

The Law of the Virtual Campus

The Three Dimensions of Virtuality

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The adjective “virtual” is much used today. Describing the role of the Internet in education and training, for example, we often speak of virtual campuses, virtual courses, virtual discussions, virtual lectures, virtual libraries, and so on—but without a common definition for “virtual.” We do no better with phrases such as “distance learning,” “distributed learning,” and “e-learning.” Rest easy, for I have no intention of splitting technical hairs to define all of these concepts. But I will offer an analysis that might be useful to those who are grappling with the role of the Internet in education and training—and in other service endeavors as well. The primary focus will be on the concept of “virtuality.”

I will argue that virtuality has both a two-dimensional technology component and a business-model dimension of leverage. Specifically, I will argue that:

- Today’s most virtual of technologies are those *asynchronous* technologies easily accessible through a Web browser. They are most virtual because they enable the development of anyplace-anytime services—virtual services. Indeed, these virtual (anyplace-anytime) technologies not only can be the technical foundation for anyplace-anytime services, but they also can be used to enhance services that are delivered under more traditional place-time constraints. The accompanying analysis of the role of place and time in an educational context should shed light on concepts such as “distance learning” and “distributed learning.”
- Today’s most virtual of business models are those employed by organizations that leverage other, external organizations’ technology investments and service expertise. The purpose is to minimize the internal need for investments in technology and the internal need to hire, develop, and/or maintain a staff to provide services that enable and support the organization’s own essential core service(s)—its reason for existing. For example, many organizations are turning to “application service providers” to host and support mission-critical software applications such as a human resources system or an instructional management system. These externally acquired services might extend beyond the purely technical to include, for example, instructional design services to add value to a hosted instructional management system. In any case, this dimension of virtuality has its origins in the work of Nobel Laureate Ronald Coase, and it can be as essential to a successful virtual service offering as is virtual technology.

In an educational context, then, the technologies of virtuality can be used to enhance traditional educational delivery models or to enable virtual (anyplace-anytime) educational delivery models—anyplace-anytime courses, anyplace-anytime campuses, etc. Among other factors, it is the application of the technologies of virtuality to educational delivery models highly differentiated by their place-time characteristics that lead to so many different interpretations of concepts such as “distance learning,” “distributed learning, and “e-learning”—and to so much confusion. But there is also a business dimension to be considered. For example, virtual campuses in the educational delivery sense of virtual—anyplace-anytime delivery—may not be very competitive unless they are based on business models that exhibit a considerable degree of virtuality by being highly leveraged.

A key purpose of the discussion that follows is to help organizations see the need to develop an *enterprise strategy for virtuality* that strikes the right balance between virtual and traditional business models, and, in its use of virtual technologies, strikes the right balance between offering virtual curricula and enhancing traditionally delivered curricula. Indeed, every organization that is in the higher education market to provide educational opportunities should have an enterprise strategy, including a sound business strategy, for using the online learning and service environments enabled by virtual Internet technologies. Such a strategy should account for market forces and competition, as well as organizational purpose and culture.

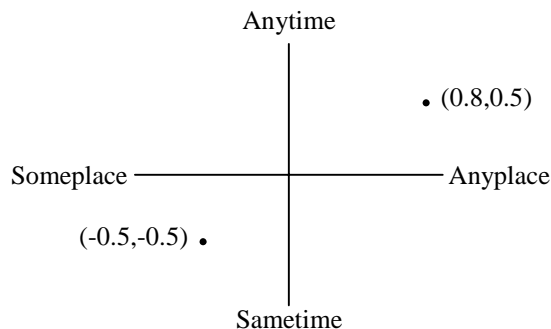
The Two Obvious Dimensions of Virtuality: Place and Time

The two most obvious and most frequently used attributes for describing virtuality are place and time. It is a simple matter to differentiate various technologies or combinations of technology by their place-time characteristics. It is more edifying, however, to think of these place-time characteristics in terms of the services they enable. Since our primary focus in this article is on education and training, for which the course is a common service currency, I'll illustrate the place-time taxonomy by applying it to courses.

Some courses require students to be available at specific, scheduled times to interact with an instructor and/or each other. That interaction might be managed by an instructor, for example, in a single face-to-face classroom, across multiple classrooms linked by an interactive video network or other technology, or across multiple PCs linked by a chat room on the Internet. Such courses might be called *sametime* courses, in contrast to *anytime* courses, which have no requirement for sametime interaction among participants. And since courses can have both sametime and anytime components, we can use a time continuum from -1 (sametime) to 1 (anytime) in considering the time characteristics of a course—or any service or technology.

