

# ACM Education Board Annual Report for FY05

Eric Roberts and Andrew McGettrick, co-chairs  
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## Executive Summary

This report summarizes the activities of the ACM Education Board in FY05 and outlines our priorities for the coming year. Our principal activities for the past year include the following:

- Working with CSTA to promote K-12 computing education.
- Taking the initiative to respond to a decision by the NCAA to eliminate academic eligibility for many high-school computing courses.
- Completing the final drafts of the CE2005 and SE2005 curriculum reports.
- Publishing complete drafts of the IT2005 curriculum report and the CC2005 Overview volume.
- Moving from the design to concrete implementation stages for two projects that seek to define the intellectual range of the computing discipline: the Great Principles Project and the Ontology Project.
- Completing the initial draft report of the ACM Java Task Force.
- Completing a new set of guidelines for Associate-degree transfer programs in Software Engineering.

The challenges for FY06 are:

- Continuing work on the ongoing projects that are still in progress.
- Responding to the enrollment crisis in computing disciplines.
- Completing the reorganization of the Education Board.
- Expanding the diversity of the Education Board and Education Council.
- Strengthening our international relationships.

## Section 1

### Summary of FY05 activity

This section describes the work of the ACM Education Board—carried out primarily by its task forces and standing committees—over the 2005 fiscal year. The section is organized thematically to make it easier to understand how the activities of the Education Board relate to the range of important issues that the computing education community faces today.

#### 1.1 Supporting K-12 computing education

One of the greatest challenges facing computing education is that of providing a solid educational foundation in computing principles and skills at the pre-college level, which is more commonly identified in the United States as K-12 education. This area has become a significant focus area for the ACM, which has responded to the challenge in several ways. The foundation for much of the current effort lies in the work of the K-12 Task Force, which published *A Model Curriculum for K-12 Computer Science* in October 2003 [8]. The executive summary of that report outlines the challenge facing computing as a discipline in K-12 education and describes how the updated curriculum can help to address that area of concern:

Computer science is an established discipline at the collegiate and post-graduate levels. Oddly, the integration of computer science concepts into the K-12 curriculum has not kept pace in the United States. As a result, the general public is not as well educated about computer science as it should be, and a serious shortage of information technologists at all levels exists and may continue into the foreseeable future. This curriculum model aims to help address these problems. It provides a framework within which state departments of education and school districts can revise their curricula to better address the need to educate young people in this important subject area, and thus better prepare them for effective citizenship in the 21<sup>st</sup> century.

In the past fiscal year, the Education Board has been involved in two related initiatives that address the pre-college audience directly. By far the most significant has been our work in support of the Computer Science Teachers Association (CSTA). We have, however, also invested some time and energy in seeking to reverse a decision by the National College Athletic Association (NCAA) to discontinue offering academic credit for computing courses in their rules for eligibility. These topics are covered in more detail in the subsections that follow.

##### 1.1.1 Computer Science Teachers Association (CSTA)

Over the last two years, the ACM has also supported the creation of the Computer Science Teachers Association (CSTA), which began to accept members early in 2005 and quickly attracted over 2000 members. Under the able and dynamic leadership of Chris Stephenson, CSTA has launched a variety of projects to promote computing education, including a major symposium for computer science and information technology teachers (the CS&IT Symposium), a series of workshops (Java Engagement in Teacher Training, or JETT) to offer teachers more practical training in the primary language used in introductory computing courses, a set of resource binders for teachers, and much more. In addition, CSTA conducted an extensive survey of high-school teachers in 2004 that revealed much more detail about the problems facing that community. The results of that survey, along with information about CSTA more generally, is available on the CSTA website at

<http://csta.acm.org/>

The ACM Education Board has been working closely with CSTA in the past two years and will continue to do so in the future. Although CSTA's successes are clearly due largely to the stalwart efforts of the CSTA leadership, the Education Board has made specific contributions in the following areas:

