# Communities of Practice and the Agile University

Joe Gollner, M.Phil.

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## ABSTRACT

The modern university has evolved to play a unique and highly complex role in the emergent knowledge economy and the associated 'learning society'. It is possible to encapsulate the function of the university as creating and communicating knowledge. This function manifests itself as the familiar activities of research and teaching. It also manifests itself as transformative processes whereby people, both as individuals and as communities, become capable of understanding, applying, and advancing that knowledge. Given the changes occurring in society at the outset of the twenty-first century, the success of the university in playing this role is becoming ever more critical. The extent to which the university has fulfilled its mandate in the past, and to which it will likely do so in the future, is now an area of active discussion. Among the sources of optimism within these discussions is the growing recognition that 'communities of practice' represent a latent potential within universities offering the very adaptive abilities that are now needed.

## THE MODERN UNIVERSITY IN CONTEXT

Certainly there is one point of agreement in all discussions on the future of the university – *change is imperative*. The former president of Michigan State University, James Duderstadt, observed:

> Higher education is one of the few activities which has yet to evolve from the handicraft, one-of-a-kind mode of cottage industry to the mass production enterprise of the industrial age. In a very real sense, the industrial age has largely passed the university by. (Duderstadt, 1997, p. 15)

When it is considered that now even this industrial age has been overtaken by the information age, where agility is the defining feature of the successful enterprise, then it is not surprising that Peter Drucker would offer, in a 1997 interview with Forbes Magazine that sent shock waves through academic circles, a gloomy prediction on the future of the university:

> Thirty years from now the big university campuses will be relics. Universities won't survive. It's as large a change as when we first got the printed book. Do you realize that the cost of higher education has risen as fast as the cost of health care?…Such totally uncontrollable expenditures, without any visible improvement in either the content or the quality of education, mean that the system is rapidly becoming

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> untenable. Higher education is in deep crisis….Already we are beginning to deliver more lectures and classes off campus via satellite or two-way video at a fraction of the cost. The college won't survive as a residential institution. (Lenzner & Johnson, 1997)

Universities have been traditionally resistant to change and, while this may be one of the historical virtues of the university as an institution, in the current environment of wide-ranging transformations there are concerns that resistance may not be the appropriate posture. Again, James Duderstadt puts the case bluntly:

> The glacial pace of university decision-making and academic change simply may not be sufficiently responsive to allow the university to control its own destiny. There is a risk that the tidal wave of societal forces could sweep over the academy, both transforming higher education in unforeseen and unacceptable ways while creating new institutional forms to challenge both our experience and our concept of the university. (Duderstadt, 2001, p. 7)

Yet the truth is that, beneath the thick veneer of conservatism, universities *have* been able to adapt in the past, and sometimes very quickly, when confronted with major external pressures such as the post-war boom in educational enrollment. This ability will be severely tested in the coming years.

## A CHANGING LANDSCAPE

The environment in which the university operates is changing rapidly and, inescapably, this will force adjustments in the ways universities function and even in the ways in which they are constituted (Bernheim, 2003, Brown & Duguid, 1996, and Duderstadt, 1997).

In the political spectrum, it is a general fact of life that forces have been introduced that have encouraged the progressive shift of government spending away from education and research and towards other priorities. At the same time, there has been a related increase in the level of public scrutiny being directed towards all prominent institutions. Associated with both of these trends, there is a heightened demand for accountability, which is accompanied by a call for demonstrable results, quantifiable benefits and transparent procedures. On one side, universities face declining revenues from traditional government sources while, on the other side, they must absorb the increasing cost of accountability and responsiveness. If there were no other issues at stake, this shift in the landscape would be quite enough of a challenge to overcome.

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Not unrelated to these *political* changes are those associated with the new economic realities affecting the entire educational market. For perhaps the first time, universities are facing serious competition in the very areas that constitute their most lucrative sources of non-governmental revenue. For-profit education institutions have emerged and have, understandably, targeted programs such as business and technology education where the market and the associated profit margins are the most attractive. At the same time, private research institutions have proliferated and proven increasingly effective in competing for research grants which in the past would have been secured, almost exclusively, by university researchers. These economic changes point towards serious threats to key funding sources that the large infrastructures of the modern university may not be able to survive without (Duderstadt, 1997).

Complicating the picture further, there are changes occurring in the professional work environment that are directly impacting the nature of education services needed and the modes of delivery through which they must be provided. It is now an accepted reality that professionals working in the knowledge economy will see themselves move through multiple 'careers' during their lifetimes and, consequently, they will need to integrate life-long learning into their portfolio of activities. These professionals continuously require new skills that are directly relevant to the tasks of the day. They also need an education that will assist them in developing the ability to learn and adapt to the accelerating changes in the global economy. And the unstoppable force that is driving the need for continuous learning is the push for *innovation* that permeates all modern organizations and the pursuit of which has become increasingly the centerpiece of every professional's life. So it is that the knowledge economy must draw on responsive sources of *training*, *education* and *research* in order to survive and grow. All of this leads directly to rising expectations being placed on the university to deliver relevant learning opportunities in a way, and at a cost, that will meet these demands.

Perhaps owing to the changing expectations of a broadening clientele, or perhaps a consequence of genuine problems in the current system of higher education, there are questions being raised about the quality of the services being provided by the modern university. Common themes touched upon include the inefficiencies of academic administration, the isolation of academics from key centers of knowledge application, the susceptibility of universities to the pressure tactics of interest groups, and the impracticality of many university degree programs when assessed against the needs of the marketplace or even those of the academy itself. The recurrent appearance of these questions stands, at the very least, as a public relations challenge and potentially something more (Dent, 2001).