Similarly, we can introduce another dimension to this analysis by referring to a course that requires participants to conduct selected course activities in a particular location or particular locations as a *someplace* course. Examples of such a location or locations include a classroom, a computer lab, and a collection of classrooms interconnected by interactive video. At the other extreme of this dimension of place is the *anyplace* course. The provider of any anyplace course neither requires nor provides the use of a particular facility or particular facilities to access instruction. Instead, the provider places the responsibility for access to instruction on participants in the form, for example, of personal access to a PC, an Internet-connected PC, a book, a TV channel, or a videotape player. Again we can use a continuum from -1 (someplace) to 1 (anyplace) when considering the place characteristics of a course, other service, or technology.

These dimensions of place and time give rise to a taxonomy suggested by the traditional two-dimensional coordinate system. By using familiar mathematical conventions and letting each axis represent a continuous interval $[-1,1]$, we can locate a particular course on our place-time coordinate system as an ordered pair of numbers. For example, a course conducted as an anyplace-anytime course on the Web with the exception of weekly sametime Web-based chat sessions and a final exam requiring proctoring at a prearranged time in one of several prearranged places might be located at $(0.8,0.5)$. Similarly, a classroom-based course that requires participation in a Web-based asynchronous threaded discussion (an anyplace-anytime discussion for students who have personal access to a PC and a someplace-anytime discussion for students who must use a public PC lab on a campus) might be located at $(-0.5,-0.5)$. The closer a course is to $(1,1)$ in this two-dimensional rectangular continuum, the more virtual it might be considered. The following graphic should help the reader visualize these ideas.



The Place-Time Coordinate System

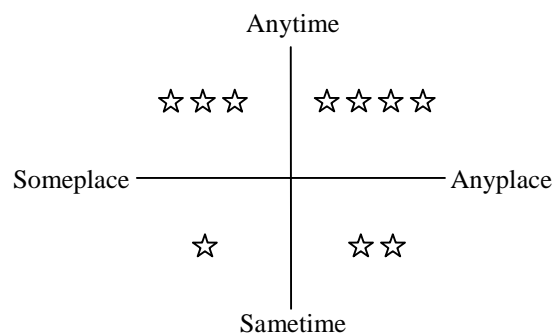
But let's not get too mathematical! My overall purpose is only slightly mathematical: to note that technology itself and the use of technology in instruction—and in the provision of other services—is better described via a two-dimensional place-time continuum than via a one dimensional technology continuum ranging from no technology to entirely technology-based. One-dimensional oversimplification accounts for much of the confusion that surrounds phrases like “distance education.” For example, it is an easy exercise to conceive of four distance courses with one falling in each of the different place-time quadrants. In other words, a distance course might be a someplace-sametime course, a someplace-anytime course, an anyplace-sametime course, or an anyplace-anytime course. To make the exercise only slightly more difficult, describe a distance course in each of the four place-time quadrants assuming that the only technologies used are Web technologies.

Even the non-mathematically minded reader might be willing to assess the characteristics of a particular course and then label the course accordingly as dominantly someplace-sametime, someplace-anytime, anyplace-sametime, or anyplace-anytime. (On our mathematical coordinate system, these labels would map to (-1,-1), (-1,1), (1,-1), (1,1), respectively.) In this schema, a definition of “virtual” service is replaced by the idea that any service that is delivered dominantly in an anyplace-anytime modality (upper right quadrant) is the most virtual kind of service, whether that service is instruction or some other service—a database service, a news service, an advice-to-the-lovelorn service, etc. Similarly, the asynchronous Internet technologies accessible through a Web browser (upper right quadrant technologies) are the most virtual of today's technologies. In this context, the someplace-sametime technologies of interactive video are not nearly as virtual as the anyplace-anytime (asynchronous) technologies of the Web. We should keep in mind the difference between a virtual service (usually a Web-based service in today's parlance) and a non-virtual service that is enhanced by virtual technologies (usually a Web-enhanced service).

Ranking the Virtuality of Technologies

We have seen that technologies can be differentiated by their place-time characteristics. One way to differentiate the value of technologies on a place-time basis is to assign comparative value to services that have the same place-time characteristic as the dominant technologies that enable those services—the comparison being with the same services offered in different place-time modalities. That's why browser-accessible, anyplace-anytime (asynchronous) technologies are not only today's most virtual technologies, but also arguably

among today's most useful or valuable technologies, whether used to create virtual services or to enhance traditionally delivered services. But the assignment of value depends on perspective, and perspective is often determined by concepts such as convenience, affordability, return on investment, etc. Convenience, in particular, provides a value perspective from which upper right quadrant virtual technologies are likely to be assigned high value (because upper right quadrant virtual services are likely to be assigned high value.) But even from the perspective of convenience, different observers might assign different rankings to a particular place-time service configuration. For example, from the perspective of convenience, many students are likely to assign high value to anyplace-anytime instruction, while many instructors and administrators at traditional colleges might not be so generous because change is inconvenient and often comes at the inconvenience of considerable individual or institutional expense. Nevertheless, we can in many contexts differentiate the general value of various technologies according to the value of the place-time characteristics of the services they enable. Taking the four-star approach to differentiation, I arrive at the generalized rankings depicted in the next graphic.



