexible, the organizational door will be opened to more Profile A, B, and C blends. In several other countries, such as Canada and Australia, the orientation of the system has already shifted to an equal or even predominant focus on transitional or experienced learners. Many of the "elite universities" in the United States and Australia make their reputations based on their "graduate schools," representing their focuses on experienced learners. In these countries, among others, the predominant profile blend is already a mixture of A, B and C.

If Profile D occurs, it is via individual contracts between a fee-paying client (an employer for some group of employees), usually negotiated by an office with a name such as *Continuing Education*. These



**Figure 5.** Profile blend for learner in transition between entry level and professional level.



**Figure 6.** Profile blend for experienced or professional learners.

activities are generally not seen as part of the general organizational or financial streams of the institution, but are periphery activities. They are not represented in its mainstream organizational and budgetary procedures.

While the blend of profiles may be moving toward a similar mix in different institutions, there is one important distinction. This is what we can call the *organizational basis* for the profile blends. Is the institution organized around programs and courses which it offers in increasingly flexible ways; or is the institution organized like a library, department store, or cafeteria, in which basic **knowledge units** can be selected, mixed, or matched to the client's needs? We can contrast these as a *program* based approach and a *knowledge-unit* based approach. In a knowledge-unit approach, a client may wish to select a full course or program, but may also wish to order an adaptation of a course or a portion of a course, or even a finer granularity. (Perhaps a one-hour consultation with an expert?)

These two basic organizational bases can be used to define two scenarios for the C@mpus+ 2005 context. The names used for Profiles C and D are also expressive for these scenarios. We call them, thus, the ***Stretching the Mold Scenario*** and the ***New Economy Scenario***.

### Contrasting the Scenarios

#### ***Stretching the Mold Scenario***

The ***Stretching the Mold Scenario*** is relatively easy to picture. The institution continues basically as before, but with more and more flexibility in its regular course offerings. These can include flexibility aspects related to distance, but also a number of other possibilities. Table 2 shows some possibilities. **Profile C** is thus dominant, but some courses will run in a fairly traditional way (**Profile A**) or at a distance but still in a fairly traditional way (**Profile B**). In a few niche situations, examples of **Profile D** may be occurring, for example, for senior students at the ends of their programs.

#### ***The New Economy***

While ***Stretching the Mold*** is already underway, the ***New Economy*** moves to a different level of organization, as well as pedagogy and technology. Table 3 compares the ***Stretching the Mold*** and the ***New Economy Scenarios*** in terms of various aspects particularly important to the learner.

The ***New Economy*** in education has the potential to have the same radical change on formal learning delivery that the ***New Economy*** in society is beginning to have on business practices. Table 4 presents expectations for a new economy in higher education.

**Table 2.** Increasing the flexibility of traditional courses using Web functionalities (Collis, 1999).

<b>Course category</b>	<b>Ways in which a Web-based course-support site can lead to “stretching the mold”</b>
1. <i>Course organization</i>	<ul style="list-style-type: none"> <li>-All course information, and updates, need only to be entered once in the site; students learn to check the site rather than come to ask procedural questions.</li> <li>-Overviews of what students have handed in are directly available via the site.</li> <li>-All student submissions are grouped together at the course site, not as individual pieces of mail in the instructor’s e-mail; all feedback is available from the same location to the students.</li> <li>-If the system is so designed, the instructor and the students can access the site from any location where there is Internet availability, and check course information, upload and download assignments, send messages, and do all other course-related activities.</li> </ul>
2. <i>Lectures, contact sessions</i>	<ul style="list-style-type: none"> <li>-Lecture notes and demonstration materials are all available in the course site; students do not have to be given handouts and absent students do not need to come to ask for handouts later</li> <li>-Have fewer traditional lectures and introduce new forms of contact sessions whose results can be studied by those who were not participating in the contact session directly</li> <li>-Extend the lectures and contact sessions so that:               <ol style="list-style-type: none"> <li>a. the most relevant points are expressed in notes available via the Web site</li> <li>b. particularly important comments by the instructor are captured as digital audio and/or video and linked to the course Web site for later study</li> <li>c. Students who were not at the session can review the instructor’s notes, listen to or see the instructor explaining particular points (via streaming audio and video synchronized to the text notes), and can review the materials created and posted by the students who were present at the sessions. They can choose to review the lecture via a full multimedia linear presentation, or an audio only presentation, or a presentation involving only the sheets that were used, moved through at a pace and in an order desired by the student.</li> <li>d. The Web and its communication tools allow students to enter their reflections about the lecture from wherever they have network access, at whatever time they wish. The instructor can similarly prepare and send his comments at his own time and place. Students can read his comments via their e-mail or the Web site at times and places convenient to them.</li> </ol> </li> </ul>
3. <i>Self-study, exercises</i>	<ul style="list-style-type: none"> <li>-If the system is so designed, the instructor and students can add additional study materials to the course site without photocopying, simply by uploading.</li> <li>-If the system is so designed, the instructor can access the site from any location where there is an Internet access, and check the assignments that students have submitted, look at them directly from the site, give feedback, and record marks; all in the same location.</li> <li>-The system can provide the option of studying materials in a variety of media, of varying the number of practice exercises, of choosing from different sorts of activities, each of which is available via the Web site, or offer different activities to different groups of students (if appropriately designed, the Web site can be set up so that each group only sees the materials and instructions appropriate for them).</li> <li>-For some sorts of practical or laboratory sessions, the system can provide students with licensed versions of the software used in the sessions for their own use at home or work.</li> <li>-For activities not possible to handle away from the campus, use some time during the common periods when all students do come together for these.</li> </ul>
4. <i>Major assignment</i>	<ul style="list-style-type: none"> <li>-Detailed information about expectations for the major assignment can be provided, as well as links to examples of student work from previous years (if the system is so designed), which can save many questions from students.</li> <li>-If the system is so designed, the instructor can access the site from any location where there is an Internet access, and check the assignments that students have submitted, look at them directly from the site, give feedback, and record marks; all in the same location.</li> <li>-Shared workspace tools along with other communication and reporting tools in the Web site allow group members to work collaboratively on complex projects without needing to be physically together.</li> <li>-Students in different locations who wish to meet and discuss can use real-time communication tools via the Web.</li> </ul>