- *Fostering greater awareness of the situation in K-12 education among other parts of the computing education community.* Chris Stephenson's participation has been extremely valuable in raising the level of understanding of K-12 issues.
- *Promoting increased involvement by university educators in K-12 issues.* An immediate corollary of the increased awareness has been greater participation by members of the ACM Education Board in CSTA work. The Education Board has provided several speakers for the CS&IT symposia and is represented on the CSTA Advisory Board.
- *Helping to reduce possible sources of friction between the CSTA and other parts of the ACM educational community.* Last summer, an uncomfortable level of tension arose between CSTA and SIGCSE, largely as a result of a miscommunication about mission and audience. The Education Board, with its broader portfolio and direct connections with participants in both organizations, was able to smooth over that tension and remind everyone that we are all working for the same goals.

As we discuss in section 2, work with CSTA will become even more important in the future as the Education Board seeks to address the critical issue of declining interest in computing as a discipline. The misinformation about opportunities and image problems that have led to that decline clearly have their greatest impact before students ever reach post-secondary education. As a result, strategies for solution must surely target this level of education as well.

### **1.1.2 The status of computing courses in terms of NCAA rules**

As of this fall, the National Collegiate Athletic Association (NCAA) implemented a change in the initial eligibility requirements for students at Division I and Division II schools. The essence of the ruling change is expressed in the following paragraph taken from the NCAA web site [6]:

#### **Computer science being eliminated for core-course purposes**

Computer science courses will no longer be able to be used for initial-eligibility purposes. This rule is effective August 1, 2005, for students first entering a collegiate institution on or after August 1, 2005. Computer science courses (such as programming) that are taught through the mathematics or natural/physical science departments and receive either math or science credit and are on the high school's list of approved core courses as math or science may be used after the August 1, 2005, date.

The ACM and the Education Board were unaware of the proposed change until a few months before the ruling went into effect, even though the proposal had been in the planning states for some time.

When news of the change reached the Education Board, it triggered concern not only about the direct effects of the ruling in depressing enrollments in computer science but also in terms of the message that this ruling sent to high-schools about the academic rigor of computer science. In response, the Education Board and the ACM staff drafted a letter, which eventually went out with John White's signature on April 28. The initial section of the letter appears in Figure 1 and highlights the Education Board's concerns.

**Figure 1. Excerpts from letter from John White to NCAA**

April 28, 2005

Dr. Myles Brand, President  
National Collegiate Athletic Association  
700 W. Washington Street  
P.O. Box 6222 Indianapolis, IN 46206-6222

Dear Dr. Brand,

I am writing on behalf of ACM (the Association for Computing Machinery)—with the support of presidents of major universities and computing organizations as noted in the enclosure—regarding the NCAA decision to eliminate computer science as a core course for establishing initial eligibility. We are deeply concerned with the impact the NCAA decision will have, and we urge the NCAA to implement an alternative solution as outlined in this letter. In addition, we seek the partnership of NCAA in delivering an important, positive message about computer science.

Everyone involved understands the problem the NCAA faced in 2000-2001 with some high schools putting forward courses as “core computer science” that were nothing more than computer skills training. We feel, however, that the solution implemented by the NCAA, and the message being delivered to parents, teachers, and students, is unnecessarily negative about computer science and will have a damaging impact nationwide.

Moreover, the negative message from the NCAA is being delivered at a time when there is a real crisis in computer science in the United States. Despite the pressing need for students to learn foundational material in computing, course enrollments are dropping at the secondary and post-secondary levels, the number of young women and minority students studying computing is at an all-time low, and in many states, pre-college computer science is in jeopardy of disappearing altogether.

ACM and CSTA (the Computer Science Teachers Association) stand ready to work with the NCAA to resolve the issues that led to the decision to eliminate computer science. ACM is a membership organization comprising 80,000 computer scientists and computing professionals worldwide. ACM has been shaping computing and computer science since it was founded in 1947. CSTA is the national organization for high school and middle school teachers of computer science. CSTA is relatively new, but was created to help develop and deploy national curriculum guidelines for computer science as well as national standards for teacher certification and training. . . .