Generalized Place-Time Rankings of Technologies

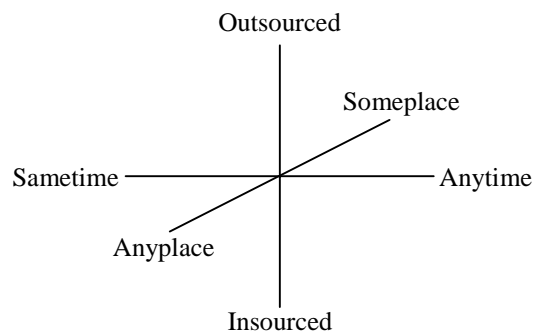
The above rankings, in my opinion, would reflect the way that many service receivers would rank services in a myriad of different contexts in which browser-accessible, anyplace-anytime services are available in competition with more traditional place-time service configurations. That's why the Internet revolution is so powerful. The reader might take issue with this generalization, and that's another part of the point. Indeed, there are two summary points:

1. The place-time characteristics of various technologies are differentiating, and one way to place value on such technologies is to assign value to services that fall into the same place-time quadrant as their underlying enabling technologies. The convenience value, for example, of a myriad of anyplace-anytime services is typically quite high from a service receiver's perspective—the convenience of anyplace-anytime instruction, the convenience of anyplace-anytime access to information resources, the convenience of anyplace-anytime communication with others, etc.
2. The second point is that placing value on a service, such as the convenience value of anyplace-anytime instruction, requires a vantage point. In particular, a service receiver and a service provider may tend to disagree on the assignment of value. In open-market terms, this is the inherent tension between buyers and sellers. The Internet provides new options to buyers (service receivers) precisely because it presents new opportunities to provide service. The Internet is opening the education market and creating an increasingly competitive educational landscape.

Indeed, the Internet is increasing competition in many markets in which services can be delivered in anyplace-anytime mode. Not only are new delivery models possible, but there are a growing number of business models on which to base these new service delivery models. This idea leads to the little understood third dimension of virtuality.

The Third Dimension of Virtuality: Leverage

At the expense of returning to a mathematical analysis, I suggest that there is a third dimension of virtuality independent of place and time in the development and delivery of services that take advantage of technology. That dimension reflects the degree to which an organization operating in a service market, such as the market for accredited educational programs, internally develops and delivers all the products and services necessary to the provision of its core service(s) to its clients. We can use a three-dimensional continuum (essentially a cube) to include this dimension of leverage in our depiction of the dimensions of virtuality, with significant insourcing at one extreme of the leverage scale (-1) and significant outsourcing at the other (+1). In this graphic, the most virtual octant is the front upper right octant—the anyplace-anytime-outsourced octant.



The Place-Time-Leverage Coordinate System

We turn to the concept of “retail sales” for a first pass at understanding the dimension of leverage. The purpose of the typical retail organization is to sell and deliver a product or products to consumers at a profit level that generates a satisfactory return on investment for its investors. The Internet lowers the barrier to entering the retail market by enabling an anyplace-anytime retail model to be constructed on the leverage of other organizations’ investments in infrastructure, Internet applications, vertical application expertise, application and systems integration, technical support, manufacturing, inventory, and distribution—and consumers’ investments in Internet-connected PCs and other devices. The degree to which a retail organization practices the anyplace-anytime sales model and the degree to which it outsources rather than insources is the degree to which it is a virtual retailer. An anyplace-anytime sales model can give the retailer a convenient and valued virtual sales face to the consumer, while a business model that relies significantly on outsourcing can be a virtual (highly leveraged) business model that will lower the barrier to entering the market. Some familiar examples will help.

A traditional retailer sells directly to the public in a store or stores, while typically outsourcing the production of the products it sells from a variety of manufacturers or distributors. But there are many non-traditional variations on the retail store, such as the factory outlet store, the catalog retailer with inventory (L.L. Bean,

for example), the e-tailer with inventory (Amazon.com, for example), the retail broker with no inventory (most airlines' retail catalogs are aggregations of offerings from other catalog retailers such as Sharper Image), the public flea market (E-Bay), the public bidding broker (Priceline.com), etc. Only in the example of the single-brand factory store, whether operated toward the non-virtual or toward the virtual in the place-time rectangle, does the retail organization produce the product it sells. Even then, many factory stores are franchise-like operations in which a manufacturer outsources some significant part of its retail operation to other companies. In any case, readers should have no trouble reflecting on the three dimensions of virtuality with these examples and others of their own.

