1

Introduction: The Changing Face of Higher Education

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Higher education, initially small universities gathered around respected teachers, has always had two purposes: first, to provide an advanced education in the disciplines that support the existing order by maintaining existing knowledge and passing this knowledge on to succeeding generations; second, to offer opportunities for research, debate, and the extension of knowledge. There is a third purpose, which, although not so explicit, has become increasingly important, namely to provide a forum for the articulation and critique of the values of societies that proclaim themselves to be democratic. These – sometimes competing – roles of universities as guardians of established knowledge and as creators of new understandings through challenging existing beliefs have been central to their contributions to society. For example, in the late Middle Ages and the Renaissance, alongside educating those who sustained the two pillars of a stable society, universities were pivotal in the rediscovery of the intellectual achievements of Greece and Rome and, based on them, in the creation of new knowledge and values, particularly in the sciences.

To a considerable degree, contemporary higher education is still assumed to have the first two functions of creating and stabilizing knowledge, which have allowed institutions of higher education to both shape and respond to the educational demands of the societies of which they are a part. However, in the past two centuries, there have been several specific changes in the ways higher education has been expected to perform its functions for the benefit of the larger society.

First, the Industrial Revolution provoked an emphasis on the knowledge involved in the practical application of new discoveries, particularly in the sciences. This led initially to the creation of new disciplines such as engineering, medicine, and, more recently, computer science and applied psychology to meet the need for workers with the specialized knowledge and skills necessary for the development of a modern, technology-based society.

Second is the enormous expansion of higher education in the past fifty years to enable all those who meet the required entry criteria to benefit from advanced education, with specialization in their chosen field. In addition, higher education now also caters for older students who wish either to improve their qualifications or to develop a personal interest through more systematic study. However, while this expansion has widened the demographic range of the student population, it has come at considerable cost, both in the increased size of classes and reduced opportunities for individual tutoring, and in the fees borne by students or their families, which place a particularly onerous burden on students from minority or impoverished backgrounds. At the same time, to meet the growing demand for postsecondary education, additional tertiary institutions, such as community colleges, have been created, which means higher education is no longer solely the responsibility of universities.

The third major change is the increasing dependence of many public universities on alternative sources of funding to overcome shortfalls in state support for their teaching functions. The result is that universities are being forced to operate like businesses, with faculty pressured to seek large grants, to devote time to research and publication, and to engage in entrepreneurial activities, all at the expense of a commitment to teaching at a time when increasing participation rates are making additional demands on faculty teaching responsibilities.

All three changes have arisen through challenges presented by society to the original functions and boundaries of higher education. By responding to these demands, higher education has played – and continues to play – an important role both in the development of individual citizens through their formal education and – albeit less directly – in their contributions to the directions taken by society as a whole. The enduring tension between the roles of universities as guardians and creators/exploiters of knowledge has therefore meant that higher education has changed considerably in the past century or so in response to the changes in the social, political, and technological contexts in which it is embedded and to which it has substantively contributed. However, it does not follow that these changes, in themselves, constitute improvements. Indeed changes in societal demands continue to present challenges for the sector, challenges that we suggest call for a renewed emphasis on the pedagogies of higher education. The question of how best to meet these demands is the focus of this collection of chapters. But before going into further detail about the individual chapters, we first wish to outline what we consider some of the most important challenges facing higher education today.

Challenges Facing Higher Education in the Twenty-First Century

Equity of Participation

As already mentioned, as a result of expansion, there is now much wider participation in higher education than even half a century ago. In many countries, there is at least partial state financial support for students whose families cannot afford to pay the fees and other necessary expenses, and this has made it possible for many more academically successful students from lower-class backgrounds to gain the benefits of attending college or university. However, several categories of young people are still largely excluded: those with disabilities that make it difficult for them to study in the same ways and at the same pace as their age peers; the children of immigrants whose home language is different from the language of instruction; children of families who live in impoverished neighborhoods, particularly found in large urban areas; and children from minority groups that have traditionally been socially excluded.

