Towards a cyclical model of distance education

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Abstract: We would like to argue that what is needed in higher education now is a concerted and strategic revision of the working practices of universities worldwide. We trace the developments that have led up to the current state of affairs and provide a detailed exploration of the theoretical models that apply to technology-supported teaching and learning in the new global economy.

Key words: distance education, higher education, model of university, cyclical model, technology-based learning and teaching

1. INTRODUCTION

The university of the 21st Century finds itself in a state of flux, characterised by continual changes and shifting demands of society, economic instability and technological advances. Changes are taking place in the methodologies academics employ to teach, evaluate and assess. Competition and deregulation are ensuring that students have a greater choice than ever before about where, when and what they study. Students are demanding greater flexibility and greater freedom in engagement, but economic drivers such as government spending cuts prohibit a great deal of innovation. Distance education (DE) is viewed by many as a cost-cutting approach to ameliorate such problems, but this view in itself represents a false economy. Although it provides better access and flexibility, distance education generally costs more, and is increasingly reliant upon technology.

We would like to argue that what is needed in higher education now is a concerted and strategic revision of the working practices of universities worldwide. We trace the developments that have led up to the current state of affairs and provide a detailed exploration of the theoretical models that

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apply to technology-supported teaching and learning in the new global economy.

One of the key indicators of the changes in a field of human knowledge or activity is its associated terminology, the analysis of which enables us to detect changes and perceive trends appearing in the field. Thus, along with the clearly evident boom in the development of educational computer courseware and on-line learning, our own investigation of educational technology (ET) and its terminology has showed a distinct shift in redefining education over the last 5 to 7 years. We could observe this by analysing the frequency of attributes used to characterise education. For example, just a few years ago when educators spoke about education, or instruction, or teaching, or learning that involved computers, they used the definitions 'computer-aided/assisted/ supported'. A classic example of this phenomenon was computer-assisted learning (CAL). Today we are more likely to refer to 'computer- or web-based' education/ instruction/teaching/learning, for example, computer-based learning (CBL), or web-based learning (WBL) (Serdiukov, 2000).

This shift reflects a change in our perception of the current phase in the development of education - we no longer assign a supportive role to technology. On the contrary, technology has become an integral part of it, is shaping it, and ultimately is spawning new forms of education that are totally based on technology.

These developments lead to the emergence of new types of institutions in which technology provides a foundation for instruction, including the United Kingdom Open University (UKOU), California Virtual University (CVU) and Western Governors University (WGU). Existing correspondence schools like Phoenix University, have begun using technology as a delivery media on a large scale. We can also observe a rapid reorientation of the traditional schools: according to various statistics (see web-site at <http://nces.ed.gov/pubs98/distance/index.html>) about 70% of US universities and colleges have begun to offer distance courses in the last 4 to 5 years.

Modern ET based on computer and telecommunication technologies, or, using a broader and more inclusive definition 'knowledge media' (Eisenstadt, 1995) made possible an amazing integration of global resources. Besides amassing huge data bases on the web that are available to anybody everywhere in the world, it allows us to join educational forces; now schools can pool their resources, or develop new integrated structures. We are witnessing the emergence of new educational configurations that intend to transform the market for higher education to give people better access to instruction and training, greater choice for study, and more flexibility of learning. Let us discuss these new structures.

2. MAJOR TRENDS IN DISTANCE EDUCATION

We can single out two major trends in contemporary distance higher education. The first is the accumulation of resources under the roof of a single university with the purpose of expanding the school's services. The second is the integration of the resources and services of several schools in order to improve marketing, to go beyond local geographical boundaries, and to challenge traditional catchment areas thus reaching students regionally, nationally or even globally.

Accordingly, we can now identify two models of contemporary universities that offer DE: an Expansion Model (or Single-School Model), and an Integration Model (or Multi-School Model) - both differ from the conventional Campus University Model. The second model has two varieties - Informal Integration Model, or Informational Model as it is based on informational co-operation, and Formal Integration Model (Systems Model). Integration based on the Informal Model can be in the shape of an association or a consortium (Serdiukov, 2001a).