The Clicks and Mortar Challenge. Hybrid models of retailing have been around for a long time and are expanding today through the application of Internet technologies. For example, we can now shop at www.sears.com, in a new anyplace-anytime mode that many consumers find more convenient than the older anyplace-anytime Sears catalog—or than either the large-city Sears retail store with extensive inventory or the small-town Sears catalog store with little inventory. A key point, however, is that anyplace-anytime catalog retailing does not have the potential leverage of anyplace-anytime Web retailing with its nearly frictionless and low-cost capacity for reaching a mass audience, for conducting financial transactions, and for exchanging and updating information—its capacity for e-commerce. And there is the possibility of outsourcing e-commerce infrastructure, rather than insourcing it, in order to gain agility and efficiency. In any case, Sears is today dominantly a non-virtual retailer, one that faces the tough decision of finding the right balance point for its future sales and business models on the three-dimensional virtuality/non-virtuality continuum. Which of its traditional business models should Sears retain, and how should those models be strengthened through anyplace-anytime technologies and outsourcing strategies? To what extent should Sears abandon its traditional business models in favor of www.sears.com, and to what extent should Sears outsource the e-commerce and customer service infrastructure of www.sears.com? Sears needs, and may have, what many analysts are calling a “clicks-and-mortar strategy”—a catchier phrase than the phrase “enterprise strategy for virtuality” coined in the introductory section of this paper, but certainly a related idea.

Sears is a mass-market brand name. Neiman Marcus is an upscale brand name that also must be facing many of the same issues that Sears faces, but in the narrower context of selling mostly clothing and fashion and home accessories. Sears and Neiman Marcus are but two among thousands of retail organizations with impressive business histories that now face the challenge of competing in the emerging Internet economy. In establishing their brand names and market niches, retailers typically emphasize some combination of competitive advantages. Possible competitive advantages traditionally have included, for example, the quality of customer service, the quality of the products offered to the consumer, the quantity of products offered to the consumer, the competitive prices offered to the consumer, the convenience to the consumer of retail locations, and the convenience to the consumer of the schedule of operating hours.

The Internet enables not only new variations on traditional competitive advantages, but also a whole new set of possible competitive advantages based on anyplace-anytime sales and service models and highly leveraged business models. The Internet therefore enables new competitors to enter the retail market considerably unencumbered by the front-loaded investments in capital and human assets required by traditional retail business models. This is the challenge to retailers posed by the e-tailing “navigational” services described in “Getting Real About Virtual Commerce” (Philip Evans and Thomas S. Wurster, *Harvard Business Review*, Vol. 77, No. 6, Nov.-Dec. 1999, 84-94). The Internet can give consumers control of the process of navigating the full range of choices available to them, a process heretofore controlled primarily by retailers and thus serving as friction in the consumer's access to available choices. Evans and Wurster argue that “navigation is

the battlefield on which competitive advantage will be won or lost.” They describe the three dimensions of navigational advantage as:

- *Reach*: access and connection
- *Richness*: the depth and detail of information given to or collected from the consumer
- *Affiliation*: whose interest the navigator represents—traditionally the retailer’s, increasingly the consumer’s

The Internet is also having an impact in the market for products and services that are sold to organizations rather than to consumers—the business-to-business market, for example. And a similar story is unfolding in the education market as traditional educational institutions examine new opportunities to deploy anyplace-anytime technologies and outsourced infrastructure and expertise to strengthen traditional someplace-sametime instructional programs and student services and/or to offer new anyplace-anytime instructional programs and student services.

These developments come as no surprise to those who know the work of Professor Ronald Coase, whose Nobel Prize in economics is based substantially on his observation dating to the 1930s that companies exist to reduce transaction costs between buyers and sellers—or in the words of Thomas Petzinger, Jr. in a preface to his interview of Coase reported in the *Wall Street Journal* of January 1, 2000, “to eliminate transaction costs between entrepreneurs.”

In their book, *Unleashing the Killer App* (Harvard Business School Press, Boston, 1998), Larry Downes and Chunka Mui formulate Coase’s work in the context of Internet-enabled change as the “Law of Diminishing Firms.” They observe that the Internet makes it possible to lower many transaction costs and to reduce the inconveniences and distracting friction involved in many transactions—often by outsourcing the required infrastructure, expertise, and services. The result is:

The Law of Diminishing Firms. The size (not the profits) of many companies will diminish as they adjust their business models to become more virtual through the leverage of business partners (outsourcing). Meanwhile, start-up companies are entering the market with highly leveraged business models that are inherently virtual—in analogy with the navigational services described by Evans and Wurster.

