Proposed K-12 Initiative for review, revision and costing

To: Strategic Planning Task Forces Subcommittee: Pre-College Outreach (PCO), Educational Technologies (ET).
Copy: Chairs: Faculty Governance Committees
From: Planning and Implementation Committee (PIC), Francis J. Weber, coordinating committee member for K-12 Initiative
RE: Proposed K-12 Initiative for Review, Revision, and Costing

The reports of the Strategic Planning Task Forces recommend that we should strengthen our ties with K-12 as a means to improve our outreach to the local community and the institutions that feed our student pipeline. The Strategic Plan Steering Committee submitted the following goal statement in its final report, which was endorsed by the WPI faculty: Improve community relationships and diversity.

We have identified recommendations from the Task Forces in a list below, (with the originating task force acronym in parentheses) that describe possible actions towards this end. Also included is some discussion from the task force reports that, while not presented as recommendations, provides some additional context about this issue.

Following the list, we describe our current view of the nature and extent of the initiative that we believe follows from these recommendations, and, which are most synergistic with the specific opportunities that are made available by the capital campaign (start-up funds, endowable positions or scholarships, personal involvement and commitments from alumni and trustees). Finally, we outline a specific request to your group to assist us in further defining this initiative and the resources that would be required to address it.

PIC requests that your subcommittee act as the sounding board for campus reaction to the ideas in this initiative and that you assist PIC in modifying and finalizing an appropriate initiative for campus approval and faculty ratification.

SPSC and Task Force Recommendations
The PIC Initiative that follows has components that follow from several of the SPSC goals, with emphasis on the first, including:

- Improve community relationships and diversity.
- Make Creative Use of Information Technology
- Continue to Innovate in our Undergraduate Program
- Create a Campus in Harmony with our Programs
Recognize and Adapt to Continuing Change

Specific Task force recommendations in this area include:

1. WPI should inventory and coordinate its own assets (PCO)
2. Focus efforts to highlight WPI's strengths. Outreach programs could draw on and advertise Global Program IQP's, and Technologically-based liberal education. (PCO)
3. Develop Cooperative relationships with appropriate individuals in pre-college systems (PCO)
4. Use the off-campus IQP as an outreach mechanism. (PCO)
5. Consider programs that concentrate on teacher development in Internet techniques, course and laboratory enhancement, and develop sources of external funding such as the NSF. (PCO)
6. Use the on-campus IQP in a more cohesive manner to implement focused programs. (PCO)
7. Expand WPI's pre-college outreach programs, particularly in areas reaching students of color and females. (Adm)

Draft PIC Initiative

At this time there are many disjoint efforts involving community affairs and outreach. Discussion among PIC members revealed a wide ranging list of such activities already performed at WPI; however, many of the activities occur separately and without coordination with the rest of the WPI campus. A partial list of these efforts include:

1. Massachusetts Academy for Math and Science,
2. Area 51 Education sector IQPs,
3. First Competition (National High School event),
4. Basketball, soccer, football, etc., summer camps,
5. Science fairs,
6. Annual Odyssey of the Mind (OM) meet,
7. Frontiers program (WPI program for high school juniors),
8. Strive program (WPI program for high school minority students),
9. Camp Reach (WPI program for 7th grade women),
10. High School Mathematics Meet
11. Various K-12 conferences and meetings held on-campus throughout the year.
12. Summer video camp (discontinued WPI program for grade school students)

In order to best fulfill the needs of a coordinated K-12 and community outreach program as suggested above PIC suggests the creation of a new position of Outreach Coordinator which would be attached to the Center for Educational Development and Assessment (CEDTA) suggested in the associated PIC initiative. This position would be used as a focusing point for all outreach and community affairs at the institute.
PIC believes that under a coordinated control, WPI could benefit greatly by more directly addressing the many diverse groups visiting campus. First, it must be understood that every person visiting the campus for a program is either a parent of a potential student or a potential student. With this in mind a standard tour and/or presentation, to expose the academic richness of the campus, can be developed.