Sincerely,

John R. White  
Chief Executive Officer

## 1.2 Developing computing curricula for use at the college level

The activity that has consumed the largest share of the Education Board’s attention in recent years has been the creation of updated curricular recommendations for five computing subfields: computer science, computer engineering, software engineering, information systems, and information technology. The decision to produce separate reports in each of these areas grew out of the work of the IEEE-CS/ACM Joint Task Force on Computing Curricula that was convened in 1998 to develop a *Computing Curricula 2001* report that would update the previous curriculum recommendations published in 1991. The CC2001 Task Force recognized that the field had grown so broad that a single report could no longer encompass the range of degree programs. Given the skill set of its membership, the CC2001 Task Force focused its attention on producing curriculum recommendations for Computer Science, which became the first volume in a

larger series [4]. The sponsoring societies then convened additional Task Forces to complete parallel documents in the other areas.

Final reports have now been completed in four of the five subareas. The Computer Science report appeared in 2001 and was followed in relatively short order by the Information Systems volume in 2002. The final versions of the Software Engineering and Computer Engineering volumes were each completed during this past fiscal year and were released on the web in August and December 2004, respectively. Printing and distribution of paper copies, however, was delayed by a set of copyright issues between the sponsoring societies that have now been resolved.

The report that has yet to be completed is the Information Technology volume, which was incorporated into the overall curriculum project much later in the process. This volume is being prepared by the new Special Interest Group in Information Technology Education (SIGITE) and thus involves only the ACM. A complete draft of the Information Technology volume was published on the web in April 2005. The website solicited comments from readers that are now being incorporated into a final draft.

In addition to the five disciplinary volumes, the Computing Curricula report collection also includes an Overview Volume, which is nearing completion. The goals of the Overview Volume are summarized in the following paragraph from the second public draft of the report [5], which was released in May 2005:

The CC2001 report also called for an Overview Report to summarize the content of the various discipline-specific reports. This document is the first edition of that Overview Report. Its goal is to provide perspective for those in academia who need to understand what the major computing disciplines are and how the respective undergraduate degree programs compare and complement each other. This report summarizes the body of knowledge for undergraduate programs in each of the major computing disciplines, highlights their commonalities and differences, and describes the performance characteristics of graduates from each kind of undergraduate degree program. To create this report, we have examined curriculum guidelines for undergraduate education and have referred to the computing professions and other supporting information as necessary. We have not focused on graduate education or on the identities of the computing research communities. College-level faculty, administrators, and other community leaders are the audience for this report. It outlines the issues and challenges they will face in shaping the undergraduate programs that will serve their constituents and their communities.

The editorial team is currently incorporating the final set of changes and intends to bring the final report to the ACM Council for approval at its October 2005 meeting.

### **1.3 Defining the landscape of the computing field**

One of the major challenges in computing education today is that prospective students have little understanding of what the various computing disciplines are, which makes them less likely to make informed choices about their academic options. The curriculum documents described in section 2, most notably the forthcoming Overview Volume, offer one approach for addressing this lack of information. The Education Board, however, is also involved in two other projects that offer some support in this area. The first is the Ontology Project, which seeks to develop a comprehensive taxonomy of computing concepts and their interrelationships. The second is the Great Principles Task Force, which seeks to identify and explain the central concepts in computing by drawing on the experience of its intellectual leaders. These projects are outlined in the subsections that follow.

### 1.3.1 The Ontology Project

The Ontology Project was launched by the Education Board at the end of 2003. It is led by Education Board member Lillian (Boots) Cassel of Villanova University and has received support from the National Science Foundation. The motivation for the project grew out of the recognition that the expanding scope of computing and the emergence of new computing disciplines make it increasingly important to develop a shared understanding about the conceptual structure of the field as a whole. Having such a structure in place serves the following purposes, which are adapted from the list of goals given in the SIGCSE 2005 special session describing the project [2]:

- Support the development of innovative academic programs and enable them to identify where they fall in the spectrum of computing-related topics.
- Simplify the updating of curriculum recommendations by providing a common conceptual framework for the disciplines.
- Promote the growth of interdisciplinary programs that span areas both within and beyond the classical computing domains.
- Foster better understanding and communication with related disciplines by providing a common language for computing concepts.
- Add flexibility and greater currency to the existing ACM classification scheme.