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If the foregoing changes were not enough, there is the very significant shift in demographics that is rapidly altering the social composition of universities. Partly as a consequence of general changes in society and partly as a result of conscious programs, the make-up of the university continuously reflects new levels of diversity. Amplifying this process will be the introduction of increasing numbers of distance learners and working professionals into the student body. Also of note is the fact that university faculties are losing significant numbers to retirement as the 'baby-boom' generation ages and a new generation moves into faculty and administration positions (Bernheim, 2003).

At once highly visible and deeply profound, the rapid evolution of information and communication technologies, and their widespread adoption, registers as a major environmental shift for the university. In addition to placing specific demands on the university infrastructure budget, these changes have made *distance learning* a practical reality. The coming of age of *eLearning* opens new opportunities for program delivery that are much more cost-effective from the delivery perspective and frequently more attractive to prospective learners who must observe the practical limits that work places on their time and mobility. As will become increasingly apparent in what follows, the truth is that the new delivery models for education will be attractive for reasons beyond flexibility. Within the new paradigm lies, most significantly, the opportunity to raise program quality – sometimes dramatically – over what is typically achieved under the current model. This, in turn, raises the very serious spectre of genuine competition threatening what have for many universities been captive local markets. The fact must be considered that for many learners a distance program that combines genuine peers, leading authorities, relevant contents, and a model that blends distance and face-to-face elements, offered by a remote, but well-regarded, institution, will increasingly be chosen over a local program cast solely around the traditional classroom model. Constructed carefully, the *distance program* will win out on *every* axis of comparison.

The emergence of 'big science' is another major consideration as more and more funding is channeled towards large research initiatives that demand massive funding, substantial infrastructure and organizational resources, and new models of institutional partnership and collaboration. These large scale initiatives are in part a reaction to the major challenges being faced by society in healthcare, the environment and global development. The trend towards larger research engagements can in fact be seen in all disciplines where teams of specialists, often marshalling multidisciplinary capabilities, undertake the assemblage and analysis of vast amounts of information. What is most germane about this change is the fact that it introduces requirements for management and

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collaboration that fall outside of the typical range of experience and competency for both universities and their staff. *Big science* adds evolutionary goals which, while achievable, are new nonetheless.

On a more subtle level, there are changes that might be described as *epistemological* brought on by the continuously expanding volume of knowledge, by fundamental shifts in perceptions of knowledge and by the increasing need for integration that can mobilize specialized knowledge from many fields to achieve results deemed relevant by society (Bernheim, 2003). With respect to the shifts in the perception of knowledge, there is a growing recognition of its social nature and the importance of "dialogue" amongst perspectives in the process of establishing a shared understanding of reality. Rather than this recognition being an endorsement of epistemological relativism, it is the wholly defensible acknowledgement of the role *interest* plays in perception, interpretation and communication. Far from being a call to radicalism, the consequences of these epistemological changes include the increased emphasis being placed on inter-disciplinary research, the recognition that teaching and research are in fact united as parts of a common pursuit, and the ongoing exploration of dialogue and interaction as the basis of all learning. Although none of these really represent radical departures from current thinking on how universities *should* operate, in practice they point to some *basic adjustments* in how the academy will need to conduct its business.

The fact that there are major changes being registered in each of these areas does lend credence to the assertion that the modern university is facing a situation that is genuinely unprecedented. Although the university, as an institution, emerged during the ferment of the medieval period and has since weathered numerous upheavals, the immediate future of the university almost certainly represents the greatest challenge yet.

## CONSEQUENCES

The changes occurring within the landscape of higher education will, as has already been noted, force the university to adapt and to adapt quickly. The adaptations to be made will include responses to both challenges and opportunities and they will need to be made through an evolutionary process of experimentation (Duderstadt, 2001). As has been demonstrated on more than one occasion in business and government organizations that faced similar challenges in the 1990s, among the keys to success is giving due attention to the realities embodied within what can seem to be outmoded traditions (Brown & Duguid, 2000). In the case of the university, the key to success will be attending more closely to its key internal component – *communities*.

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Financial pressures will continue to increase and will demand significant structural changes in the ways that universities operate. Competition will quicken from the distance education offerings of universities operating anywhere in the world, from newly emerging "for-profit" institutes of higher education that are pursuing the most lucrative segments of the curriculum, and from private research facilities that can compete very effectively on cost and responsiveness. Prodded by these forces, internal restructuring will come to the university. This will be unavoidable and it will be extraordinarily difficult given the prevalence of university traditions, the historical independence of faculty members, the size and expense of the existing university infrastructures, and the variety of external stakeholders, all with the ability to influence funding sources (Duderstadt, 1997). The impact of restructuring, when it comes, will change the lives of administrators, faculty and students.

The silver lining within all this can be found in the fact that higher education is emerging as a *major economic sector* within which the university can parley its substantial assets to generate the types of resources needed to affect the necessary changes. What should be stressed is that the resources that will become available are not purely financial, although that is a noteworthy consideration. The expanded marketplace will also introduce reservoirs of human capital for deployment within the *business of learning*. The way for the university to overcome the new challenges lies in tackling these new opportunities effectively.

Firstly, on the matter of finances, fresh revenue sources have opened up for universities to exploit provided they can design, develop and deliver *educational programs* appropriate to the modern global economy. Most universities have made ventures into this area and *some* have even met with a measure of success. The majority, however, either did not stray very far from familiar territory or quickly returned to conventional models after brief, and perhaps half-hearted, experiments.

On the other side of the financial equation, cost reduction opportunities become possible if the universities learn from and adopt models of efficiency and agility that emerged specifically in the commercial sector during the early years of the internet age. This largely pertains to the unbundling of the components of the university, re-designing core processes and then finding innovative ways to optimize, share, leverage or off-load components and processes as appropriate. Among the key innovations to be leveraged will be the modernization of strategies for engaging the talents of people. As has become essential in the private sector, universities will need to embrace models of partnership, collaboration and outsourcing in order to keep pace with the ‘customer base’ if only on a price competitiveness level. These opportunities to reduce the cost overheads and to enhance the

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responsiveness of the university represent the most significant chance to renovate the university. As these opportunities also entail the most dramatic restructuring consequences, it would not be surprising to find them receiving the least attention at this time.

