Case Study: Futurizing the K-12 Teaching Practice

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Abstract

Futurizing the K-12 Teaching Practice is an ongoing workshop, co-sponsored by the Texas Association for the Gifted and Talented (TAGT) and the Houston Independent School District (HISD), and taught by a team of both university-based futures faculty and public school educators teaching gifted/talented and future problem solving students. Its participants receive an introduction to Futures Inquiry--a thematic interdisciplinary method for teaching higher order thinking skills--by considering futures principles, techniques and issues. This raises the level of complexity experienced by students in the classroom. Steps for successfully engaging students in futures-based thinking and activities heighten the practical applicability of futurizing the classroom teaching practice.

Keywords: Futures Inquiry, Gifted and Talented (GT), Future Problem Solving Program (FPSP) curriculum standards

Introduction

Lamenting the state of education in 1970 Alvin Toffler proposed broadening the scope of classroom instruction from past and present to include a "future tense." In 1972 Jerome Glenn advocated "*futurizing*" the teaching practice rather than adding separate futures courses to the school curriculum. Although few administrators are receptive to adding yet more content to already bludgeoning curricular demands, "*futurizing*" requires only tweaking current teaching practices to enable a futures-perspective. This small tweak licenses the exploration of questions such as "what" could

have happened instead, "what might happen if," and "what would you like to see happen," returning a state of wonderment to the learning experience. "*Futurizing*" assignments help students mentally prepare for their future. Jerome Glenn (1972) characterizes the objective as an "attempt to get learners to develop a 'way of thinking' which will help them look beyond today and anticipate what they may be faced tomorrow." Since "[w]e cannot build a future we cannot imagine (Elgin, 1998, 78)," let's begin earlier rather than later in building a solid futures thinking capability in our youth.

Background

The workshop, Futurizing the K-12 Teaching Practice, involves a school-university partnership and draws on sponsorship from the Texas Association for the Gifted and Talented (TAGT) and the Houston Independent School District (HISD)[1]. This partnership emerged from an ongoing conversation between teachers of West Briar Middle School and faculty in the futures program at the University of Houston. The West Briar's GT teacher was instrumental in garnering support for the workshop with both TAGT and HISD. The workshop team now consists of teachers at all three levels, elementary, middle and high school as well as two university faculty.

Participants

The workshop fulfills the 6-hour professional development requirement for TAGT Awareness Certification in the core area of creativity and instructional strategies. The workshop ran in October 2009 and January 2010. The twenty-seven participants in the October workshop were primary teachers (Pre-K through high school) from across the disciplines (social science, language, math and physical education) with experience ranging from first year to thirty-two years in the classroom. The twenty-five attendees of the second workshop held at the HISD Administrative Building included administrators (instructional and curriculum designers, assistant principals) as well as teachers.

Overview

The workshop, **Futurizing the K-12 Teaching Practice**, begins with powerful testimonials from experienced HISD teachers, peers of the workshop participants. The intent is to reinforce the relevance of futures in the classroom and its applicability across the curriculum. Our first presenter, a long-time high school teacher and alumna of the University of Houston's futures program, guides participants through the Texas Essential Knowledge and Skills (TEKS) curriculum for science and social science. She highlights easy to implement opportunities to think about the future for kindergarten through twelfth grade students. The presenter also demonstrates how-to retrofit the three differentiation models advocated by Texas Association for the Gifted and Talented (TAGT) with futures strategies. Our second presenter, a Gifted and Talented (GT) middle school teacher, highlights the transferability of futures into the GT classroom through the Depth and Complexity Icons developed by Dr. Sandra Kaplan,

President of the National Association for Gifted Students and a Clinical professor of Education at USC. Icon System is a non-linguist representation used to facilitate acquisition, creation and retention of information in a visualized format. The **Trend** Icon, for example, places visual emphasis on factors (Social, Economic, Political, and Geographic) that cause events to occur. The **Changes over Time** Icon raises questions: "How are elements related in terms of the past, present and future? How and why do things change? What doesn't change?" The presenter enthusiastically endorses the value of the Texas Future Problem Solving Program and recounts her students' successes in the annual competitions.