In the past fiscal year, the Ontology Project has completed a first draft of the topic areas for the computing and information disciplines. The current list can be found at the wiki site for the project, which is maintained at

<http://what.csc.villanova.edu/twiki/bin/view/Main/OntologyProject>

Plans for the near future include

- Exposure of the draft list for public comment and revision
- Development of a data structure expressed in XML to encode topic elements and relationships. The structure must allow many types of relationships and permit changes to occur over time.

In the longer term, the Ontology Project also hopes to initiate a project to investigate how interactive exploration of the topic space can be used to support curriculum development.

### 1.3.2 The Great Principles Task Force

In November 2003, Peter Denning published an article in *Communications of the ACM* in which he emphasized the importance of identifying the “great principles” that underlie the disciplines of computing and information technology [3]. At its conference call on May 25, 2004, the ACM Education Board endorsed the creation of a Great Principles Task Force with the following objective and rationale:

**Objective:**

Assemble and maintain a structured collection of materials that document and teach the great principles of computing.

**Rationale:**

- (1) Recent curriculum efforts have identified fundamental principles that must be in the core curriculum and have begun to move the curriculum away from a focus on computing technologies.
- (2) Many outsiders perceive computing as a field of programmers. This impression is hurting the field in various ways: many believe that the outsourcing of the “heart and soul” of computing (programming) indicates that the field has no long term future;

many believe that computing borrows technology and science from other, more fundamental fields like electrical engineering and physics, but has little science of its own; many do not realize that computer scientists have discovered a large body of knowledge.

The mission of the Great Principles Task Force is to develop a formulation of computing in terms of its fundamental principles. Putting together such a formulation has a three-fold purpose:

1. To assist in the design of future curricula
2. To improve the credibility of the various computing disciplines in comparison to other science and engineering fields
3. To inspire young people toward a computing career

After the Education Board had chartered the Task Force, Peter Denning recruited a number of well-known experts in the computing field to take part. The current participants in the Task Force are:

Peter Denning (chair)	Juris Hartmanis
Jim Gray (co-chair)	Anita Jones
Robert Aiken	Mitch Kapor
Gordon Bell	Alan Kay
Fran Berman	Peter Neumann
Jeff Buzen	Paul Rosenbloom
Fernando Corbato	Mike Stonebraker
Ed Feigenbaum	Andy Tanenbaum
John Gorgone	Allen Tucker
David Gries	Moshe Vardi
David Harel	

Over the past year, the Task Force discussed how it could best organize the great principles of computing and agreed on a taxonomy with the following top levels:

- Computation
- Communication
- Interaction (coordination)
- Recollection (storage)
- Automation
- Design and development

The Task Force also agreed that the first step is to solicit “principle-stories” about the emergence of principles and their subsequent integration into systems, written as first person accounts by people who developed them. About half the group volunteered to write a story, and the chair is soliciting others to contribute stories as well. The current plan is to create an initial collection with about three stories in each major category.

In terms of deliverables, the current plan is to create an ACM “Great Principles” website containing a collection of principle-stories, source materials, and other supporting materials. It would be overseen by some sort of editorial board that keeps it up to date and manages the quality of its materials. We plan to have the initial collection in place by December 2005 and the draft version of the website up by July 2006.

#### 1.4 Creating materials and tools in support of computing education

Since its introduction in 1995, the use of Java as an instructional language has shown a steady increase. Particularly since its adoption by the Computer Science Advanced Placement exam in 2003-04, Java has become a *de facto* standard at the introductory level. Although it has not as yet reached the level of universality that Pascal enjoyed in the early 1980s, the signs seem to show Java headed in that direction.