While many colleges and universities engage in outreach activities that attempt to better prepare students from these groups to qualify for admission, their efforts are only partially successful in overcoming the barriers they face. In a democratic society, every young person should have an equal opportunity to become prepared to meet the criteria for entry into higher education. At present, however, opportunities are not equal, because the schools students attend differ greatly in the quality of education they provide, and, within these schools, the additional support minority students need is often not available. It seems clear, therefore, that if all segments of society are to have the opportunity to benefit equally from higher education, outreach needs to go beyond the upper level of secondary schools to contribute to the improvement of public education more generally.

Theories of Learning

The expansion of higher education came at a time when theories of learning and teaching were undergoing major changes. In the early part of the twentieth century, behaviorism was the accepted paradigm, with its emphasis on association and reinforcement as the key concepts. This theory had little influence on the way small seminar classes and tutorials were conducted in colleges and universities. But when classes began to increase in size (currently some introductory courses are taught to a thousand or more students), the old ways of teaching became unmanageable and, for want of a better alternative, teaching reverted to "delivering the curriculum," with an emphasis on lectures and textbooks, and with learning assessed by exams mainly concerned to test whether students can correctly remember what has been taught.

Furthermore, all new learning is now recognized as building on the learner's previous experiences and what he or she currently understands.

In the meantime, many of the behaviorist assumptions about human development, learning, and teaching have been challenged by theoretical and empirical research, which has led to a very different conception of the ways they are interrelated.

First is the active nature of learning. Far from being overwhelmed by a confusing barrage of sensory input, from the beginning the newborn infant actively works on constructing meaning of the events in which he or she is involved. Theorists vary in how far they attribute the meanings that are made – the concepts or schemata that are constructed – to the innate organization of the mind and brain, but all are agreed that the infant's learning is dependent on acting in the world and gaining information through feedback that allows "hypotheses" to be tested and, when necessary, revised.

Second is the recognition that learning is not solely an individual achievement. A considerable amount of learning occurs through taking part in activities undertaken jointly with others, in which more expert participants model and provide assistance in mastering the knowledge and skills that need to be learned. And third, learning is no longer seen as a purely cognitive process, because it involves the learner's social relationships with other participants as well as his or her emotions and motivation with respect to what has to be learned.

These new theories of learning, which are now supported by a wide range of technology-enhanced pedagogical tools, call for a different kind of teaching from the traditional lecture and test approach. Not only do students need to play a more active part in the construction of knowledge, but they also need to engage collaboratively with their peers in this process. Furthermore, in addition to the necessary focus on the core concepts of the discipline into which they are being apprenticed, students should be encouraged to explore the social and political implications of what they are learning through projects that foster their creativity and self-direction in planning and carrying out practical investigations and interventions beyond their role as students. Thus, higher education should be not only a preparation for a career but also a basis for lifelong learning as an informed and engaged contributor to the wider society.

Blurring the Boundaries of Higher Education

These goals, and the forms of active learning that support them, have also led to a questioning of simple relationships between acquiring knowledge in universities and applying that knowledge in the fields of practice. Simple

knowledge transfer is no longer taken for granted; instead the alternative notion of progressive transitions has led to a new focus on the learning trajectories of students as they move between sites of higher education and the workplace. This focus on student learning across diverse sites has required universities, particularly in the area of professional preparation, to develop pedagogic partnerships with a wide range of workplaces. At the same time, the relationships between academic researchers and research users have placed new emphases on the co-configuration of new knowledge in partnerships that span the boundaries between universities and other institutions in the wider society.

While these developments ensure a stronger link between universities and the societies in which they are situated, these societies now recognize that they in turn are embedded within transnational, indeed global, economic and social systems. Globalization and the social mobility it requires present new challenges to national systems of standardized accreditation, and these challenges are leading universities to think of their teaching as well as their research in international terms.

