The Future of Educational Technology is Past – A Reaction

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I agree with Mitchell's analysis. It addresses a fundamental problem of most educational technologists who tend to focus upon the sophisticated dissection and creation ofinstructional processes and instrumentations, more than upon the actual accomplishments of learners in achieving personal/ societal goals and in acquiring enduring skills and knowledge. The consequence of this emphasis is that the partnership of the learner in identifying personal values, motivations, problems has often become obscured and lost. Frequently the learner's task has been to achieve short-sighted, immediate, transitory goals, rather than those which call for a matching of instructional techniques and materials with complicated long-term learner idiosyncracies. And another problem is that sometimes there is a tendency to judge technologists' competence more on the basis of models and complicated instructional systems than on the effects of those systems in producing learner satisfactions and intellectual, social emotional growth.

My bias suggests that we must be, fundamentally and foremost, communication specialists whose goals, in general, are to understand and support interaction processes among learners and instructional systems with the hope of establishing learner "self-hood" and residual behaviors which support inquiry, introspection, adjustment, originality, psychological/philosophical balance, excitement in discovery, self-esteem, and success, (to name a few characteristics). We have developed sophisticated and useful paradigms for identifying desired educational objectives, learner behaviors, instructional instrumentations, and evaluation systems, We have not included in our systems, however, adequate provisions for learners to engage in extensive dialogue with that which is to be learned in order to meet their idiosyncratic drives to achieve in the frame of their immediate referents, intellectual, social and cultural heritage.

There is no doubt that creating an educational system which supports self-realization and a self commitment to broader societal goals will be very difficult to achieve. And it will also be difficult to achieve such ends through control system theory where the self-correcting feedback components inherent in all aspects of the system are critical to know and to control. I agree with Mitchell's criticism that our primary emphasis on one side of the equation (essentially the presentational system) is reaching a point of diminishing returns in trying to maximize learner and system potential.

To create an interactive, self-adjusting educational setting will demand a revised educational structure. It must permit personal attention to learner differences and dialogue techniques which support continuous adjustments in

both instruction and learner involvement, not only in mutual goal setting but also in identifying where instructional processes and instrumentation need complementary alteration. And it must go beyond systems of the past where individualization was characterizedmore by variations in time allotments and space than in significant divergence from stated goals and achievements which, upon careful analysis, often were of short-term value.

One obstacle to reform is an educational tradition which finances group instruction and maintains teacher-pupil ratios on an economic model, hardly conducive to learner/tutor interaction. Such a transformation of schooling will also demand new insights and roles for teachers/tutors as they become agents in the cybernetic system including a determination of how and why teachers control as they do and the implications of such control for other relevant components. Another difficult area will be to convince the general public to support such a system. On the other hand, it could be that many instructional tasks may be assumed through technological innovations, such as providing access to large bodies ofinformation through instantaneous retrieval systems. Thus, human tutors will be free to interact more regularly with learners in continuous adjustment, the uniqueness of two intermeshed minds.

As to the training of educational technologists to the levels of sophistication demanded by cybernetic systems, graduate students and faculty could begin the process of change by recording and analyzing their own referent points and personalized goals as they become immersed in learning cybernetic interchange. This would require, also, the study of control systems in institutions which impinge on substantive educational achievement, from local to global.

I agree with Mitchell's implication that we must get away from expecting panaceas through our sophisticated one-way control systems. By building on what has already been accomplished in specifying educational goals and learner behaviors, it may be possible to avoid the conclusion that "the future of educational technology is already past" by focusing on those areas where societal systems and subsystems must collaborate with instructional designers in creating the utopian interactive, self adjusting system. To do less, even in a small way, is apt to result in Mitchell's prediction of the demise of educational technology, as we now know and practice it.

Instead of limiting learner alternatives, typical of much "engineered' instruction, the goal will be to open learners to a broad spectrum of choices. But even with more sophisticated technologies available, the ever present dilemma in "engineered' solutions will be to determine which alternatives are predictably those which may be required for a heterogenous collection of learners. Perhaps the magnitude of meeting the needs of learners in a dialoging, self-adjusting, tutorial system will make a comprehensive cybernetic system almost impossible to achieve. Considering the magnitude, also, of creating a control system sensitive to simultaneous feedback both within the instructional source and within the learner, the actual reality for a time may be a form of triage, treat only those learners most seriously ill educationally, depending

on other learners, better equipped, to utilize their own ingenuity in achieving personal goals through traditional avenues of instruction. Research in "programmed' instruction, for example, has shown that some learners progressed more rapidly by being left to their own devices in utilizing prose materials in the usual paragraph form, rather than being restricted to the slower, more plodding pace of programmed bits.

Mitchell should be commended for his analysis. I hope educational technologists will take his sobering judgements seriously.

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