Running as an undercurrent throughout all considerations of the future is the recognition that universities are fundamentally about people and the *communities they form in the pursuit of knowledge*. The people and community models that are prevalent within the university of today will bear the brunt of the environmental forces driving widespread changes. It is at this level that the key changes will need to take root if any of the adjustments being sketched out, either as responses to challenges or moves to capitalize on opportunities, are to be successful in the long run.

## THE NEW MARKET: THE PROFESSIONAL LEARNER

There is a palpable need, amongst working mid-career professionals, for educational opportunities that can be integrated into the specific landscape of the modern work world. The need encompasses requirements for scheduling flexibility, varied modes of engagement with an emphasis falling on those suited to *asynchronous* and *remote* interaction, continuously relevant program contents, and reasonable and *fully justifiable* time demands given already overwhelming work loads. But these do not represent the most important features of the programs that these working professionals need. Most important of all will be the *authority of the credentials* achieved with this being, to a large extent, a reflection on, and assessment of, the quality of the educational experiences completed.

Unconsciously, but not without good reason, these professionals have looked to universities to meet this need. The primary reason the professionals have looked to the universities is that the time and money they are willing to invest is so precious, and the environments in which they work so competitive and changing, that the one thing that they need to receive in return is a *recognized credential* that will yield benefits for years to come. For the majority professionals, this interest is not merely a matter of seeking a 'piece of paper'; it is directly linked to their desire to find and complete programs that genuinely offer them novel experiences, new ideas, improved skills, and enhanced professional standing. They are looking for an *education* and they look to the historical reputation of the university as a guarantee of educational quality and therefore of the *authority and exchange value* of the resulting credentials (Brown & Duguid, 2000). These professionals then look to the relative standing of different universities in various fields as a benchmark of relative program quality. Although unconscious, these historical preferences in fact highlight important truths in the

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educational landscape and they showcase a *major asset* that universities can leverage when seeking to address the emergent market for professional education.

Thus far, in reality, these professionals have been disappointed in their search. They have been disappointed largely because the offerings that have been initially made available by universities have fallen into one of two possible categories – extensions to programs designed originally for residential cohorts of novice students or professional development offerings that are largely disconnected from the academic system of standards and credentials. The former makes inappropriate demands on the professional learner in terms of time and physical availability while the latter provides only marginal educational value and no portable credentials while still placing significant demands on a learner's pocketbook. The real market, and its depths have yet to be plumbed, lies somewhere between these two poles. The real market is still waiting for educational products that combine flexibility and relevance with genuine academic rigour, vistas for personal growth and recognized credentials. The real market is patiently waiting for the university to respond.

The professional learner should also be of interest for reasons beyond market potential. The professional learner represents a new and potentially valuable asset to the university in terms of adding a key dimension to the diversity of human resources available for engagement as students, faculty and administrators. Practicing professionals represent a vital link between the university in which knowledge is created and communicated and the sectors where it is typically applied. Fully engaging these professional learners may stand as the most important and beneficial innovation of all.

## THE CURRENCY OF EDUCATION: CREDENTIALS

In a manner analogous to the role of money as a medium of exchange and valuation in the economy, credentials play a key role in allowing significations of learning to be recognized between institutions, across disciplines and around the world. In the more technical parts of the economy, these significations are in fact deeply embedded in processes determining who can legally perform what function and this is in turn intertwined with the global systems of financing, underwriting and insuring against possible investment risks. It is not, in a manner of speaking, an academic matter.

From the perspective of the professional learner in particular, the portability and 'stack-ability' of educational credentials is overwhelmingly important and will become even more so (Brown & Duguid, 1996). It is neither likely nor desirable that this requirement will devolve into a form of

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'credit-calculus' that computes exchange values automatically. At the very least, however, there will be a growing need for reasonable interpretive boundaries which can be used to maintain a protocol for recognizing credentials across environments. As has always been the case, universities will continue to manage the content and quality of their programs with a view to aligning their credentialing process with the expectations of the applicable professions as well as with the shared standards of the academic community itself. Further coordination across the higher education sector, in the light of the requirements associated with professional learners, will hopefully result in the future refinement of these guiding protocols for credential recognition. One area receiving constant attention is the ongoing effort to establish generally accepted principles for recognizing work experience as a prerequisite to entering higher levels of learning. There has also been a trend toward considering past work experience as a substitute for educational activities required to achieve specific credentials but this represents a further, and highly questionable, step.

Another area calling for refinement will be the enhanced synchronization of the expectations associated with different credentialing tiers so that progressively higher levels of learning can assiduously avoid *superfluous repetition* in content and demands. This will be a specific expectation of the professional learner who has little time or patience for unnecessary expenditures of effort and money. Current issues in this area are exposed when, as an example, professional learners encounter programs designed for young adults and are consequently asked to perform elementary exercises inculcating skills that have been mastered years, if not decades, earlier. In a marketplace that demands both efficiency and quality, university offerings will need to be increasingly precise in setting the nature of contributions required at each level of educational engagement. None of this in fact represents a departure from tradition. The medieval roots of the degree hierarchy already lay out the ground rules for making these refinements. And it would not serve the real interests of the professional learner to break with these traditions.

In providing *recognized credentials*, universities are alone in being in a position to fashion offerings that provide genuine educational experiences for which formal, portable, and 'stack-able' representations can be applied (Brown & Duguid, 1996). Acknowledging that the currency of these credentials is directly linked to the quality of these experiences, only universities are in a position to align all of the necessary pieces. Although it belies the amount of innovative work the statement really entails, it is only a question of framing the right offerings and of requiring that participants only make those investments of effort that are strictly necessary for the program types and levels.

