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Cognitive Approaches in the Transfer of traditional Learning to the Virtual Classroom



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There are major efforts currently under way by several institutions of higher learning to consolidate online education. These efforts have provoked widespread optimism in the new field of e-schooling sparked by a combination of strong demand and institutional incentive schemes. In order to understand the new developments, it is necessary to grasp the distinctive character of Distance Education and the virtual classroom. Any teacher or student of higher education today who has had the chance to participate in the online experience has readily recognized that there is a world of difference between the traditional brick and mortar and the asynchronous settings that define the two individual systems. For teachers with a more traditional turn of mind and far-removed from contact with electronic-based education, the attitude towards DE is that of ‘wait-and-see’, at best, and derisive cynicism, at worst.

From the objective point of view, it could be stated that the traditional and the virtual classroom each requires different kinds of people to appreciate the underlying merits. Some teachers will thrive on the real-time interaction with a classload of knowledge-hungry adult students in a physical environment. Some students will also thrive on the intellectual challenge presented by the physical presence of a teacher as mentor. All these considerations are potent reasons why traditional delivery systems will never be abolished in favor of electronic-based learning.

Distance Learning is not new

The effectiveness of learning from a distance by means of electronic media (the radio in this case) was first researched as early as 1939 in certain Detroit public schools (*D. C. Cook and C. L. Nemziek: “The Effectiveness of Teaching by Radio” in Journal of Educational Research, 33(1); 105-9, 1939*). The research concluded that students taking classes via radio performed as well as or better than those enrolled in a traditional classroom.

This indicates that education by means of distance delivery systems has been in place for well over 50 years now. However, major efforts in the direction of large-scale distance learning began in the 1950s under the auspices of ministries of education in Africa, Asia and Latin America pioneered and supported in part by UNESCO, the U.S Agency for International Development (USAID) as well as other donor agencies. Existing case studies involving these projects have variously demonstrated that if distance learning had not been available, very little learning would indeed have resulted in most of the developing world.

The experiences gained from those ventures have all testified to better cost-per-student ratios with regard to distance learning than to traditional methods of schooling. Furthermore, in all of those learning schemes, technology played a significant, if not critical, role. Applying some crude methods initially to meet insatiable demand, the system was able to guarantee sharp increments in student achievements, and became improved by the early 1970s through a series of ad hoc projects. For instance, the challenge of training teachers in Indonesia across the 13,400-island archipelago, covering a distance the length of the continental United States, could never have been realized without full reliance on a combined implementation of correspondence-radio mode of delivery and interactive conferencing.

Enterprising political detainees under totalitarian regimes, incarcerated in the deepest recesses of maximum security prisons but with the liberty to pursue academic interests deemed non-subversive, have all benefited in the past from various forms of distance learning.

Case studies point to experiments with, and important insights gathered from correspondence learning, courses via radio, audio-conferencing courses – often by means of satellite and augmented by audio- or teleconferencing (***Interactive Radio Instruction: Confronting Crisis In Basic Education***, A.I.D., Science and Technology in Development Series, Washington DC, Agency for International Development, 1990; Patrick Suppes, Barbara Searle, and Jamesine Friend, eds., ***The Radio Mathematics Project: Nicaragua 1976-1977***, Stanford University 1977; Maurice Imhof and Philip Christensen, eds., ***Teaching English by Radio: Interactive Radio in Kenya***, Academy for Educational Development, 1986).

A great deal of the comparisons drawn from the existing research on distance and traditional students all point to the conclusion that the degree of learning potential, indeed, is equivalent for determined students in both systems all over the world. It is also true, that distance education online has evolved in the highly industrialized world to meet a different kind of need from that in the currently industrializing world. However, there is a great deal of common concerns that link the two efforts, namely, those of effective teaching and student development.

Distance versus traditional Learning

While distance education has become an attractive option in the developed world for completely different reasons from those that produced its emergence in the relatively non-industrialized societies, the term “distance education” employed in the present context is to be seen restrictively in terms of computer-aided online instruction and learning via the internet, as opposed to the methods of earlier media. The computer of today is the product of a more versatile technology. In addition, it could be argued that the potential of the internet to forward the interests and demands of DE far outrivals any comparable media applied in earlier distance-learning schemes.

Clientele Profiles and the Attractiveness of DE as a Delivery System

The grounds which exist to resist the temptation to write off f2f or to assume that f2f will someday succumb to DE are legion. But so also is the diversity of the reasons why net-based courses are bound to attract an increasing amount of students in the future. In fact several developments map out the clientele and potential beneficiaries of distance

learning. A number of the comparative research with emphasis on costs is linked closely to the advantages of distance education whereby students pursue courses of study from the comfort of their homes – even the discomfort of prisons and hospitals - and exercise control over the pace of their own learning with the added benefit regarding the minimization of expenditure. Institutions of higher education, including our own, have recognized these needs of students at remote military installations, at school, at home, and on the job; the training needs of personnel for performances in professional roles within national agencies and private corporations as well as the needs of adults determined to boost their productivity, advance their personal skills or to enhance their intellectual scopes.

Hence, the perspective of the student will need today to address the following issues when presented with the online option: will it provide the individual student with scope to gain wider access to academic information? How far will digital schooling match the student's strengths, weaknesses, values and needs? What reputation does the institution responsible for the DE program have regarding traditional learning to begin with? Is the student prepared to allocate a reasonable amount of time, energy and resources to follow through the rigors and discipline associated with a web-based course?

The ultimate answers to these questions are at the core of the variables that justify a great deal of optimism for the future of online education.

A number of the earlier research works dealing with the comparative analysis of DE and f2f that have tended to question the effectiveness of the remote delivery system have argued that there is more to being a successful teacher than to being a mere presenter of material. Typically, a greater amount of emphasis has been placed on the factor of physical interactivity and its expected enhancements with regard to: a) the ability to foster inter-personal relationships with a view to promote understanding between teacher and learner; the ability - b) to respond to questions directly in real-time, c) to offer encouragement in appropriate moments, and, d) to assist the student to grasp the course material.

Although there are merits to the viewpoints expressed above, first, the inherent arguments betray themselves as sound only in so far as they point our attention to the existence of multiple dimensions of learning methods. Experience indicates that the application of methods to achieve effectiveness is primarily independent of means and spatio-temporal factors. Whether in a face-to-face or an online scenario, the dimensions necessarily include the exchange of information, feedback, creative problem-solving and the generation of useful ideas – all in an input-output scale of events. Indeed, these elements all involve the necessity to analyze and tackle complex issues; and they may be considered to amount to what constitutes the factor of “interactivity” in the best of senses.

Second, there are tangible grounds to accept that there are situations in which web-based education may be seen as clearly inappropriate. For example, lab-oriented courses requiring intensive supervision by instructors may not be conducive to the digital delivery method. Lastly, notwithstanding the nature of the arguments warranting a critique of learning from a distance, the question is not whether teaching online as a

method is effective but rather how the available teaching tools online can best be applied to teach effectively. Once such tools are made to ripen to maturity, they will help to demonstrate that if f2f has been the predominant educational method of choice in the past, the online format is well under way to becoming a major option in the coming years. In conclusion, since what is true for the f2f method is mostly equally true for the online context, the result will be the harmonious co-existence of two mutually complementary systems.

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