The first structure of this new type was The UKOU established in 1969 and built on the principles of an Expansion Model. It is a single institution that develops and offers its own educational resources and services. The UKOU has grown intensively in 30 years and today it grants degrees to over 200,000 students from 17 countries annually. According to Daniel (1996), universities founded on this type of model are known as Mega-Universities. Mega-Universities are categorised as having 100,000 or more students studying at any one time.

The next development was CVU that did not grant degrees or certificates but helped to locate information about courses and certificate or degree programmes offered at a distance by local Californian universities and colleges. CVU represented the Integration Model of the first type, which had a simple structure based on co-operation between participating Californian universities and colleges. It can also be termed a local "Educational Information Network".

An Integration Model of the second type is represented by the WGU that was initially created with the goal of combining the educational resources of 13 US Western States (presently it involves schools from 23 states) and broker them through one structure in order to improve marketing of educational services of the regional universities and go beyond local geographic limits. It is a step up from the CVU Informational Model - WGU is a complete system, an accredited school that offers both single courses and full degree programmes. We also call the model of this type a Funnel Model as it collects educational resources of the participating providers of higher education at the wide end and produces an increased market effort at the

narrow end, thus designed to more efficiently reach and serve a wider population of students in the Western US region.

WGU is a new marketing and delivery formation for higher education: it looks more like a business venture than an educational one. It can widen access of students to educational services in the Western States and, maybe, beyond; it can also increase the reach of the universities to the students as customers. It may eventually allow the WGU to compete more successfully for new students.

The WGU model is attractive from both economical and managerial points of view as it may eliminate numerous small universities and colleges that provide the same education, and replace them with one huge but cost-effective system. However, it could face numerous problems - the participating schools' unwillingness to disintegrate and respective state governments' support of them in this issue is but one. Still the WGU model has the potential to rise to the higher education challenges of the 21st century unless the university itself is not overwhelmed with economic, political, logistical and managerial problems. At the present, it falls short of the definition of a mega-university that has to satisfy three criteria: "distance teaching, higher education, and size" by the last one, that requires it to have over 100,000 active students in degree-level courses (Daniel, 1996).

3. CYCLES THEORY ANALYSIS

Consideration of the tendencies and structures in contemporary distance higher education allows us to identify cycles in the development of new schools and predict the design of the future formations on the basis of the "cycles" theory (Serdiukov, 2001b).

The theory of cycles in the development of society was elaborated by Friedrich Engels in his *Dialectics of Nature*. Engels asserted that history developed cyclically, each time rising to a different level (Engels, 1974). Meditating over the economic issues of the 19th century, a French doctor Clement Juglar regarded business cycles as the interaction between external facts and internal workings (Cipolletta, 1994). Baldock in his book '*Destination Z: The History of the Future*' also expresses his view that life goes round in cycles. As an example he uses the current popular trend of 'home-working' using electronic links between customers and suppliers that is reminiscent of the 'home-working' of the pre-industrial age (Baldock, 1999). Does not distance education remind us of mentoring and tutoring of the old days? Business and education are the two forms of human activity incorporated into the society. As education becomes increasingly industrialised and commercialised, we can extrapolate the laws governing

society and business, as there are undoubtedly similarities in their development.

Education is a whole dynamic system that develops and transforms from one state to another in the process of its functioning under the influence of external factors. These include the growing sophistication of human activity prompted by the impact of the new information technologies, and the resulting need for continuous, life-long professional development. Technology-based DE is an emergent feature of the interaction between external social and economic factors and internal development of education itself. There also exists the internal urge within the system of education for improvement in order to survive during a period of dramatic external changes. Therefore, the educational system must continue to maintain the impetus of its transformation in order to adapt to these external factors and introduce new forms and methods of education.

As the economy becomes more customer-oriented, education also needs to re-orient in a similar fashion. R. Baldock (1999) suggested an interesting theory identifying two major engines of change in the contemporary business world: "the pull that comes from increasingly demanding consumers; and the push that comes from the fear of suppliers that they will be left behind if they are not being innovative every moment of their corporate lives". Microsoft's Bill Gates and Nathan Myhrvold warn that the industry leader cannot afford to slow down, but must press onwards, as competition is always just a few steps behind (Gates and Myhrvold, 1999).