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## COMMUNITIES OF PRACTICE

In considering how the university might respond to the challenges and opportunities before it, it is useful to review some fundamentals. What is the professional learner really seeking? What are the real processes at work within a university that make it so indispensable? The answer to both of these questions is to be found in the idea of *communities of practice* (Lave & Wenger, 1991).

When professional learners look to a university program as an augment to their work experience, what they are really looking for is a chance to evolve their 'professional identities' within the communities in which they operate. This might entail achieving a higher level of authority within their current fields of expertise. This might entail exploring new identities that might facilitate a career change and a concordant transition into a new community. A professional career can be seen as a progression through different identities and a migration across overlapping communities. The learning that will be the most relevant to these professionals will allow them to experience, understand, evaluate, select and progressively enter these different communities as *practitioners*:

> Workplace learning is best understood, then, in terms of the communities being formed or joined and personal identities being changed. The central issue in learning is *becoming* a practitioner not learning *about* practice. (Brown & Duguid, 1991, p. 48)

Understanding that professional learners, indeed all learners, are interested in participating in communities has a significant bearing on the design and delivery of educational programs. As if it needed stating, this recognition underscores the fact that education is not about the transfer of information from a source to a consumer. It is about participation in communities that are centered on learning about a specific topic or solving a particular problem. For the learner, participation permits new or evolved identities to be safely developed, tested, and refined through feedback in a community. It allows a learner to assess the merits of joining a specific community of practitioners, and assuming different identities, and allows the community to assess the learner's ability to play various roles in that community. As there is no limit on what is being meant here by 'community' or 'identity', it is completely credible to place this process at the very center of education itself:

> Education, in its deepest sense and at whatever age it takes place, concerns the opening of identities – exploring new ways of being that lie beyond our current state. Whereas training aims to create an inbound trajectory targeted at competence in a specific practice, education must strive to open new dimensions for the negotiation of the self.

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> It places students on an outbound trajectory toward a broad field of possible identities. Education is not merely formative – it is transformative. (Wenger, 1998, p. 263)

Professional learners seem intuitively to understand the importance of education in their strategy for dealing with the uncertainties of knowledge work where accelerating change is the only constant. In seeking an education, professional learners are looking to facilitate the evolution of there identities through an expanded participation in selected communities and this is in fact how universities must understand the need for programs that will be relevant to the professional learner.

These communities of practice, in which learners participate with a view to evolving their identities and roles, are not new. The concept of a community of practice was introduced as a way of describing and studying how communities manage their collective knowledge and what it means for people to learn this knowledge through escalating participation in those communities (Lave & Wenger, 1991). Among the most commonly cited definitions of 'communities of practice' is:

> Communities of Practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. (Wenger, McDermott & Snyder, 2002, p. 4)

Another definition, and one that emphasizes the role of individual *interests*, is:

> CoPs [communities of practice] are loosely coupled groups or networks driven by both interest in a topic or area and the value that membership provides to members as a function of their active involvement. (O'Donnell et al., 2003, p. 81)

Interest in this context is not merely a matter of curiosity but rather the alignment of personal and professional energies around a specific perspective on a given topic. Understood in this way, interest leads to community engagement and provides the energy that, through the interplay of many individuals, can sustain the creation and propagation of communal knowledge:

> CoPs self-develop as people grow an understanding of their shared interests and begin to generate ideas about its meaning….Such CoPs are held together and regenerated through the medium of communicative action….Communicative action refers to the set of symmetric and reciprocal relations within the communicative relation between at least two people….this dialectical relation is at the core of intellectual capital creation within CoPs. (O'Donnell et al., 2003, p. 84)

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This interpretation aligns with the ideas of Jürgen Habermas and positions communities of practice as a "critical lifeworld-in-system" (O'Donnell et al., 2003, p. 85) and thereby emphasizes the centrality of these entities in the formation, validation and evolution of all knowledge. Rather than being a manifestation peculiar to the professional world, it can be seen that communities of practice describe the universal process of learning which encompasses how all knowledge is formed as well as how it is shared amongst communities of stakeholders.

The concept of 'communities of practice', then, provides an effective description and exploratory tool for what goes on inside organizations and, given its declared dedication to the advancement of knowledge, specifically for what goes on within universities. As a concept, communities of practice encompass all levels of possible communal learning from trade apprenticeships to rarified specializations. In each case, the process at work is one of 'legitimate peripheral participation' (Lave & Wenger, 1991) wherein practitioners participate in the business of the community and play an escalating series of roles in assisting the ongoing learning process. This process encompasses the complete spectrum starting with orientating newcomers and continuing through to the advancement of the practice with innovation and research. Accordingly, one way to see all organizations is as 'communities of communities of practice' (Brown & Duguid, 2001) and nowhere would this seem to be a more natural inference than with the university. Many within the university system in fact see themselves this way so there is little radicalism in the claim that "universities should define themselves as learning communities" (Duderstadt, 2001, p. 3).

## COMMUNITIES OF PRACTICE AND THE UNIVERSITY

> Central to higher education is the way universities provide access to communities of scholars and testimony for a student's experience among these communities. (Brown & Duguid, 1996)

In a very economical way, John Seely Brown and Paul Duguid here capture the essence of university education in that it emphasizes the centrality of 'communities of scholars' as the venue within which participants gain experience and produce knowledge and that it foregrounds the role of universities in formalizing the recognition of these experiences. This formalization of recognition is manifested as credentials, such as degrees, that become a permanent part of an individual's 'identity' (Brown & Duguid, 1996). These credentials are a representation of an individual's standing within a community and this, as was touched upon previously, is what learners need in order to leverage past educational

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experiences within their future professional and academic careers. The portability and 'stack-ability' of these credentials stands as one of the most important considerations in the future evolution of higher education and this is one area where the historical roots of the university make it uniquely well equipped to address the requirement.