In the aforementioned interview, Coase explained the phenomenon and its paradoxical nature thusly:

“... with the development of new means of communication, it is possible for people to get information much more easily. It is much easier, therefore, for people to contract out and obtain supplies from other firms, which suggests that firms are going to get smaller. On the other hand, one of the things that limited a firm’s growth in the past was doing many things for which it was ill-equipped. Now, by contracting out, it can expand its core business without taking on additional tasks related to the expansion. So the ease of contracting out tends to make it possible to have many small businesses. And the existence of the many small businesses enables some firms to get bigger.”

So the idea that firms will diminish in size somewhat misrepresents Coase’s core idea translated to the Internet economy. But we can expect to see successful firms decrease the costs of their overhead (transaction) services, not only through traditional mergers and acquisitions strategies, but also through outsourcing strategies that take advantage of new Internet services. The key imperatives for success are agility (time to market) and efficiency, not size.

With leverage as the third dimension of virtuality, we can now return to our original educational context.

The Law of the Virtual Campus

In the context of higher education, the Law of Diminishing Firms in its most comprehensive expression of virtuality might be called “The Law of the Virtual Campus.”

The Law of the Virtual Campus. Many of the educational goals associated with traditional campuses can be achieved by agile organizations with business models that are highly leveraged through outsourcing from partner institutions and companies and that are designed to connect students to learning opportunities dominantly in anyplace-anytime mode.

This conception of virtual campus lies in the upper front right octant of our three-dimensional place-time-leverage continuum depicted in the preceding graphic. For example, in terms of convenience to the student, this is one of two “sweet spots”—the two anyplace-anytime octants. The difference between the upper front right octant and the lower front right octant lies in the competitiveness of their attendant business frameworks. The agility and efficiency enabled by selective outsourcing partnerships (upper front right octant) can translate into a competitive advantage in the virtual-campus market comprised primarily of adult students and corporations, whether in terms of price as a function of cost or of student centrality.

In the competitive terms introduced by Evans and Wurster, there are student-centric virtual campuses that compete on the “reach and richness” of information available to prospective students, the “reach and richness” of their student services, and an “affiliation” that tends to favor students over the education providers they are or the education providers they represent. The Kentucky Commonwealth University, Western Governors University, and Rio Salado College are interesting variations on this theme. All are nonprofit and have a “reach” that is regionally mandated, though not regionally constrained. Rio Salado’s reach, for example, extends into the more broadly mandated reach of the Western Governors University—and beyond. The Kentucky Commonwealth Virtual University, unlike Rio Salado and Western Governors, attempts to balance its affiliation with students (student centrality) and its affiliation with the primary providers of its instructional programs—the traditional institutions of higher education in Kentucky. But a virtual campus can also be a pure navigational service competing on national and global reach and a clear affiliation with consumers (students and/or their employers)—rather than an affiliation with the education providers it represents. The for-profit Edupoint.com is such an example.

These examples, each different from the others, will illustrate a few of many possible variations on the (upper front right octant) virtual campus framework.

Kentucky Commonwealth Virtual University (www.kcvu.org). The nonprofit KCVU is designed to increase access to higher education for the benefit of Kentucky’s citizens and economy. KCVU is operated as a service of the Kentucky Council on Postsecondary Education, which coordinates the activities of the state’s public universities and community and technical colleges. KCVU’s instructional model is dominantly anyplace-anytime, and KCVU is highly leveraged. It relies on existing public and private investment in the state’s universities and community and technical colleges for instructors and degree and certificate programs, having neither instructors nor degree and certificate programs of its own. It can draw instructors, curricula, and services from other nonprofit and for-profit organizations as needed. To fulfill its mission, KCVU tends to select and aggregate courses into programs designed to meet the state’s economic development priorities. Beyond the