The instructional phase begins with a small group activity entitled **Metaphors for the Future** (www.facingthefuture.org). Participants rank the four metaphors which likening the future to riding a great roller coaster on a moonless night, to a huge game of dice, a great ship on the ocean and a blank sheet of paper. Broadly-speaking the metaphors suggest varying degrees of personal influence exercised over future outcomes. Not surprisingly, our participants overwhelmingly identify with the metaphor of a great ship on the ocean in which one travels freely over many routes, while accepting personal responsibility for choosing the final destination. The significance of the activity centers on exploring how one's personal perception of control affects the resolution of issues and options in the present and the ability to maneuver towards a preferred future.

Establishing a connection between history and futures facilitated the introduction of basic concepts. The role of history is two-fold: to understand and give context to the changes in our world, and create a bridge between the past and the present[2]. Two simple substitutions transform the statement from past to future. The goal of teaching futures is two-fold: to understand and give context to the changes in our world, and to create a bridge between the *present* and the *future*. The sources of change bridging the present are identified as 1) images of the future as symbols, stories and metaphors, 2) daily decisions and actions often with built-in time-delays, 3) conditions with sustainability, momentum and directionality pushing through from the past, 4) oscillating cycles with future turning points, 5) issues flowing from the periphery into mainstream conscience and 6) completely unexpected 9/11s (events). Multiple sources of change admit the possibility of multiple rather than a singular future.

At the heart of the workshop is the introduction of Futures Inquiry. Futures Inquiry is a thematic interdisciplinary methodology for teaching futures principles, techniques and issues. Futures Inquiry raises the level of thinking complexity by adding the element of change, its dynamics and its implications to classroom assignments. Futures Inquiry emerges from the overlap of three higher order thinking skills; 1) systems thinking, 2) divergence thinking, and 3) futures thinking.

Systems thinking is a discipline for seeing wholes rather than parts, for seeing interdependencies rather than things, for seeing patterns of unbalanced change rather than static "snapshots" of equilibrium. While systems thinking resides in the natural and physical sciences, it is equally applicable to the social sciences and resolution of contemporary social problems. Linear thinking, the norm, is the opposite of systems thinking. Linear thinking emphasizes one way cause and effect; systems thinking posits the possibility of mutuality, that is, A causes B and B causes A. Quantum

Physicist David Bohm's assertion that "... everything in the universe affects everything else because they are all part of the same unbroken whole" exemplifies the essence of systems thinking. The fundamental role of systems thinking in Futures Inquiry is to broaden the scope of consideration.

Divergent thinking, the second component of Futures Inquiry, involves the open generation of ideas for creative or problem-solving activities. A divergent thinker has the capacity 1) of fluency, that is, the ability to rapidly produce ideas in a brief period of time, 2) of flexibility, that is, the capacity to simultaneously consider a variety of approaches, and 3) of originality. The typical learning experience, however, is driven by convergent/ critical thinking designed to drill down to "the right" answer. Reality, however, attests to the complexity and interrelatedness of contemporary issues which rarely yield to a concise, singular solution. The value of divergent thinking lies in the ability to entertain a host of possibilities without bias, to maintain openness to ambiguity and to check the desire for early convergence. The prelude to successful convergent thinking is divergent thinking. One might liken the overall process to gardening.You cannot harvest more than you have planted. Plant generously, harvest bountifully!

The third component of Futures Inquiry is *futures thinking*. Since the future results from change(s), the context of futures thinking is both multi-disciplinary and global. We define futures thinking as an informed reflective practice for systematically and productively considering the range of possible futures in the next ten, twenty or more years in any domain of thought. We articulate the end goal of futures thinking this way: *We study the future to facilitate the emergence of the best possible tomorrow for ourselves individually, for our communities collectively and for unborn future generations proactively*. Failing to mentally prepare for our desired future effectively empowers others and unwitting circumstances to shape our future by default. Therefore, the role of futures thinking in Futures Inquiry is to deepen the time horizon over which we consider the implications of change.

Futures Inquiry, as a methodology, lies at the intersection of systems thinking (broadening the scope), divergent thinking (generously populating the thought space) and futures thinking (deepening the time horizon). Futures Inquiry encourages consideration of the element of change, its dynamics and its implications in conjunction with futures concepts, trends and issues. *Futurizing* assignments add a dimension of richness and authenticity as learners build anticipatory thinking skills and mental preparation for their future.