At the same time, those who have tried to teach Java have identified a number of problems in the language in terms of its suitability for students, particularly in high schools but at many universities and colleges as well. Much of that concern centered on the fact that Java's library packages did not provide ideal support for a number of common functions that are essential at the introductory level. In response to that concern, the ACM Education Board decided at the end of 2003 to create the ACM Java Task Force with the following charter:

To review the Java language, APIs, and tools from the perspective of introductory computing education and to develop a stable collection of pedagogical resources that will make it easier to teach Java to first-year computing students without having those students overwhelmed by its complexity.

The Java Task Force was announced at SIGCSE 2004 and has the following members:

Eric Roberts, Stanford University (chair)  
Kim Bruce, Pomona College  
Robb Cutler, The Harker School  
James H. Cross II, Auburn University  
Scott Grissom, Grand Valley State University  
Karl Klee, Alfred State College  
Susan Rodger, Duke University  
Fran Trees, Drew University  
Ian Utting, University of Kent  
Frank Yellin, Google

The Task Force has received financial support from the ACM Education Board, the SIGCSE Special Projects Fund, and the National Science Foundation.

At SIGCSE 2004, the Task Force presented a paper outlining the rationale behind the Task Force [7]. After meeting on several occasions over the next year to develop a strategy for addressing the issues, the Task Force published its draft report on February 1, 2005 [1]. The Task Force then presented that report for discussion at SIGCSE 2005, where it was enthusiastically received.

In the February draft report, the Task Force identified the following four problems as the most significant challenges to teaching Java at the introductory level:

1. Static methods, including `main`
2. Lack of a simple input mechanism
3. Conceptual difficulty of the graphics model
4. GUI components inappropriate for beginners

At the time of the February draft, the Task Force had designed new packages to address the first three of these challenges: an `acm.program` package to eliminate the need for a static `main` method and to unify the model of applications and applets, an `acm.io` package to support simple console- and dialog-based I/O, and an `acm.graphics` package

to support the development of graphical applications in an object-oriented way. On the fourth challenge, however, the Task Force declared itself at a loss:

Unfortunately, the Task Force has not been able to come up with a satisfactory design [for a GUI package]. What's more, some members of the Task Force have become convinced that it is not possible to create a design that a significant fraction of the potential audience would accept as a standard. That conclusion may be incorrect. There may be a design out there around which a consensus might emerge. As of this release, however, the Task Force has not been able to find it.

The feedback that the Task Force received after SIGCSE 2005 included strong encouragement to look harder for a solution to this problem, which is clearly an important one for a significant fraction of the prospective audience. In response to that demand, the Task Force was able to define an **acm.gui** package that simplifies the creation and layout of GUI components in a way that should be simple for novices and, at the same time, allows for a straightforward transition to the standard Java layout managers.

The final report of the Java Task Force will be published this fall and presented one last time at SIGCSE 2006.

### 1.5 The Two-Year College Education Committee

Robert Campbell, chair of Two-Year College Education Committee, reports that the TYCEC achieved the following milestones in FY05:

- Brought to conclusion the development of the “2005 Guidelines for Associate-Degree Transfer Curriculum in Software Engineering,” secured the endorsement of the Education Board for this report, and initiated dissemination activities for this work
- Worked with ACM Headquarters staff to secure an updated list of TYC contacts and drafted a promotional flier detailing the resources available to that community via the ACM TYCEC
- Updated and enhanced the **acmtyc.org** website and associated resources
- Continued our practice of informing constituents of our activities via our regular column in the *SIGCSE Inroads* publication
- Made poster session presentations at conferences to disseminate and promote our work
- Laid the groundwork for increasing the internationalization of our work
- Engaged in dialog with Project Kaleidoscope (PKAL) as they initiate a focus on the two-year college setting

In FY06, the TYCEC plans to undertake the following activities:

- Produce a curriculum report tentatively titled “2006 Guidelines for Associate-Degree Transfer Curriculum in Computer Engineering”
- Investigate the efficacy of proposed curriculum guidelines for career-oriented programs in computer engineering
- Develop the foundation for a major work that unifies all our recent curriculum guidelines into a web-enabled database environment that provides much greater utility to end-users
- Explore opportunities for a two-year college focus at the SIGCSE symposium
- Continue our dissemination activities, including mailings, website improvements, conference poster sessions and exchanges with colleagues (especially with regard to individuals external to the US), as well as continuing our *SIGCSE Inroads* column