academic function of sanctioning and offering curricula, its small staff (< 20) is focused on marketing and on assuring the quality of student services from a student-centric perspective. KCVU provides a single point of access to information, admission, registration, and other student-services through a call center accessible via anyplace-anytime Web services and via 1-800 anyplace-sametime services. But for the virtual technology infrastructure that underpins its dominantly anyplace-anytime instructional model, KCVU outsourced (from Eduprise.com) a hosted instructional management system (with 24x7 systems and help-desk support for students and instructors) and, most importantly, the professional expertise required to support participating student-service personnel, instructors, and programs with their professional development and course and service development/migration needs. KCVU also outsourced the implementation (from Cambridge Technology Partners) and operation (from the Kentucky Community and Technical College System) of its own student information system (from PeopleSoft). The result is an enterprise approach in which the student system and the learning system are integrated and accessible to students through a more coherent common interface and set of Web services than would be possible if KCVU had chosen only to aggregate the catalogs of Web-based anyplace-anytime courses from participating institutions, each with its own student system and unconnected instructional management systems in use. In its first semester, KCVU had over 350 course enrollments. As this article is being written, KCVU has over 2,000 course registrations going into its second semester of operation. KCVU is currently supported as a budget item in the state's allocation to the Council on Postsecondary Education, and student admission and course enrollment fees go to the institution that grants admission and the institution offering the course, respectively.

Western Governors University (www.wgu.edu). WGU, unlike KCVU, offers its own degrees and certificates. Its mission is to offer degrees and certificates based on demonstrated competencies in areas of study deemed economically important by the participating western governors. WGU does not require its degree-seeking students to take courses. However, WGU advises students and helps them locate "distance courses" relevant to their goals of competency and offered by a range of educational providers in a variety of distance formats, presumably some instructor led and some not. The latter is a navigational service that strives for reach and richness and that favors affiliation with the potential student. WGU, unlike KCVU, makes no attempt to provide a common instructional management system for those institutions offering courses and programs that relate to WGU's competency-based degrees and certificates. WGU does provide a range of student-centric services through its Web site and 1-800 call center. Recent reports in the Chronicle of Higher Education and other news outlets suggest that WGU has not yet enrolled many students in its degree and certificate programs.

Rio Salado College (www.rio.maricopa.edu). Rio is one of the Maricopa Community Colleges in the Phoenix area. Rio has no campus in the traditional sense. From its creation in 1978, Rio's mission has been to serve the educational needs of adult learners throughout Maricopa County. Rio has responded with a variety of innovative educational offerings, many in the someplace-sametime mode but now an increasing number in the Web-based anyplace-anytime mode. The most unusual feature of Rio's instructor-led anyplace-anytime 14-week courses is that many provide multiple enrollment dates staggered by two weeks, giving a non-traditional meaning to "anytime" that is at variance from the norm in higher education for instructor-led courses. Rio has only a handful of full-time faculty positions, and outsources most of its instructors from the professions and industries representing the employment needs and aspirations of its adult learning community. Rio has not moved away from its other "non-traditional" programs but is aggressively increasing its virtual program to provide increased reach and richness in an affiliation model that clearly favors students. Within the context of the Law of the Virtual Campus, Rio is actively examining its business model and consciously engaging the issues that will determine its future competitiveness.

Is Content Really King?

It is often said that “content is king” in reference to Internet-empowered education and training. This is especially so when a course has no instructor. And there are circumstances in which there may be no need for an instructor. For example, in corporate training or adult education when a course’s audience can be assumed to be well prepared and highly motivated, self study can be a powerful form of anytime learning that is also highly cost effective. But this circumstance is not the rule.

Almost any course, whether virtual or not, can be organized around a textbook or a collection of printed materials that present the subject matter to be studied and mastered—the content. Or, it can instead be organized around digital materials that replace the textbook or other reading materials. These materials might take the simple form of class notes or even more extensive reading materials published to the Web, all still little more than a convenient digital representation of the linearly organized and printed materials that they replace. But, whether in printed or digital formats, class notes and textbooks alone constitute at best only an instructorless course based on self-study materials, which often is not sufficient for a successful learning experience. That’s why the textbook has never been king. That’s why we have instructors who organize and assign self-study materials, facilitate discussion about the materials, and test learners’ assimilation of the materials. In these circumstances, the instructor is more the king than is the content.

On the other hand, content might become king, or at least share the throne with the instructor, in the presence of a significant library of learningware representing a radical departure from traditional textbooks and other printed instructional materials. Learningware is a software application designed to provide opportunities to create knowledge through active decision making on the part of the learner—simulations with parameters under the control of the learner, opportunities to create and/or interpret data, opportunities to react to spoken words or visual cues presented in a multimedia format, etc. There is little learningware available on the open market. The costs associated with the development of learningware designed to be customized by many instructors remain significant. So we should not expect many instructors and their institutions to be in the business of developing and distributing learningware, whether for internal use or external use. That may change, and some instructors may enter the business of developing learningware—probably working outside their institutions with e-learningware companies to distribute learningware via the Web, even to develop Web-native learningware. This would parallel the development and marketing of textbooks.