To strengthen the practical applicability of the workshop three small group, classroom-ready futures exercises are introduced – a timeline, a futures wheel and an incasting exercise. Timelines are easy to implement and beneficial for appending the usual past/present perspective to include a future-sense. David Hicks, a proponent of futures in the classroom, uses timelines as means to explore future possibilities, by examining the consequences of change in the present (Hicks, 2002, 45). The first step is building the capacity to observe change. Students are challenged to identify location specific "changes," such as the closure of a local factory, plans for a new highway or reports about the air quality or weather patterns. Student then explore "how we got here," before projecting forward how the change might develop locally and globally.

An opportunity to portray the future as multi-faceted entity emerges–the possible future (anything could happen), the probable future (believed more likely to happen) and the preferable future (most desirable). Timeline exercises underscore both the source(s) of change and malleability of the future.

The Futures Wheel is an exercise in stretching the implications of a choice, action or condition beyond the obvious. The process begins by identifying a trend (a condition exhibiting sustainability, momentum and directionality pushing through from the past), event or issue then labeling the centermost circle of the wheel. Brainstorming begins: What might be some immediate consequences if this trend/event/issue continues? These first-order responses are recorded in the first ring of circles connected to the center circle. Brainstorming round two begins by choosing one first-order response at a time and asking the question: What might be some immediate consequences if this trend/event/issue continues? These second-order responses are recorded in the second ring of circles surrounding its first-order parent. The process is repeated to get third-order implications for each second-order response. The beauty of a Futures Wheel is its ability to expose the widening effects of a choice, action or a change in a condition beyond the most foreseeable to the more distant. Futures wheels are a step toward massaging students' systems thinking skills.

Scenario writing, a mainstay in futures work, transforms our findings about changes, their dynamics and possible implications into fresh perspectives. As a prelude to scenario building, an incasting exercise combines brevity with imagination as students synthesize specific details of a possible future from a more general scenario. An array of possible futures, pre-written as scenarios, based on observed trends and emerging issues in society, the economy, technological innovation, the environment, and political activity are distributed. Using imaginative thinking students answer a series of questions about life (work, recreation, crime, media) in their assigned scenario and report their findings as headlines in a news media appropriate to that future, including the first paragraph of a story. Encouraging the active use of imagination in a risk-free environment is a valuable counterbalance to the emphasis on critical and convergent thinking in most classrooms.

Evaluation

To gauge the effectiveness of the workshop, participants are administered a brief assessment. Ten closed-ended questions focusing on program-specific criteria use a ranking scale where 4 indicates "excellent" or strongly agree and 1 indicates "poor" or strongly disagree. In both sessions the workshop scored well, 3.5 in October and 3.9 in January. Participants indicated strong agreement (4/4) with these statements: "We should teach more about the future in our classroom," the timeline and futures wheel exercises will be valuable instructional resources, and the workshop was well-organized. The statement: "I feel confident enough to produce at least one *futurized* activity for my class" scored 3 out of four. Several insights were gleaned from the open-ended portions of the assessment. Participants consider developing awareness of the need to include futures thinking in class lessons as the most valuable aspect of the workshop.

Suggestions for improvement overwhelmingly centered on access to more plug-n-play classroom-ready exercises, especially, at the elementary level.

Conclusion

The workshop ***Futurizing* the K-12 Teaching Practice** is aimed at pre-college teachers. Helping teachers understand the importance of a "futures" tense is a first step toward integrating futures principles, tools and concepts into the classroom. The "first step" is made more feasible by delivering a methodology with a shallow learning curve for teachers that, also, engages students in higher order thinking skills makes the first step all the more feasible. In the January workshop, a magnet school principal requested a special session for her teachers. Since then, two additional workshops have been scheduled with neighboring districts outside HISD. Futurist David Hicks admonishes that "[t]o turn our backs on the future is to avoid taking responsibility for the consequences of our choices and actions in the present (2002, 41)." In this light we encourage fellow futurists to extend our work by actively engaging pre-college teachers in discussions about the whys and hows of teaching the future.

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Notes

1. Ms. Margaret Fitzgerald, Ms. Joan Moreno and Ms. Kay Lynn Fenn
2. http://bannerswordshield.wordpress.com/2008/05/02/what-is-the-role-of-history/

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