## Section 2 Priorities for FY06

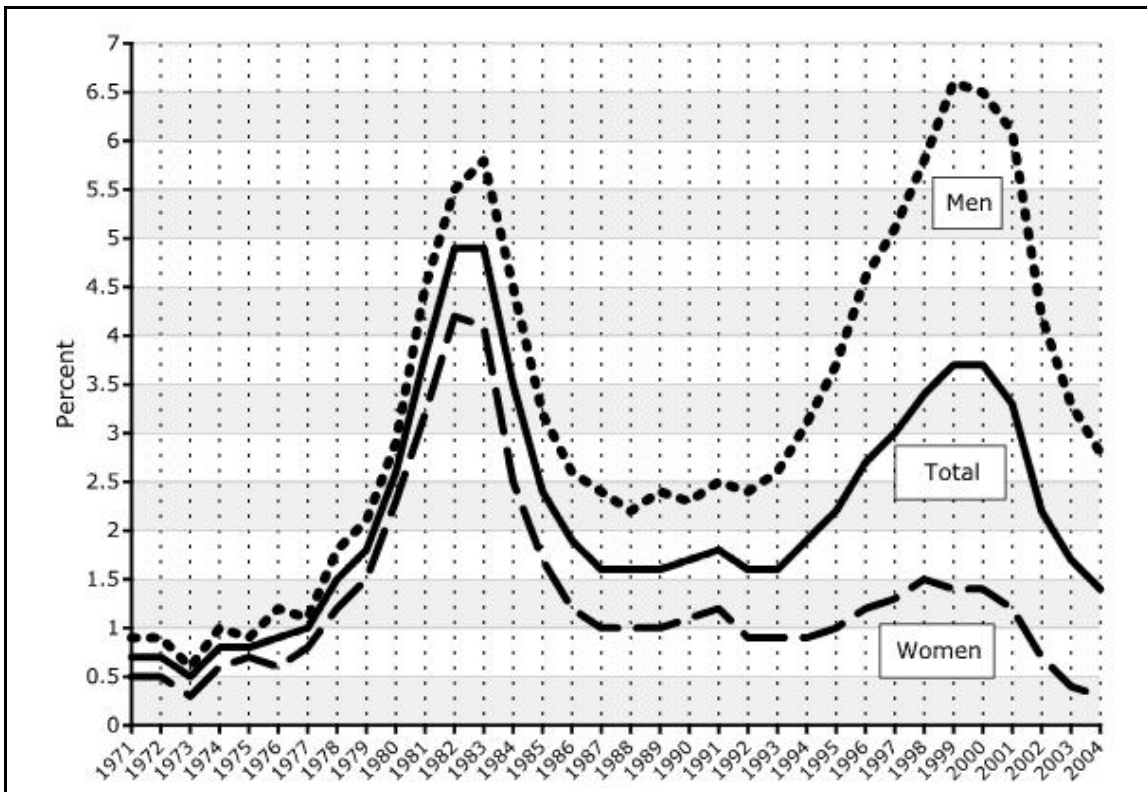
This section describes new initiatives that the Education Board intends to make high-priority items in FY06 that are not already covered in the descriptions of the ongoing activities described in section 1.

### 2.1 Responding to the enrollment crisis in computing disciplines

In the next fiscal year, the high priority item for the Education Board will be developing a response to the dramatic decline in enrollments in computing disciplines at both the college and pre-college level. This decline has been rapid since the dot-com collapse of 2000, and it is only now becoming clear how extensive the dropoff has been, both in terms of the scale of the decline and in the fact that it is broadly based geographically. Both the United States and most European countries have seen significant enrollment declines over the last five years.