Education as Business

In many countries, state support for higher education in recent decades has failed to keep pace with the increasing numbers of students eligible for admission. In addition to increasing class sizes, as already mentioned, institutions of higher education have had to find other ways to balance their budgets. This has led to a considerable increase in the search for alternative sources of funding. Particularly in universities, the securing of large research grants from industry, as well as from national research councils, has become a major activity in which all faculty members are encouraged to participate. Indeed, one of the criteria by which these institutions are judged is the total amount of external funding they are able to obtain.

An inevitable consequence of this business orientation is that securing grants and carrying out the research for which the grants were obtained becomes the first priority for many faculty members. They therefore have less time to devote to their role as educators. True, research grants allow the most able graduate students to be employed as research assistants and to benefit from the stipends involved; however, this reduces the likelihood of these students gaining the apprenticeship into university teaching that is possible when they are employed as teaching assistants in large courses. The long-term effect of treating institutions of higher education as businesses is that improving the quality of undergraduate education through adoption of the methods derived from contemporary theories of learning and teaching is

likely to have a low priority. The challenge for institutions of higher education, therefore, is to achieve a better balance between keeping afloat in hard times and continuing to fulfill their major responsibility of providing the best possible education for their students.

Preparing Students for the Professions

As has long been the case, higher education plays a major role in preparing those who plan to enter the professions. In this way, it has a strong influence on the kinds of knowledge that shape the various professions and organize the world of business and industry, though, as we have observed, new partnerships mean this knowledge is now developed in closer relationship with the fields in which it is used. Crucially, this responsibility is not confined to ensuring that graduates from professional programs are fully abreast of the latest theories and technologies in their fields. Equally important is that they have given serious and sustained thought to the roles the professions serve in society and to the values that guide the performance of those roles. This is particularly important in the preparation of future educators, because it is on them that many aspects of the future of society as a whole depends.

So far, we have considered how universities and other institutions of higher education have, over time, faced a series of potential contradictions between their espoused purposes and societal demands and on how they have attempted to resolve those contradictions. However, responses to the new challenges posed by globalization, global warming, and the ongoing financial crisis have shown even more starkly that the problems outlined here have not been adequately resolved and, indeed, that they are now more pressing than ever.

The editors of this volume and the contributing authors share the belief that analytic tools developed in the tradition of Cultural Historical Activity Theory (CHAT) may contribute to meeting these challenges in ways that are in accord with the key purposes of higher education just outlined. In the next section, therefore, we offer a brief overview of the development of the key principles of this theory for those who may not be familiar with it.

The Contribution of Cultural Historical Activity Theory (CHAT)

Although relatively new to the English-speaking world, Cultural Historical Activity Theory originated in Russia in the 1920s and 1930s in the work of Lev Vygotsky and his colleagues, Alexander Luria and Alexei Leontiev. Suppressed by the Soviet government for several decades, the work was continued after Vygotsky's death by Luria and Leontiev, and gradually became

publicly available again in the late 1950s with the first translation into English of Vygotsky's major text, which appeared in 1962 under the title *Thought and Language* and included a foreword by Jerome Bruner. Since then, works by all three intellectuals in the original group have been published in many languages in addition to English, and scholars from around the world have continued to develop the theory.

Reacting to the prevailing psychological theories of the early twentieth century, Vygotsky and his colleagues set out to develop an alternative that would center on the explanation of human consciousness, with the aim of creating a theory that would provide a basis for improving the human condition. Central to this project was Vygotsky's important initial insight that, unlike other species, which act directly on the objects of importance to them, humans make use of artifacts to mediate their actions. The most obvious of these artifacts are material tools, but Vygotsky recognized that "signs" – language, diagrams, and so forth – also function in an analogous way to mediate mental activity. Furthermore, he argued that, over the course of phylogenetic development and the historical development of individual cultures, human beings had increasingly come to use these different artifacts to regulate their own material actions and mental processes – "from the outside in" – and thus to gain greater control over the world around them. This concept of "double stimulation" – creating an artifact to mediate action – played an important role in the group's early experiments and in Luria's later work in neuropsychology. In more recent times, recognition of the self-direction made possible by these mediational means has provided the basis for the development of a theory of human "agency" (Stetsenko & Arievitch , 2004).

