

The Youth Urban Planning Institute

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Abstract

This is a heuristic reflection on the challenge of increasing student interest in Science, Technology, Engineering, and Mathematics (STEM) as a meta-discipline. A simulation at the high school level is proposed to the end of meaningful integration of diverse student capacities, urban melioration, long range networking, and individual portfolio development.

There is a recognized need to encourage American youth to pursue careers in engineering and related fields of technology, mathematics, and science. One helpful tack would be to engage potential high school candidates in a design event addressing the real world issues of their own day-to-day environments. The strategy is to awaken STEM interest by way of self-interest. This would be the Youth Urban Planning Institute (YUPI). One might think of it as an Outward Bound for creative problem solving process.

The host of challenges that pertain to the viability of urban environments cuts across the STEM domain: creation of a bio-technology industry, capture and treatment of water, urban food production, outfitting the domestic front for energy self sufficiency, effective processing of trash.

Participants would be chosen such that each brought a particular area of focused academic interest. It could be design or graphics, modeling skills, or computers, science or math, writing, statistics, or history. The outcome of the YUPI exercise would be the proposal of real things that could be made or built, to the end of enhancing the urban environment.

Either in the regular school year or as a summer event, young people would be brought together to tackle a given urban problem and come up with design solutions. The event would be run as a simulation of a real urban capital improvement process, with students divided into roles according to preference: architect, engineer, industrial designer, planner, leader, administrator, everyday citizen, historian. To act as resources for students in these real world roles, real life "stake-holders" (from business, government, and other contextually significant institutions) would be brought in for consultation. There would also be technical teaching staff with skill in hands-on exploration of physical solutions. The goal would be production of a research supported and visually modeled proposal in the form of a book that would actually be submitted to agencies about town. There may even be an annual ceremony of delivering it to the mayor.

Facility requirements would include banks of computers for research, graphic design, and technical drawing. There would have to be a forum, and smaller caucusing areas. There would have to be provision for a “newspaper,” either on line or on paper. And there would have to be a design studio for modeling.

The first leg of activity would be warm up, or inculcation. Students would be led through a variety of hands-on studio activities planned to emphasize how ideas can be articulated and evolved in a range of ways: verbal, visual, technical.

The second phase would be presentation of the problem. It would be stated as an opportunity of significant proportions needing a completed proposal by a given date certain. Roles would be designed with checks and balances. The process would have given milestones to move considerations to fruition; these would be based upon those that would apply in an actual process of urban development.

From here, the students go to work researching to make preliminary proposals. The objective is to get substance onto the table, so that concrete outcomes become the focus. The substance spans from personal experience and observation to historical published material. At this stage, it emerges whether the students work collaboratively with differentiation, or competitively in smaller ensembles. Balance is maintained in either case by apportioning of the budget for the hypothetical project. In character, this stage is divergent, expanding.

As in the real world, participants get down to more specific refinements after the first round of reviews. The teaching challenge is to leverage available talent into a concentrated effort. One would expect this phase to be kinetic and emotive. Selection and integration characterize these activities.

The second review would be tasked with making the observations on proposals that would enable students to package them for final submission. This is the beginning of final convergence.

Final presentation is made to the assembled participants, plus commenting adult stakeholders. It ends with the embrace of a solution, and a celebration of the fact that a joint enterprise has caused something concrete and meaningful to come into being. This is what the professions do.

The newspaper is the thread through the pearls. It will have to meet a daily feedback function throughout all the stages of proposal development. Its work culminates in the making of the publication that presents the outcome of the YUPI. This would also serve as a portfolio item for each of the participants.

So participants walk away with a manifold accomplishment. They have shared a creative experience that will endure personally, and potentially as the basis for professional networking. They have put into circulation a well-articulated suggestion for the improvement of the part of the world they inhabit. And each has the book as his/her portfolio.

In the bigger picture, the city benefits by the incremental increase in the number of young adults who might return after college as contributors. (The city would also benefit from authentic original thinking.) Education benefits by the addition of a new thread of relevance for the student, particularly as associated with the promotion STEM interests.

Postscript

My first architectural venture was as Community Designer for the East Baltimore Community Corporation. EBCC grew out of the nationally noted Dunbar High School Charette (1969). This planning experience sprang from community reaction to the proposed razing of existing Dunbar High. Neither the school board nor the mayor appreciated the historical attachment the community had to the school. The impetus of the objection was shaped into a dynamic, round-the-clock and omnibus exercise in educational planning. It spawned a curriculum linked to the renowned Johns Hopkins Medical Institutions that has endured through the subsequent decades and an award winning design that encompassed a whole city block, including the adjacent middle school.

The football team, in its role of preserving the ancient Dunbar-Douglas rivalry, constituted the critical mass that launched the charette. Later, at EBCC, I started a link with a college of architecture that availed the community of economic development concepts. These subsequent design events were driven by student self-interest in affecting a real building process. In both instances, passions endemic to youth were drawn into educational service. Tapping such serves teaching.