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The Importance of Putting Futuristics into the Classroom: Some Practical Suggestions

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Futuristics, the study of the future, has great potential for use by teachers both inside and outside the classroom. In classroom teaching, futuristics can be used to give students an understanding of the future and of their potential roles in shaping tomorrow's events. Outside the classroom, futuristics offers a means for teachers to evolve shared long-term goals and to coordinate their actions so these goals can be realized. Futuristics therefore provides a powerful tool which teachers can use to operationalize their concerns about directing education towards a better tomorrow. In this article, I will briefly discuss the nature and methods of futuristics and then will describe how teachers can use futuristics.

Futurists describe the future by predicting the set of most probable alternatives for the years ahead and then indicating which parameters are most important in determining which of these alternative futures becomes reality. For example, after carefully analyzing current trends affecting the future of public schooling in the United States in 1990, a futurist would develop the set of most probable forms for the public school system one decade from now. He would then indicate which factors, both within education and in society, will determine which of these probable forms will most likely emerge. The factor of a possible lengthy continuation of our present financial crisis in education, for example, would dictate a different form for the public schools in 1990 than if our present financial deficits are soon succeeded by a period of financial prosperity.

The tools which futurists most often use to generate such predictions of probable alternative futures are trend analysis, models, morphological analysis, simulations, cross-impact matrices, Delphi studies, leading indicators, scenarios, and decision trees. Since simulations, Delphi studies, and scenarios can be used by teachers as educational tools, I will describe these techniques in more detail.

Simulations model a "real life" situation or institution in a game. A simulation selects certain aspects of that which it models and, using these aspects, attempts to duplicate the behavior of that which is being modeled. The game Monopoly, for example, is a simulation (a poor simulation) of real estate investment. Simulations in which human beings play roles are often called "games;" simulations without human beings are usually run on a computer. Computer simulations are useful in futuristics because a very complex model of the behavior of some entity (like a school district) can be evolved and then used to predict its future behavior. Simulations with people are useful in futuristics primarily because they give a wider range of alternative behaviors than a machine simulation can generate and thus help to generate alternative futures. Futurists use simulations to model the likely future behaviors of that which they are studying.

Delphi studies assume that a panel of experts can reach an accurate consensus on the time range within which a particular, possible future event will occur. To minimize the effects of a persuasive or prestigious expert, the opinions of the expert panel as to the date by which a particular event is likely to occur are usually solicited by mail. This polling of expert opinions is repeated twice, with the answers on the first poll being sent back to the experts so that their second-round estimates will tend to converge. Naturally, the final range at which the experts arrive is only as accurate as the ability of the expert panel to guess the future. Delphi estimates are usually concerned with predicting the date by which a given innovation may be

operational (e.g., the date by which computer-assisted instruction will be available in most public schools). Futurists can then draw a set of alternative futures knowing the approximate date by which these developments will become a reality.

Scenarios are the device most often used by futurists to generate alternative futures. A scenario writer first envisions a future state of the system he is describing (e.g., the United States educational system of 1990), then attempts to write a rational history of the evolution of the present state of this system into his future states. This combination of a future and a history leading up to it is called a scenario. To the extent that the history he writes is rational and probable, the future state that he has constructed is rational and probable (e.g., if our writer's history called for a billion-dollar federal budget for education in 1982, we would think his scenario unlikely and useless). Usually, the scenario constructs a whole set of scenarios which together exhaust the likely futures for the system. This set of scenarios is equivalent to the futurist's set of probable futures.

Futurists, then, use tools such as these to forecast what likely alternatives lie ahead. Teachers, however, have neither the time nor the expertise to use these tools as futurists do. How can teachers use futuristic tools in their own areas of concern?

First, futuristics can be used in the classroom to give students understanding and a sense of involvement with the future. In the past, teachers have seldom been able to discuss the future with students, as few curricular materials dealing with the future have been available. Further, teachers and students alike often felt impotent to effect any significant changes in the future and, therefore, have tended to shy away from this area. Futuristics, however, provides a means by which we can understand how the future is shaped and offers us a forum for discussing which future we want to emerge and how we can effect its emergence. The proliferation of books on futuristics and emerging futures, moreover, provides the

teacher with a wealth of curriculum materials which requires no special expertise and which is relevant without being trivial.

On the secondary level, well written science fiction such as Nightmare Age can act as an excellent stimulus to discussions on the future. Playing simulation games (Gaming-Simulation: Rationale, Design, and Applications is a good reference book) or even having a class design and then test a simple simulation can be a good way to involve students in attempting to predict the future.

On the elementary level (although many of these suggestions are applicable on the secondary level as well) reports in the newspaper of scientific discoveries can serve as fruitful topics for discussions. The Delphi technique can be used readily even with very young children. By drawing up a list of interesting and provocative questions (i.e., What will space visitors teach people? What are the advantages and disadvantages of immortality? What would you like added to your brain?) and comparing each child's answer with those of classmates, the teacher can lead children to understand what "the future" may be. Works such as Biology in the World of the Future discuss bio-medical innovations that will emerge to complicate the lives of these children as they grow older; the "design your future body" session can help to prepare children for future problems.

Futuristics can be used by educational planners to anticipate problems and attempt to forestall them. Few schools or school systems have a set of shared goals which are valid for the future as well as the present; fewer still realize that futuristics can be used to evolve such goals. With some background in the study of alternatives, teachers can discuss what they would want for their school in 1999.

When some consensus has been reached on the future picture of the school, teachers can try to evolve a plausible history of how the school reached this point. Perhaps the first scenario they evolve

is implausible; in that case, an understanding of the difficulties in reaching those particular goals can be ascertained and the group can attempt a second scenario. If widely varying expectations for the future exist within the group, perhaps a modified Delphi technique can help to create a consensus on expectations while revealing some of the reasons underlying dissident opinions. If the group disagrees on how the school works, perhaps a simulation can be designed to test some of the group's conflicting hypotheses. Thus, through futuristics, a shared set of meaningful goals can be evolved without the need for special expertise on the part of teachers.

Futuristics can also be used by teachers outside the classroom to assess the value of educational innovations or the cost of educational problems. For example, by constructing future scenarios which detail the effects and costs within the school of an innovation like bilingual education, one can decide if it is competitive in that school with comparable innovations. Similarly, we can construct scenarios detailing the possible effects on education of present educational problems like drugs and can then decide what percentage of our resources should be allocated to combating the problem.

The study of the future need not be another esoteric discipline that only specialists can practice; rather, it can be used by teachers both inside and outside the classroom to reorient education towards a futures perspective. In our rapidly changing society, such a reorientation for education is not a luxury but a necessity.