**Table 2.** Increasing the flexibility of traditional courses using Web functionalities (Collis, 1999) (cont'd.).

Course category	Ways in which a Web-based course-support site can lead to “stretching the mold”
5. <i>Testing</i>	<ul style="list-style-type: none"> <li>-Frequently asked questions and sample questions from previous years can be available via the site, saving many student contacts.</li> <li>-Test items can be made accessible via the Web site at a certain time, under secure conditions, so that students can take a test without being in the physical testing location.</li> <li>-Feedback from the instructor can come quickly and in a targeted manner, without the student needing to wait to see the instructor face to face.</li> </ul>
6. <i>Mentoring, communication not specific to #1–5</i>	<ul style="list-style-type: none"> <li>-All e-mails are handy to access in the course site, including collection e-mail addresses for groups of students.</li> <li>-The instructor can contact students whenever he wishes and answer questions from the students at his convenience; can save previous communication with students for reference; can forward the same message to other students; can contact the students when he is out of town.</li> <li>-Groups of students, or individuals, can be easily contacted via e-mail, or, if appropriate technology is available, by desktop conferencing (audio, video, application sharing); social interaction between students is stimulated; students should be able to choose which forms of communication are best for them.</li> </ul>

### Conclusions

Where might we be in terms of our post-secondary institutions in 2005? The *Stretching the Mold* and *New Economy* scenarios present two overlapping but also different alternatives. Table 4 gives some sense of the differences in the implications of the alternatives for one group of key players: the learners. Similar analyses can be made of implications for the instructors, for those who support instructors and course design, and for technology (Collis & Moonen, 2001, Chapter 9). The technology implications will be a main focus of the second installment of this two-part series (to appear in the following issue). Also in the second installment, there will be a focus on strategy: How does an institution get from where it is at now to one of these scenarios? What are key decision points? What happens if an institution makes little direct intervention towards one of the scenarios but just lets things evolve? How far along might it be in 2005? □

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**Table 3.** The learner perspective for the *Stretching the Mold* and *New Economy* scenarios.

<b>Learner activity</b>	<b><i>Stretching the Mold</i> scenario</b>	<b><i>New Economy</i> scenario: Same as <i>Stretching the Mold</i>, but also:</b>
<i>Makes initial choice</i>	Chooses an institution and program, some variation of choice within program.	Chooses program, course, module, other knowledge unit; may pick and mix among institutions.
<i>Requests tailoring within the initial choice</i>	Requests, to the extent allowed by the institution, variations in program requirements. Requests flexibility within a course (to the extent the institution allows and the instructor agrees).	Client or employer on behalf of group of clients requests options within a module or other knowledge unit (to the extent the institution allows and the instructor agrees). Via "Beads and String" approach (Stephenson, 2000) mentor, learner or instructor may string together different knowledge units, even from different institutions, to suit the learner's needs.
<i>Manages the costs</i>	Generally pays a fixed fee per full-time enrollment, to the home institution; (fee generally paid by government or employer, or in many non-European countries, paid by the learner).	Pays by knowledge unit or negotiated mix, with vouchers or personally or via employer.
<i>Expects accreditation</i>	Earns accreditation by following the structure of the home institution (a pre-set number of credit units or study points needed to receive degree. Some flexibility allowed by the home institution).	May not be oriented toward a pre-specified degree, but rather just-in-time learning; validation of the learning comes from being able to use it in one's problem setting. May negotiate for degree-level or certificate-oriented recognition of accumulated competencies. May shop around via the Internet until finding a base institution that will be flexible enough to meet learner's needs with respect to accreditation.
<i>Learns via some sort of instructional pattern</i>	Accepts the pattern organized around the schedule of the institution (lectures and examinations on certain days set by the institution) although occasionally requests exceptions to this pattern; Accepts the instructional approach used within the course, which is generally determined by the instructor.	Chooses either a pre-set instructional pattern or selects a combination of knowledge units from a combination of institutions and brokers to fit his or her wishes about instructional approach (i.e., may prefer problem-oriented learning, so shops around until he or she finds a problem-learning approach for the content he or she desires).
<i>Expects the institution and instructor to offer:</i>	Flexibility, support within the course, can involve re-usable knowledge objects.	Re-usable knowledge objects and tools to "string" the knowledge objects together.