Within the purview of this administrator would be coordination of an effort to better focus Educational IQP's for the improvement of community relations, development of interests in higher education among K-12 students and enhancement of the WPI IQP student experience. This may involve recruitment of client schools and ensuring that groundwork is executed for IQP's of this nature at the client school and by preparation of the WPI student teams. This will further allow faculty and students to focus on the content of projects and less on administrative tasks. In addition these Area 51 IQP's could be strengthened by providing a relatively uniform framework around which an IQP group can build a project. In this sense they may modeled in accordance with the successful Global IQP programs now on campus.

This office would also be concerned with involving WPI in more national K-12 conferences and projects, for example, those connected with technology and information transfer as related to education. As technology becomes ever more prevalent in society, there is a need to educate the educators in the use of information technology. WPI has the potential become a leader in this effort if a coordinated policy was incorporated, owing to its existing K-12 programs, and technological focus.

A program to create teaching modules for community schools, (providing helpful and easy to use laboratory experiments, which acquaint primary and secondary students with the basics of technology,) could become an important and motivating campus-wide effort. This program could be incorporated with on and off-campus IQP's to help further strengthen and give direction to the education related IQP experience. An organized effort of this sort would benefit our students, K-12 students and teachers, the community into which these students would enter and WPI's profile in feeder schools.

A program tentatively called career-gate could be instituted at WPI during the summer for high achieving 8th to 12th grade high school students in Massachusetts. This program would extend similar programs at Holy Cross that address 1st to 3rd graders and 4th to 8th graders. The focus of such a program would be promotion of high-school preparation for entering a career in engineering, science, mathematics and management. WPI could help students in high-school to lift their sights towards horizons that are often not sufficiently exposed in their day-to-day experience.

Funding for this position should initially derive from the capital campaign as a one-time investment in the experiment. In the long term however, this effort should target a self-sustaining operation through, endowments, education development grants and various conference and camp fees.
Specific Requests
PIC requests assistance from the previous Task Force members based subcommittee with respect to the following:

1. Please review the above draft initiative. Your committee will play an important role in modifying this proposed initiative to address the needs of the WPI campus. This draft is intended to provoke discussion and reflection regarding the future thrusts for WPI and means to implement these goals with the help and within the context of the WPI capital campaign.

2. Please canvas the campus for comment and represent the collective wisdom of all interested parties in constructing your criticism and amendments.

3. Please produce a list of suggestions, by April 13, to be addressed by PIC. This need not be a formal report, but should include background information for each suggested change and an assessment of the campus wide reaction to the initiative that led to the suggested changes. This feedback can take the form of a simple email to the member of PIC coordinating this initiative, or, a new draft of the initiative.

4. Please be prepared to interact with PIC in the preparation of a second version of the initiative in response to feedback received. Also, please be prepared to participate in an open meeting with PIC and the campus community to discuss this second revision.

5. Please assist PIC is the evaluation of the costs of undertaking this initiative. As was explained at the December faculty meeting, the campus will participate in an exercise aimed at capturing the sense of priorities assigned to the various initiatives to be proposed. To conduct this exercise, we need to assign a set of costs to each initiative associated with each kind of resource required by each initiative. Please consider the following questions:
   a. What do you estimate will be the start-up costs of this initiative?
   b. What do you estimate to be the steady state operational costs of this initiative?
   c. What revenue streams, other than the operating budget, can you envision supporting this initiative?
   d. In addition to those ways that might have been suggested above, in what other ways do you imagine this initiative could benefit from the capital campaign?
   e. What space requirements do you think this initiative will need?

Then, please divide the costs into the following categories:

   f. One time (start-up phase) cash expenses.
   g. Endowed chairs, fellowships and/or scholarships or other self-replenishing funds.
   h. Facilities (construction or equipment costs) that might be addressed through a gift-in-kind or gift that targets this project-specific one-time expense.
   i. Continuing costs that impact the operating budget.
   j. Potential offsets of continuing costs, due to new revenue streams.

Consider the fact that those initiatives that are selected for implementation after campus priorities have been illuminated will have to share the new resources being developed by the capital campaign. These currently untargeted new resources are, conservatively, estimated at
approximately $16 million in unrestricted (effectively cash) and $30 million in restricted funds (scholarships, fellowships, chairs and other gifts dedicated to a particular purpose according to the interests of the donator.)