The systematic application of the concept of communities of practice to the university environment is something that results in a relatively uncontroversial description of university teaching and research:

> We can treat academic departments, disciplines, sub-specialisms, a university as a whole, or networks of professionals as communities of practice. In an academic community of practice, students, academics, professionals and indeed anyone else who shares this site of practice, are responsible for the maintenance of the community of practice for inducting newcomers into it, for carrying on the tradition of the past and carrying the community forward to the future….In the new model, then, research and teaching are both viewed as activities where individuals and groups negotiate meanings, building knowledge within a social context….In engaging in research, scholarship and learning, they [students, teachers, researchers] engage as legitimate peripheral participants in academic communities of practice. (Brew, 2003, p. 12)

What is potentially controversial is the consequence of this line of interpretation. If learning is a mode and outcome of participation, then many current practices in university teaching and research come into question. Specifically, the dichotomy that persists between teaching and research is made all the more indefensible, although in reality it is not a dichotomy that is defended so much as difficult to transcend. However, what controversy there may be should be short-lived because, in both the cases of teaching and research, acknowledging the role of communities of practice will in fact point towards fundamentally more effective and efficient ways of operating.

For research, formally recognizing the nature of disciplinary communities of practice can help to accentuate the need for teamwork, collaboration and partnership as the model for conducting research. As the scale on which research is conducted continues to expand, the centrality of collaboration, both with peers and with *apprentice practitioners*, becomes increasingly evident. This is in fact already well within the experience of many university researchers and especially those involved in the latest generation of large-scale research initiatives. This is also what researchers experience when attending and presenting at conferences in their field or when they supervise

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graduate students working on a thesis paper. It is really a matter of formally recognizing that the research activity is quintessentially a communal undertaking as opposed to an individual quest.

For those in a teaching role, accepting the communal nature of learning should in fact come as a relief. Rather than an individual instructor labouring to document and transmit a body of knowledge, the teaching model can evolve towards one that facilitates a specific learning community and leverages the participation of others in the 'dialogue'. Peer-based learning is moved forward in importance with the consequence that responsibility for the 'class' becomes shared. The structure of a course can become the exploration of a topic, with the task at hand for one cohort being the improvement of the learning resources for subsequent cohorts and perhaps the preparation and analysis of research materials in support of a larger activity. By contrast to this seemingly reasonable strategy, the picture of the lone academic, stealing time away from research activities to consolidate the knowledge pertaining to an entire subject area and to establish an authoritative line of interpretation, begins to look rather ridiculous. For the instructors participating in a more communal learning process, the possibility then exists of enmeshing teaching duties more closely with research activities and this represents a potentially beneficial windfall from all perspectives. For the students in particular, the integration of the learning activities with the current research agenda of one or more *senior practitioners* represents a chance at 'legitimate peripheral participation' that will greatly enhance the learning experience. As the community of participants within universities expands to include more and more professional learners, the feasibility, merits and even necessity of this model become increasingly real.

Numerous initiatives exist within universities that explicitly seek to explore the consequences of a 'community of practice' conceptualization of learning and to determine strategies that will improve core academic practices. The following represents one particular example:

> The Cornell [Writing in the Disciplines] Program developed out of the generic writing program, 'Writing Across the Curriculum', to emphasize that writing was a process not only of understanding the discipline but also of participating in the discipline. This had a revolutionary and democratizing effect: the discipline as perceived as a community of practice is made up of and constantly reconstituted by its practitioners. By involving senior members of the Faculty (including Nobel Prize-winning scientists and such luminaries as the English department's Jonathan Culler), as well as doctoral students at the point in their careers when they were having to master their own

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> material and finding their own voice, 'Writing in the Discipline' classes bring together all levels into one creative community of practice. (Parker, p. 538)

Interestingly, this specific initiative illustrates how closely in fact these ideas are to the roots of academic tradition. In the late 1980s, Jonathan Culler, cited above and a well-regarded specialist in critical theory, delivered a speech at the University of Oxford in which he outlined the benefits of discursively-aware and more democratic model of learning. His talk continued to pursue some of the larger implications and to censure many widespread academic practices that this model would correct. While his position was well received by the audience, its tangibly polemical quality was questioned. A member of the audience politely endorsed his premise and then added that this is how Oxford had been operating for the better part of 800 years (*personal recollection of the author*).

As an aside, it can be observed that the skill, and process, of writing is one that has been gaining prominence in large part due to the markedly textual orientation of prevailing internet applications. Without endeavouring to select favorites amongst modes of social interaction, it can be noted that writing offers some specific benefits over face to face exchanges when handling certain aspects of the communication process. Whereas there are obvious advantages in working in close physical proximity with other people, there are also gains to be realized by involving a wider circle of participants than is geographically practicable. And doing so asynchronously allows time for experimentation, verification, and consultation as part of the exchange – all things that cannot be sustained in real-time in a single room. The distillation of ideas and arguments into textual form also permits a process of reflection and refinement to go on in a manner that can diffuse sensitivities through the judicious use of less direct, and less personal, communication. While it is difficult to imagine education being complete without substantive personal contact amongst participants, it should be equally difficult today to imagine alternatives where face to face discussion is the only form however well it may have worked for Socrates. In looking ahead to models of distance education and specifically to blended models that intermix online and face to face engagement, it can be observed that one of the skills that will inevitably receive an expanded role will be *writing*. It is not outlandish to suggest that this emphasis on writing will benefit the professional learner and will enhance the operation of distributed communities of learning and the research quests they pursue.