The nonprofit Instructional Management Systems Global Learning Consortium, Inc. is facilitating the development and promotion of “standards” for the “Internet architecture for learning.” As the IMS standards evolve, the cost of investing in e-learningware can be justified by the large open market enabled by such standards. Only then will virtual content be on a par with virtual discussion, virtual tests, and virtual reference resources.

The point of these remarks on content is to counter the notion that putting up course notes and static, non-interactive course materials on the Web constitutes a virtual course—virtual correspondence course, perhaps, but seldom a complete virtual course. This simple observation should be factored into the development of any enterprise strategy for virtuality.

Edupoint.com (www.edupoint.com). From the web pages of this for-profit company:

“Edupoint.com, a venture-funded company, was formed to create the paradigm shift necessary for continuing education to proliferate. Its new web marketplace, introduced in January 2000, is by far the Internet’s largest, centralized source for continuing education, providing access to more than 1,500,000 courses, certificates, degrees and training programs. The Edupoint.com marketplace represents the first and only effort to aggregate the entire professional and continuing education industry into a single, online location. Not merely a distance learning website, it connects prospective students with more than 3,000 universities, community colleges, distance learning providers and training firms. Now, consumers have an easy, complete and intuitive way to access, research and register for classes that span the entire continuing education spectrum, from individual enrichment courses, to comprehensive programs for executive training, professional certifications, advanced degrees and more. In addition to online resources, Edupoint.com is focused on connecting lifelong learners with the regional, traditional delivery education programs that make up 97 percent of the education market. Surprisingly, this is a market that the online learning services have chosen to ignore. Venture capitalists are paying attention, however and Edupoint.com has already received more than \$4.5 million in financing to pursue its vision. To achieve its goals, the company is establishing a new type of sales channel—one that leverages the influence of its corporate customers—to build stronger ties between the educational community and the fast-growing adult student population. Edupoint.com is building this sales channel using a web alliance strategy that targets Fortune 1000 size firms. These firms are making Edupoint.com a required part of their professional development programs, providing easy employee access to the portal via their Intranets. With many key Fortune 1000 customers already in place, Edupoint.com is now commanding a very viable revenue stream through this unique channel sales strategy. Edupoint.com’s efficient harvesting of program descriptions from education providers’ websites enabled the company to be the first to aggregate the entire continuing education industry. This has made it possible for Edupoint.com to catapult the size of its learning provider database to the point that any potential competitors face a formidable barrier to market entry.”

It’s interesting that some of the most visible examples of for-profit institutions of higher education are not virtual campus constructs. They are operating primarily in the two upper and lower, back, left octants of the place-time-leverage coordinate system. Nevertheless, the Law of Diminishing Firms partially explains the success of for-profit institutions such as the American Schools of Professional Psychology (Argosy Institute), the DeVry Institutes (DeVry, Inc.), and the University of Phoenix (Apollo Group). The internal overhead (transaction) services of these for-profit institutions are lean compared to those of most traditional colleges and universities. They often outsource instructors from the professions and industries they serve. Their for-profit focus is on market needs and customer service and satisfaction, not on assets and services that might easily and fatally become concrete swimming fins as competitors attuned to more effective and efficient open market alternatives enter the market. Some for-profit educational organizations are beginning to gain additional leverage in their business models by incorporating Internet-enabled anyplace-anytime models of instruction and student services. For example, the American Schools of Professional Psychology, is outsourcing the required infrastructure, software platform, hosting service, related technical services, and some portion of the necessary expert curriculum and faculty development services—from Eduprise.com.

The Law of the Virtual Campus presents challenges for both nonprofit and for-profit institutions of higher education.

The Virtual Campus Challenge: Creating an Enterprise Strategy for Virtuality

Any organization or institution that is in the higher education market to provide educational opportunities must decide to what extent it will do so through a virtual campus construct that emphasizes anyplace-anytime curricula and that uses partners from the commercial and nonprofit sector for agility and investment leverage. This challenge deserves a name and a sharper focus in terms of clicks and mortar..

The Virtual Campus Challenge. Every educational organization must develop an enterprise strategy for virtuality that strikes the right balance between virtual business models and traditional ones, and, in its use of virtual technologies, strikes the right balance between offering virtual curricula and enhancing more traditionally delivered curricula.

Which of brand name, student centrality, affordable access, and convenience will be the focus in an organization's virtual campus construct? (I believe that at least three of the four will be necessary.) What will be its navigational strategy for addressing reach, richness, and affiliation?