This theory can be readily applied to the DE: whilst students are becoming more and more demanding, the number of schools of different types and levels is multiplying with every year in order to satisfy these growing and varied demands. The existing universities then, if they wish to survive and maintain economic growth throughout increasingly intense competition, must be innovative and introduce new, more efficient and individualised forms, tools and methods of teaching and learning, as well as broaden the range of educational products and services they offer to students. Wheeler (2000) offers five areas of activity for universities to focus on in the global economy. These are:

- Collaboration.
- Investment in new technologies.
- Development of human infrastructures.
- Widening access and exploiting new markets.
- Specialisation and 'niche' product development.

Without these strategies, argues Wheeler, universities may not be able to survive in the face of the fierce economic climate that is now prevailing. So the law of demand and supply is not only driving economic change, but also educational change.

This drive for the development and diversification in higher education has two major mechanisms for its implementation: an internal and an external. The first is for the university to find and employ the resources within its structure; however, there comes the point when it cannot expand any more. With the pull continuing, the universities have to turn to the other mechanism attracting the sources of educational products and services from the outside, with the aim of combining them with their own and thus producing a different, more attractive mix of educational products and services. This leads to the formation of associations and consortia of universities that can jointly raise the standards of their products and services to a higher level and thus become more competitive.

Within these informal structures tensions emerge and develop that originate from the desire of individual partners to preserve their independence. Institutions also hope to save on their overheads associated with unification, for example, in emulation of the events at CVU. These tensions are counter-productive and may lead to the eventual collapse of these unifying configurations. Yet, while the stronger schools may choose to struggle for their survival independently, the weaker ones will cling together more closely for co-operation and mutual support under one umbrella. Then, individual differences and barriers between the members of the latter group will disappear, thus leading to complete mergers and the emergence of big all-embracing structures. This is, probably, what we are going to see in the next two or three decades on the national, as well as international, levels bringing about multinational educational corporations.

This phenomenon of merging and consolidation is based upon the "law of the transformation of quantity into quality": *"qualitative changes can only occur by the quantitative addition or subtraction of matter or motion"* (Engels, 1974).

4. THE PRESENT AND THE FUTURE

Thus, we would like to present our view on the current and future development of the new educational structures providing DE based on the 'cycles theory':

1st Cycle (1969 - 1995)

Expansion/Single-School Model (The UKOU)

1. Integration Model

2.1. Informal local Educational Information Network Model (CVU)

2.2. Formal regional Integration (Funnel) Model (WGU)

2nd Cycle (1996 - 20..)

Expansion/Single-School Model multiplied in separate universities and colleges

1. Integration Model**2.1. Informal global integration****2.2. Formal global system**

The development of DE was completed in the first cycle with single and integrated local and regional structures by 1995, and has come onto the second cycle that, at first, saw the explosion of the distance educational capabilities of the existing schools (since 1996). From now on resources and services of individual schools will be gradually integrated. This will take place initially on an informal basis in the form of configurations like associations or consortia, and subsequently, will transform into a unified, formal, multidimensional, multilevel and flexible global system of up-to-date, life-long higher education. This future system will be abundant in diverse educational resources and services that will be offered to anybody in the world on a continuous and affordable basis. We believe that formal integrative models stand a better chance of representing new educational systems in the 21st century, as we observe mergers and consolidation of businesses around the world, centralisation of higher education in some parts, for example, in Anglo-Saxon countries (Berg, 1993) and the general tendency of globalisation (Davis, 1999). These are the characteristics of the current stage of economic and social development in the world that are, to a great extent, the result of technological progress.

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BIOGRAPHIES

Peter Serdiukov is an associate professor in the Department of Teacher Education at National University, San Diego, USA. He is currently doing research on models of web-based higher education and is teaching methodology of second language instruction on-line and on-site. Within the last ten years he has been engaged in teacher preparation and professional development in various socio-technological environments. His major interests are distance education, short-term intensive instruction, technology applications in teaching and learning, and terminology. **Steve Wheeler**, Ph.D. is a senior lecturer in the Distance Education Department, Faculty of Arts and Education, at the University of Plymouth, UK. His research interests are focused on educational technology, individual differences in learning, technological threat and student perceptions of computers, transactional distance, telematics (convergence and integration of technologies, benefits analysis of distributed learning technologies, intelligent tracking of on-line student activities, applications to distance learning delivery), and creativity in ICT.