Unfortunately, reliable statistics on this problem are difficult to obtain, primarily because the information is so volatile that data collection falls behind. As an example, the comprehensive reports from the U.S. National Center for Education Statistics run only through 2001-02 and still suggest a positive trend line, despite considerable more recent evidence of a slowdown. The Taulbee Survey published by the Computing Research Association indicates that undergraduate enrollments at the doctoral-level institutions are down somewhere in the neighborhood of 30 to 40 percent between fall 2000 and fall 2004 [9]. Even more dramatic evidence is provided by the graph shown in Figure 2, which shows the precipitous decline—particularly among women—in the fraction of entering students at UCLA who plan to pursue a computing major.

**Figure 2. Fraction of students listing computer science as a possible major at UCLA**



While the lack of current data makes it hard to document the scope of the problem, recognizing that the problem exists is still much easier than solving it. The Education Board has taken on the challenge by seeking first to understand the reasons for the decline and then to propose initiatives that address those underlying causes. Because every subfield and educational level has a stake in this question, we have chosen to operate as a committee of the whole, with Peter Denning providing the leadership necessary to coordinate the effort. We anticipate that the Education Board will issue several working papers on this problem in the coming year.

## **2.2 Carrying through with the reorganization of the Education Board**

In the last fiscal year, the ACM Executive Committee approved a general proposal to divide the functions of the Education Board between a smaller Education Board that seeks to maintain a high-level vision and a larger Education Council that serves as a focus for communication, coordination, and feedback among the many different constituencies with a stake in computing education. After assuming the leadership of the Education Board in midcycle, the new co-chairs decided that it would be wise to delay the restructuring of the Education Board until the new Education Council was in place. Implementing the changes in that order reduces the risk that constituencies will feel disenfranchised.

The draft charter for the new Education Council appears in Figure 3. We are currently in the process of identifying the constituencies that we will invite to send representatives.

## **2.3 Integrating new people into the Education Board**

ACM President Dave Patterson has asked all boards and standing committees to discuss how they intend to integrate new people into their community with a particular focus on bringing younger people into leadership roles. In many ways, the reorganization described in the preceding section provides an ideal opportunity for doing just that. By adding an Education Council, both the Education Board and Council will provide new slots for volunteers to occupy, giving us much more flexibility to expand. The Education Council also provides a training ground for leadership responsibilities on the Education Board. If the Council recruits a live-wire with a sufficiently broad vision, that person would be an excellent candidate to consider adding to the Board.

At the same time, it is essential not to underestimate the difficulty of this challenge even if one can take maximum advantage of the restructuring to promote this goal. The overarching problem is that younger people are not particularly plentiful in the computing education community. Senior academics are much more likely to commit time and energy to education; younger academics are more likely to focus on their research area, particularly in the pre-tenure years. In computer science, the gap is exacerbated by the fact that so few graduate students chose to stay in academia during the boom years of the 1990s. This problem is reflected in the organizations that typically feed the Education Board. Looking through the entire roster of SIGCSE members, for example, reveals only a handful of young academics who are potential candidates for such a role.

Despite the challenges, it is essential to recruit the people who do fit the combined criteria of relative youth and strong leadership potential. The chairs of the Education Board and Education Council will work together to ensure that the representatives on both committees include younger educators, not to mention greater diversity of race and gender and a greater range of field and national origin.