One consequence of seeing a university as a 'community of communities of practice' will be the progressive erasure of the boundaries between *research* and *teaching*. This is in fact completely in line with the recommendations being repeatedly made about the future of the university. The *Boyer*

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*Commission on Educating Undergraduates in the Research University* offers a number of recommendations in this direction, including the following two:

> Undergraduate education in research universities requires renewed emphasis on a point strongly made by John Dewey almost a century ago: learning is based on discovery guided by mentoring rather than the transmission of information. Inherent in inquiry-based learning is an element of reciprocity: faculty can learn from students as students are learning from faculty. (Boyer Commission, 1998, p. 15)

> The university's essential and irreplaceable function has always been the exploration of knowledge. This report insists that the exploration must go on through what has been considered the 'teaching' function as well as the traditional 'research' function. (Boyer Commission, 1998, p. 32)

Now whereas the Boyer Commission was focused on the education of undergraduates, the import of these recommendations is amplified substantially when the role of the professional learner is taken into consideration. If it is possible for undergraduates to make a constructive contribution to research processes despite their relative lack of experience, then the professional learner, who will frequently possess knowledge well in advance of the instructor in specific areas and who will often have access to the resources of a sponsoring organization, must be accorded a much more 'collegial' relationship in the learning process. In exchange, being engaged in *active research* and assisting in the conduct of 'real work' stands as the most complete implementation of the type of learning professionals need and want. It is, in the final assessment, what all learners need and want.

As is seen in the Boyer Commission Report, there seems to be widespread sense that the university can, and should, do significantly more to improve the quality of teaching. Inevitably this leads to the corollary that more resources, time and effort will need to be channeled from research into teaching. Given the realities of university hiring and reward practices, this message typically falls upon deaf ears. Under a model that foregrounds communities of practice and an inquiry-based approach to communal learning, however, the dilemma is solved in a different way. Rather than diverting attention away from research in order to improve teaching, universities can explore the possibility of placing research at the center of teaching. In line with a number of points made previously, a concerted effort to internalize these emergent models of education will help the university to adopt a mode of conduct that will be fundamentally more effective, more competitive, and more satisfying than the status quo.

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Working with the notion of communities of practice also has implications for the character of the university's engagement with society. Falling into line with the growing demands of government sponsors and the public at large for 'relevancy', universities should come to acknowledge and then leverage the fact that the boundaries of their constituent communities of practice extend into a wide range of external venues including private corporations, non-governmental agencies, government departments, professional associations, and all levels of the education system. From the perspective of the quality of learning itself, this should be seen as a boon:

> In order to combine engagement, imagination, and alignment, learning communities cannot be isolated. They must use the world around them as a learning resource and be a learning resource for the world. (Wenger, 1998, p. 275)

On a much more pragmatic level, there are concrete reasons why universities should attend to these community connections:

> On the one hand, universities need to draw on resources – not merely funds of money but also funds of practical experience – that lie beyond the campus. While on the other hand, universities need to extend their contacts beyond campus to make sure that the knowledge they create gets out to where it can be most useful. (Brown & Duguid, 1996)

The enhanced engagement of the university in society will benefit from an accentuation of the existing communities of practice. Creating a more vibrant connection between internal practitioners and those in other organizations is one way. Launching initiatives intended to establish, facilitate and leverage extended communities, which can be used to create stronger bonds between universities and their partner organizations, is another. As one of the major changes at work in the landscape of higher education is the emergence of large-scale collaborative undertakings, the casting of communities of practice around target problems can be used to facilitate the type of interdisciplinary coordination that will be needed to make substantial and relevant contributions to society. It is essential, in the current milieu, for universities to enhance their engagement and integration with other elements of society and to leverage those connections to realize better results, build more strategic partnerships, offset costs, garner new revenues and tap new talent sources.

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## NEW OPPORTUNITIES

The emergence of communities of practice as a feature within the modern professional landscape can be seen as a new opportunity for the university. These communities appear wherever there is a manifest need for professional development. By tailoring appropriate educational offerings for these communities, the university can begin to effectively tap into the real market associated with the professional learner. In doing so, the university will benefit as will the professional learner.

The specific opportunity that stands out is one that will see the university create and deliver programs that integrate with, and substantially improve upon, the professional development activities currently being undertaken by *organizations* and *professional associations*. These development activities have increasingly taken the form of supported communities of practice and it is to these groups that the university must look in order to capitalize on the latent opportunities. As has been touched upon previously, one contribution that the university can make, and that cannot be easily supplanted from elsewhere within the higher education market, is the provision of *recognized credentials* for accomplished learning within these communities. The university can also link these communities to areas of active academic research, again something that cannot be facilitated by any other institution. By making a conscious step towards servicing these professional communities, the university will introduce into these venues a much-needed level of academic rigour and educational merit, an improvement that the participating professionals, and their organizations, will certainly deem valuable and worthy of investment.

From the perspective of both the organization and the participating professional, the connection of their community activities with the educational offerings of the university will directly address two key considerations - the immediacy of the return on educational investment and the longevity and quality of the credentials so realized. In reality, establishing this connection will be the most important step towards genuinely enabling “just in time” learning through the active integration of learning and work. This is what organizations need in order to be truly effective. In being an important step forward, this type of service innovation by the university would tap into the corporate professional development budget and, very likely, into parts of the *operational budget*. For the participating professional, the attraction will lie in the opportunity to enmesh their work lives, practical community collaborations, and educational investments into an efficient and cost-sensitive arrangement. Under this approach, the university would provide a very compelling alternative to traditional professional development programs that have emerged to address needs not being met, in

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the past, by university education. In this competition for the professional development budget, the university, by maintaining the necessarily high standards of quality and in being armed with the ability to extend formal recognition to community participants, would be *overwhelmingly effective*.

Although mildly controversial, it could be argued, at least within the professional sector of knowledge economy, that, without a formal connection between *communities of practice* and the learning processes available within the university environment, these communities are in fact reduced to something closer to a networking venue or, more derisively, a hobby club. Within the professional sector, the disciplines of knowledge being applied all have direct connections to the active research and teaching conducted within universities. In many ways, these professional communities of practice *cannot* be legitimately disconnected from the university.