Indeed, there are many subthemes to the virtual campus challenge, especially for traditional institutions. Many traditional colleges and universities, like the retailer Sears, must decide not only whether and how to organize or participate in virtual campus organizations, but also to what extent to maintain traditional programs and even to strengthen them through the application of anyplace-anytime technologies (such as those associated with instructional management systems) and through the leverage of commercial and nonprofit partnerships. For example, there will long be a market for residential programs with an emphasis on instilling values, learning to work with other people, and learning to learn—a liberal education. Many institutions will continue to offer this kind of civilizing residential educational experience in which the goals include, but are broader than, the transfer of knowledge. Will these campuses separate their virtual programs from their traditional programs, perhaps creating healthy or unhealthy competition between separate but competing internal units? Or will they operate a web of cross subsidies that intermingle virtual programs with traditional programs for potential leverage but at the risk of having non-competitive virtual programs compared to competitors that have heeded the Law of the Virtual Campus to create purely virtual constructs?

Some issues raised by the virtual campus challenge are captured by the notion of organizational readiness. Is the organization ready, not only to develop an enterprise strategy for virtuality, but to implement that strategy. The Center for Academic Transformation, as part its grant program for the redesign of large enrollment courses, has developed generally helpful readiness criteria, which can be reviewed at <http://www.center.rpi.edu/PewGrRdi.html>. In a broader, decision-tree approach to readiness that also addresses motive and purpose, EDUCAUSE provides a useful site at http://www.educause.edu/staff/hawkins//dl_index.html.

I have already argued that many people and organizations seeking access to education or training would assign four stars to the convenience value of anyplace-anytime courses and programs. A significant subset surely would consider affordability (price) to be a factor in selecting anyplace-anytime opportunities for education or training. These assumptions, combined with the emergence of a cradle-to-grave “learning society,” lead to the simple observation that there will be a large and competitive market open to commercial and nonprofit organizations that choose to use the Internet to provide anyplace-anytime education and training opportunities. That means that an anyplace-anytime model may not be competitive if it cannot be offered at a competitive price. Except for subsidized education providers, competitive pricing will require attention to costs. Of course, some providers may attempt to compete in a limited market niche that assigns higher value

(quality) to a higher-priced offering. For example, some “name-brand” business schools already provide some variation on an anyplace-anytime MBA program at a high price in the belief that name brand derives from factors that transfer a highly valued advantage to their students. But the bulk of anyplace-anytime education and training providers will compete on pricing by controlling costs. This is where the leverage dimension of the Law of the Virtual Campus will operate most dramatically. How, for example, will other virtual campus constructs compete with the highly leveraged Kentucky model in underlying costs of operations and in time to market? Will market forces lead the state to drop its current allocation to the Kentucky Commonwealth Virtual University in favor of a cost-recovery or profit-center model? Even a highly virtual campus may face many challenges in the years immediately ahead.

It’s also instructive to recast the Virtual Campus Challenge in the context of other learning services.

The Virtual Library Challenge. Every knowledge access organization must develop an enterprise strategy for virtuality that strikes the right balance between virtual business models and traditional ones, and, in its use of virtual technologies, strikes the right balance between offering virtual access to knowledge and enhancing more traditionally delivered knowledge access models.

Classifying a library service via our two-dimensional place-time continuum is more revealing than using simple appellations such as “digital library” or “online library.” For example, how might we classify access to a licensed database of information resources that is accessible via a Web browser? It depends. If the license provides access only from workstations in a particular library or other specific location(s), we might be inclined toward someplace-anytime—assuming the library maintains a generous schedule of operating hours. Even if the license allows access from any PCs that are nodes on a particular Internet domain, the someplace-anytime label would still seem appropriate to a person dialing up the Internet through an ISP with a different domain. That’s why the inter-domain authentication work in progress under the aegis of EDUCAUSE, the Coalition for Networked Information, the University Consortium for Advanced Internet Development (Internet2), and other organizations is so important. Such work will eventually allow the licensing of online databases to organizations on a truly anyplace-anytime basis.

The most important competitive issue embedded in the Virtual Library Challenge, however, is to what extent a library is an anyplace-anytime navigational service designed around a virtual business model with affiliation biased toward the learner to provide competitively priced or affordably subsidized reach (access to knowledge) and richness (of available knowledge and of knowledge of the learner’s personal/professional context).

Conclusion

The Internet enables the virtual (anyplace-anytime) delivery of many services, including learning services. The Internet has also powered the development of virtual (highly leveraged) business models. The virtual organization is one that takes advantage of both of these opportunities. In higher education, the Law of the Virtual Campus expresses this opportunity as a strategic challenge to those educational organizations that are consciously strategizing about their futures in the context both of their missions and strategies and of new learning-centric opportunities for using anyplace-anytime technologies and instructional models.

I expect the Law of the Virtual Campus to have a great impact on education and training across the continuum of life-long learning needs. Is your organization prepared?