Much of Vygotsky's own research focused on the role of semiotic (i.e., sign-based) mediation in human development. Unlike those who see conceptual development as largely building on innate foundations, Vygotsky distinguished between natural and cultural development, arguing the two are intertwined from the beginning, with biological inheritance given specific form by the child's participation in a particular culture. This led him to emphasize the importance of history for understanding development: not only do individuals develop over time, but so do cultures and the families, communities, and institutions that constitute them. Hence the name "cultural-historical" for the theory Vygotsky and his colleagues originated.

Leontiev summarized Vygotsky's thinking about the development of higher psychological, or mental, functions:

> The tool mediates activity and thus connects humans not only with the world of objects but also with other people. Because of this, humans' activity *assimilates*

the experience of humankind. This means that humans' mental processes (their "higher psychological functions") acquire a structure necessarily tied to the sociohistorically formed means and methods transmitted to them by others in the process of cooperative labor and social interaction. But it is impossible to transmit the means and methods needed to carry out a process in any way other than a social form – in the form of an action or external speech. In other words, higher psychological processes unique to humans can be acquired only through interaction with others, that is, through interpsychological processes that only later will begin to be carried out independently by the individual. (1981, pp. 55–56, emphases in the original)

During his brief professional life, Vygotsky had a continuing interest in the role of semiotic mediation in the developing relationship between speaking, thinking, and concept development. From his research and in reaction to Piaget's early work on "egocentric speech," Vygotsky proposed a sequence in which children's speech development starts as an integral aspect of their social interaction with other speakers; then, around three to four years of age, they begin to vocalize their speech – even when alone – as an "egocentric" accompaniment to, or director of, their own actions; finally, this externalized speech for self loses its external aspect and becomes what Vygotsky called "inner speech," the medium for solo thinking and problem solving. Through this sequence of development, children gradually take over the ways of thinking already established in their culture, transforming them into a personal medium for reasoning, problem solving, and reflection through the dialogue of inner speech.

In his last book, *Thinking and Speech*, Vygotsky turned his attention to the role of semiotic mediation in the early school years, when children begin to encounter and gradually master what he called "scientific concepts" – or what is nowadays called "academic language." It was in this context, too, that he developed most fully the metaphor of "the zone of proximal development" (zpd). Because he believed that learning leads development, he argued that "learning is only good when it proceeds ahead of development," and so, when a teacher works in a student's zpd by assisting him or her with a task he or she cannot manage alone, the student's learning "awakens and rouses to life those functions which are in a stage of maturing" (1987, p. 212). While Vygotsky envisaged the assistance being given by an expert other, some scholars have proposed that development can also be advanced by other participants in a collaborative activity in which no member is an expert but all learn with and from each other (Wells, 1999). Expanding this line of thinking further, it becomes clear that all knowledge is created, as well as appropriated by individuals, in the discourse among people working together in a specific situation to create or improve an artifact or to solve a problem of importance to the group.

Whereas Vygotsky tended to focus on interpersonal interaction and the relationship between speaking and thinking, Leontiev was more concerned with the context of activity in which tool use as well as symbolic interaction occurred. However, both were in agreement that "cooperative, goal-directed, artifact-mediated activity" was the basic unit of analysis. In the years following Vygotsky's death in 1934, Leontiev went on to give greater precision to the concept of activity by proposing an analysis involving three levels or strata: activity, action, and operation. From one perspective, these categories can be treated as a hierarchy, with an activity carried out through an action or sequence of actions, each consisting of one or more operations. However, as Leontiev formulated the relationship between the three strata, it is clear he also thought of them as different perspectives on the same event: "When a concrete process – external or internal – unfolds before us, from the point of view of its motive, it is human activity, but in its subordination to a goal, it is an action or chain of actions" and "the action has special qualities, its own special 'components,' especially the means by which it is carried out … actions are concerned with goals and operations with conditions" (1981, pp. 61, 63).