By integrating genuine educational experiences into the activities of communities of practice operating within organizations and professional associations, the university will be servicing a real need and one that is associated with substantial financial resources. In a manner that is unusual in competitive situations, the university in fact finds itself equipped with an unfair advantage. It is not surprising that this is an area where universities have been advancing new services for some time and this trend will certainly quicken.

## FACILITATING CHANGE

It would be difficult, if not impossible, to forecast precisely what internal changes will ultimately be implemented within the university. It is possible, however, to outline the areas where change is needed and therefore likely. The exact character of the outcome will depend on the experiments made by different organizations and on the emergence of a proven set of practices. As has been stressed by many, change within the university environment will be the result of intense external pressures because, left to its own devices, the university would never change (Duderstadt, 2001). But the consequence of *not* changing will be competitive marginalization and eventual resource starvation.

In pondering what changes to make and what consequences to prepare for, universities should consider the potential utility of the model provided by *communities of practice* in both effecting the necessary adjustments and dampening the potential aftershocks.

A notable internal change that will be inevitable, and one that was prevalent across the private sector restructuring of the 1990s, is the realignment of university resources around its *services* as opposed to

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its *internal edifices*. This has been forecast as the movement of the university from being 'faculty-centric' towards being 'learner-centric' (Duderstadt, 2001). During the re-engineering push seen in industry, the impetus was focused on making businesses *process-centric* rather than *function-centric* and this is a completely analogous situation. Indeed, one of the advantages that the university has at its disposal is the advantage of prior experience – there are many who have been down this road before and there are many lessons-learned to be drawn upon.

It can be observed that among the interesting corollaries to the re-engineering effort has been the rise into prominence of the role filled by *communities of practice*. Businesses had been forced to move away from a functional orientation, wherein the structure of the organization reflected the functional expertise of the constituent people, and towards a *customer-centric process orientation*. In moving away from the functional organization many things were lost – in particular the close working proximity of specialists with a common area of expertise and with a clear advancement path. Moving towards a process focus also made it clear that many forms of expertise used within an organization were only occasionally needed and that many specialists should in fact be shifted outside of the organization through downsizing, outsourcing or contracting. It is no coincidence that the rising interest in communities of practice has been a parallel activity to the migration away from the functional structuring of organizations. Communities of practice can be used to replace at least some of the key benefits of specialist association enabled under the older functional model and, in so doing, allow organizations to streamline their processes under *different* structural arrangements.

It follows that one of the ways in which *communities of practice* can be leveraged within the university environment will be as a device deployed to sustain disciplinary affiliations as the university re-organizes along 'process' lines and adopts a more varied model for engaging staff. Responding to new service opportunities, such as the participation in large-scale sponsored research initiatives, the university will be challenged to marshal 'solutions' more so than specialists and this will demand a level of *interdisciplinary coordination* hitherto uncommon within academic circles. Communities of practice might be consciously facilitated within university environments as a method for retaining and even enhancing the benefits of professional association, mentorship, and advancement for academics who might otherwise feel adrift in the new *interdisciplinary sea*. As some of these restructuring changes will be unavoidable, universities will likely need to follow the lead of industry and adopt the community of practice model as a transitional mechanism.

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Closely related to the foregoing will be the need to develop new professional skills and identities for many who work within the academic environment. The changes that are foreseeable will demand many new things from administrators and faculty. Facilitating the process of skills development and new identity formulation for these people will be an important step towards sustaining the precious human resources that constitute a university. Examples of the types of adjustments needed are numerous. For academic researchers accustomed to working in isolation or in small groups, there will be a need to develop collaborative skills appropriate to larger forms of coordinated effort. For teaching faculty, there will be new skills needed to make the shift to a 'learner-centric', inquiry-based and peer-oriented model. For graduate students, there is a pressing need for more pragmatic assistance in preparing for life in the working world or in the types of research and teaching positions that will exist in the university of the future. For administrators, there will be the requirement for management and leadership skills that will support a 'performance' orientation more so than a 'consensus' orientation that has characterized university administration in the past (Duderstadt, 2001). Creating forums in which this learning can occur will in large part determine whether the associated changes will succeed or not. In this, *communities of practice* can be used to facilitate the ongoing 'professionalization' of academia and this will become a strategic differentiator amongst universities and, obviously, amongst professionals working within the academic environment. Many of these specific adjustments will, in fact, go a long way to addressing the quality issues that have been raised about universities.

As universities increasingly participate in large-scale research initiatives intended to deliver substantial benefits to society, the ability to coordinate the activities and knowledge from multiple disciplines will become a key criterion for success. 'Solutions' are, almost by definition, trans-disciplinary. The demands being made by the public and the government funding agencies that more solutions should be delivered from the investments being made in knowledge are in fact completely justifiable. The university will either be an effective part of these solutions or alternative organizations will emerge to address these requirements. In addition to facilitating the progression of professional academics towards the needed competencies, communities of practice might also be deployed around specific 'problems' and its dynamics used to engage the various perspectives and problem-solving capabilities of professionals hailing from different disciplines. In this regard, communities of practice might become a much more *tactical tool* used to engage academics in a 'solution community'. This infrastructure may well reduce the burden upon individual academics because it would be the group that would bear the weight of responsibility for inter-disciplinary

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integration. Cast in the right way, these ‘solution communities’ could activate cross-disciplinary migrations of techniques and innovations to the long-term benefit of all.

As was one of the more visible attributes of corporate re-engineering, organizations restructuring around customers, processes and products inevitably find that it is essential to change the relationship between the organization, its core processes and the knowledgeable resources it draws upon. The university, as many have forecast, will need to diversify its human resources model substantially so as to maintain a *competitive cost profile* and to be able to marshal the *exact right mix of specialists* in response to new opportunities. Among the resources to be exploited by universities in moving forward on this front will be its *connections* with partner institutions, professional associations and working professionals as external sources of talent, knowledge and delivery capability.