**Table 4.** Expectations for the new economy in higher education (Collis & Moonen, 2001; Moonen, 2000a).

<b>Aspects of the <i>New Economy</i> (Kelly, 1998)</b>	<b>Implications for higher education</b>
<i>Global</i>	International orientation will grow; students will be from, or even still living in, many different regions and countries. There is global reach, and global competition.
<i>Ubiquitous electronic networks</i>	Electronic networks are ubiquitous, even to support face-to-face contacts.
<i>Knowledge on demand</i>	The textbook, instructor, and library are becoming supplementary forms of information, not as up-to-date and easy to access as that on the Web. Knowledge overflow, re-use, and re-combinations are the problems.
<i>Technology changes market players and opportunities</i>	New services and new sources of courses and other types of learning experiences are available via the Web.
<i>New roles for the middleman</i>	Instructors, librarians, even institutions are becoming middlemen. Consumers (students) can go directly to sources of knowledge; instructors are becoming facilitators of circumstances for student learning and participation, not supplying the information, but setting up situations in which the student can find and assimilate information himself or herself. New middlemen are appearing both in and outside the university to offer services of various sorts.
<i>Consumer demand</i>	Customers will demand tailoring of lessons and courses to their own circumstances and will easily “click and switch” around alternatives. Consumer loyalty to an institution will fade.
<i>Efficiency</i>	Efficiency will be sought in various ways, such as eliminating duplicate or costly courses and facilitating students to participate in similar courses offered by other parties. Another layer of efficiency will relate to the processes involved in the learning experience itself.
<i>Winners and losers</i>	At the institutional level, there will be a relatively few market winners (although translating this into financial profit for the institution will be not so easily seen), and a larger number of institutions that must adapt in new ways, such as fusions and consortia, in order to survive. Investors seeking short-term windfall profits will be likely to crash once the market stabilizes.
<i>Producers of traditional resources (textbooks, media, laboratory products, etc.)</i>	Producers of traditional resources will have to reposition their resources as products, or redesign them as complementary technologies for on-demand access. New value chains for informational resources will develop.
<i>Accreditation</i>	Governmental or institutional bodies that accredit education will have to relax standards and norms on what is accredited. Society will come to accept new forms of competency-based degree programs. New funding mechanisms will have to develop based on units other than hours of instruction.

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### Appendix: Key literature and sources used in the trends analysis of developments and emerging contexts.

- EDUPAGE, a weekly electronic newsletter produced by EDUCAUSE, summarizing news releases from around the world related to “transforming education through information technologies.” Past issues are available at <http://Web.educase.edu/pub/edupage/edupage.html>
- Other listservs including *The Learning Marketplace* (<http://Web.center.rpi.edu/Lforum/LdfLM.html>) and the *Pew Learning and Technology Program Newsletter* (<http://Web.center.rpi.edu/PewHome.html>)
- Newspaper articles from local, regional, national and international newspapers
- English-language news magazines, including *Time*, *U.S. News and World Report*, and *Newsweek*
- Dutch news and computer magazines
- Web sites from consortia related to “virtual universities.” from commercial and non-commercial educational services, relating to European workshops and taskforces, associated with international conferences relating to higher education, and Web sites of specific universities and consortia. (For one collection of these Web sites, see <http://education2.edte.utwente.nl/ictho.nsf/framesform> )
- Project, advisory, and commission reports (see, in particular: Brockhau, Emrich, & Mei-Pochtler, 2000; Collis & van der Wende, 1999; Encarnaçao, Leidhold, & Reuter, 2000)
- Books and journal articles (for example, Ben-Jacob, Levin, & Ben-Jacob, 2000, and Hardin & Ziebarth, 2000)

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