Another way of distinguishing among the three perspectives is according to their relative scope. Activities are driven by motives to meet basic human needs and, as such, are not individual in origin but are collective endeavors that are socially and historically developed within a particular culture. Actions, on the other hand, are specific instantiations of an activity and are situated in a particular time and place with goals appropriate to the occasion. Furthermore, because each occasion involves particular participants and available resources, the operations by means of which an action is carried out will depend on these aspects of the situation.

By putting forward this tri-stratal theory of human activity, Leontiev clarified the relationship between individuals' actions and the larger activity systems in which those actions are carried out. First, a particular activity can be enacted in many different ways and, similarly, the same action may play a part in different activity systems. Second, over time, what started as an action may take on the characteristics of an activity system in its own right, as is the case with the development of formal education. Third, an action that initially required thoughtful attention to goal and operational means can become so routinized that it is spontaneously recruited as an operation within a more encompassing action. An example might be a child who first has to deliberately carry out a calculation involving multiplication with pencil and paper but, having memorized the multiplication tables, can do the calculation in his or her head.

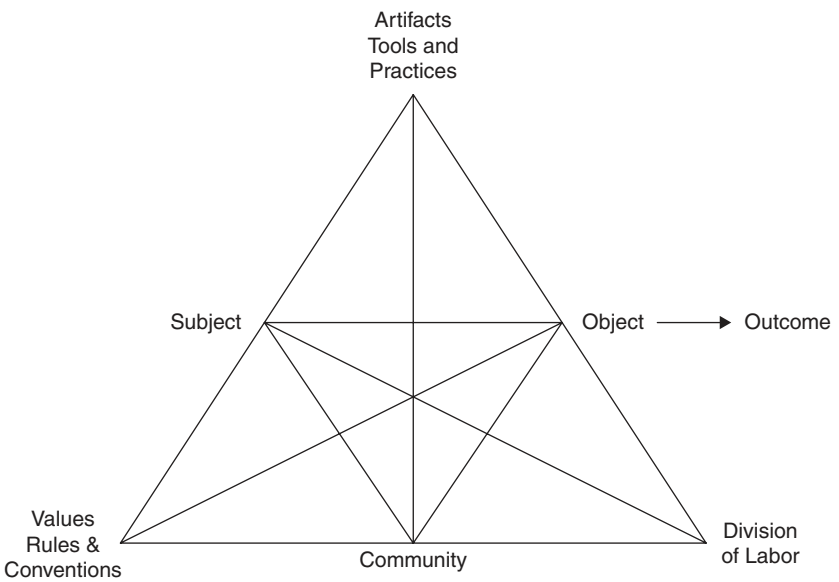

FIGURE 1.1. Engeström's (1987) representation of an activity system.

Like Vygotsky's theory of semiotic mediation and intellectual development, Leontiev's activity theory has been expanded and put to use in a variety of research contexts. Particularly influential has been Engeström's (1987) representation of an activity system in terms of nested mediational triangles, which show the ways a subject's action on an object with the aid of mediating artifacts is related to the community activity system in which it occurs, with its division of labor and its values, rules, and norms (see Figure 1.1). This conceptual tool has played a key role in the various projects conducted in the field of developmental work research.

Another important addition to the toolkit is Lave and Wenger's (1991) conceptualization of learning as an inherent aspect of participation in a community of practice (CoP), as newcomers gradually move from being legitimate peripheral participants to knowledgeably skilled old-timers. Of particular importance from their perspective is the recognition that learning through participation does not require formal instruction; also that identity is formed and developed in the process of moving from the periphery toward the center of the community of practice.

Once full recognition is given both to the cultural-historical nature of development and to the complex ways individuals become reciprocally related to increasingly larger groups and to society at large, it becomes necessary to be explicit about which of the possible levels of analysis is/are appropriate