Prominent among the new service innovations introduced earlier is the development and delivery of high-quality learning programs that can effectively engage the *professional learner*. Exploiting this opportunity will require new approaches to teaching. Following an identical line of reasoning as has been applied thus far, one thing the university will need to continue exploring will be the diversification of the *teaching cadre*. As previously discussed, a part of the answer ultimately lies with activating the 'learning community' model. Under this model, instructors, researchers, guests from the external community, alumni, facilitators and, most importantly, students, collaborate in learning about an area of active interest. The role of the instructor, under this model, shifts towards being more of a facilitator, collaborator and role-model. The burden of responsibility for learning moves off the individual shoulders of the instructor and moves onto the group as a whole. Within the university faculty, this model would permit even greater specialization with different resources migrating to different roles within the teaching and research matrix. Among the assets that can be integrated into educational programs using this model will be experienced practitioners who can add a dimension of practicality that academics alone cannot provide. This will be one aspect of future programs that the professional learner will come to expect and appreciate. From the perspective of faculty members, the end result of a movement towards community-based learning and away from individual isolation in the face of sprawling subject areas has to be acknowledged as an improvement over the status quo. Making this adjustment possible will depend, in part, on the judicious deployment of the community of practice model to add important aspects of *persistent peer collaboration* and *legitimate peripheral participation* to the portfolio available for building and delivering educational programs.

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These envisioned changes would naturally have consequences for the students. In general, the introduction of communities of learning into the university environment and the movement towards collaborative research instead of the passive receipt of information, will stand as a major step forward from the student's perspective. Under this model, it should be noted, *more* will be expected of the students as well and this will lead to an increased reliance by students on their respective learning communities. Once again the movement will be towards community responsibility and individual students will likely find that all aspects of the educational experience will be enhanced as a result. For students who, like the professional learner, must move into and out of the educational process, the existence of persistent *learning communities* will be a major benefit. It will be the availability of these communities that will make it practical for different students to follow different paths and still feel a part of a larger whole. As has been demonstrated repeatedly in programs targeting professional learners, the value of peer-mediated learning increases with the relative seniority of the learners so, in the competition for the *professional learner*, sound strategies for engaging the energies and talents of these students through the activation and facilitation of effective *communities of practice* will be of critical competitive importance.

Finally, there are opportunities for engaging the alumni community that the university must consider exploring. In a future where universities are more actively integrated into society, and where working professionals must continue their learning participation throughout their careers, the alumni of a university can play a variety of roles beyond that of donating money. In approaching the community of alumni with this in mind, the university can expand the range of benefits that can be realized by cultivating this relationship. Certainly alumni represent a market for newly developed educational offerings and therein they can be engaged as students. Alumni also represent potential partners in research and participants in learning communities in roles beyond that of student such as mentor and practicum facilitator. From the perspective of the alumni, the creation and maintenance of a scholarly identity can be a very valuable *professional asset* and access to *research resources* is becoming an increasingly useful tool for working professionals. The full engagement of this alumni community further extends the university's resource base. And once again it will depend on the establishment and maintenance of an active community environment within which alumni come to be genuine participants playing an important set of roles. Interestingly, the establishment of this type of more comprehensive relationship with the alumni community will likely have a more beneficial effect upon alumni financial support than any series of imaginative campaigns that university fund-raisers may be able to concoct.

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## THE AGILE UNIVERSITY

> Learners need three things from an institution of higher education: access to authentic communities of learning, interpretation, exploration, and knowledge creation; resources to help them work with both distal and local communities; and widely accepted representations for learning and work. (Brown & Duguid, 2000, p. 232)

As a summary of the specific elements of the emergent market for higher education, Brown and Duguid have again provided a very economical distillation. What products this market needs essentially boils down to flexible and responsive access to *communities of learning* and *portable representations* of what participation in these communities means. The global economy in which these learners live is itself changing rapidly so it is inevitable that the need to participate in learning communities will be continuous. But as professional learners chart a path through different communities within this changing economy, with their identities following potentially erratic trajectories, the evolution of these market demands will be difficult or impossible to forecast.

Above all else, what will be needed from the university of the future will be *agility* – being able to respond quickly and efficiently to new opportunities, or challenges, as they surface. It follows that the identity the university will need to adopt will be that of the 'agile university'. Following, but also adapting, the precedents set in the restructuring of business during recent years, the agile university will feature a *market focus* and a substantially *diversified resource base*. Both of these features will depend, to a large extent, on the network of *communities of practice* that the university can invigorate both within its walls and across them.

## RADICAL TRADITIONALISM

Throughout this document, one premise has been that the future of the university may well lie in some of its most traditional practices. Another premise has been that *communities of practice* are an integral part of the university, perhaps even supplying its defining quality, and that this has always been the case. Interestingly, the Oxford English Dictionary (OED), in defining the term 'university' cites two etymological sources from Latin: '*universitas*', meaning 'the whole', and the later medieval term '*universus*', meaning 'society or guild'. As a medieval institution, the university would seem to have been understood as a 'community of communities of practice' from the very beginning. In leveraging *communities of practice* as part of the strategy for adapting to the challenges of massive change, universities will in fact be returning to their roots and therein finding the answer.

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A number of discussions have been convened around this paper since its drafting and among the more interesting outcomes of these discussions was the unease felt by working academics to evident mercantilism permeating through the document. Many found the close association of terms such as 're-engineering' and 'cost-competitiveness' with more cherished ideas such as 'learning' and 'research' to be, in a word, unsettling. One of the exchanges emerging from a particular discussion veered off into a debate over the ethical merits of different economic models and how this bore upon the topic. It is certainly true that this paper suffers from a number of issues, not least of which is the unfettered subjugation of 'communities of practice' to specific operational goals albeit noble ones. The usurpation of communicates has been repeatedly shown to be lethal to the very energies that make them function so this does stand as a warning. But if any organization can find a way to run this gauntlet successfully, it will be the university.

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