**Figure 3. Proposal for the formation of the Education Council**

<p style="text-align: center;"><b>ACM Education Board</b> <b>Proposal for Formation of the new Education Council</b></p> <p><b>Preliminary observations</b></p> <p>The first aim of the Education (Ed) Council is to represent the education community within ACM. Through the standing and reputation of its members, it must provide a body that is able to offer high quality advice and guidance on all matters of significant educational concern to ACM.</p> <p>It will be important for Ed Council members to keep abreast of current matters of educational interest and policy, and to have an eye to the creation of an ever better educational environment and educational experience for all those involved in Computing education.</p> <p><b>Mission</b></p> <p>The Council will be complementary to the Education (Ed) Board. Its mission will be to</p> <ol style="list-style-type: none"><li>1. Provide advice and guidance to the Ed Board on all educational matters of concern to the ACM</li><li>2. Assist the Ed Board in the execution of its mission</li><li>3. Contribute to setting the agenda and the priorities for the Ed Board</li><li>4. Provide a forum for communication on education matters among ACM constituents</li><li>5. Facilitate partnerships and initiatives among ACM education constituents</li></ol> <p><b>Officers of the Council</b></p> <p>The Chair of the Ed Council will be appointed by the President of the ACM on the advice and recommendation of the Ed Board Chair, and will normally be a member of the Ed Board itself. The normal term of office of the Chair will be two years to coincide with the term of office of the President. Given the normal period of office of the Ed Board Chair, the natural turnover at this level will be expected to give rise to regular change of personnel in the Ed Council Chair.</p> <p>The Chair of the Ed Council will appoint (at least) a Vice Chair from the members of the Ed Council.</p> <p><b>Membership of the Ed Council</b></p> <p>The membership of the Ed Council will consist of representatives of various relevant bodies as well as individuals. Decisions to appoint individuals to membership of the Ed Council will be made by the Chair of the Ed Board on the advice and recommendation of the Ed Council Chair. Members will ordinarily be appointed for a period of at most three years in the first instance, renewable for at most one other three-year term.</p> <p>Representatives will be sought from SIGs and other agencies within ACM with a significant educational activity, and from individuals selected for the benefit and expertise they can bring. Consideration will be given to having members from constituencies outside of ACM once the Ed Council and its <i>modus operandi</i> have become established.</p> <p><b>Mode of working</b></p> <p>Much of the activity of the Ed Council will take place electronically.</p> <p>The Ed Council will meet physically once per year.</p> <p>A report on Ed Council activity for a current year will be provided by the Ed Council Chair to the Ed Board by 31<sup>st</sup> May each year.</p> <p><b>Annual Budget</b></p> <p>There will be an annual budget for the Ed Council. At least in the first instance, this will be managed through the budgeting mechanisms of the Ed Board itself.</p> <p style="text-align: right;"><i>September, 2005</i></p>
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## **2.4 Strengthening our international relationships**

The final new initiative that is just now getting underway is a campaign to strengthen the international aspects of the ACM's education efforts. Several members of the Education Board attended the SIGCSE-sponsored Innovation and Technology in Computer Science Education (ITiCSE) in Lisbon and/or the IFIP World Conference on Computers in Education in Cape Town. Neither conference, however, really addresses the need for a more broadly based international effort on computing education. The ITiCSE conference is widely perceived as too American in its focus; the IFIP conference has much stronger international participation but does not devote as much attention to the issues of computing education, as opposed to the uses of computing in education across the range of disciplines.

Under the leadership of Gordon Davies, Andrew McGettrick, and Russell Shackelford, the Education Board has undertaken a new project in this area, beginning with a specific initiative focused on Europe. The group held a highly successful meeting in London in early September 2005 and is preparing to participate in a larger meeting in Zurich later this month.

## **2.5 Planning for updates to the curriculum reports**

Toward the end of the last fiscal year, several discussions took place between ACM and the IEEE Computer Society concerning, along with a few additional topics, the question of copyright for the curriculum volumes produced jointly by the two societies. The result of that discussion was a memorandum of understanding signed by the executive directors setting out the guidelines for shared copyright and distribution rights. In addition, the memorandum called for the creation of a small committee to coordinate the process of revising the existing reports or undertaking new curriculum efforts:

A committee comprising two representatives from ACM and two representatives from IEEE-CS will be established and have responsibility for initiating efforts to revise existing volumes and create new volumes that are considered a part of the Computing Curricula Series.

In FY06, the Education Board will take the following steps:

- Establish the joint curriculum committee
- Decide on a way of working that is effective and yet comfortable for all concerned
- Consider any initiatives that need to be taken in the short term and to take relevant actions as needed
- Begin to formulate longer-term planning and strategy

## References

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## **Appendix A**

### **Roster of Education Board members (FY05)**

<b>Co-chair:</b>	Eric Roberts
<b>Co-chair:</b>	Andrew McGettrick
<b>Board members:</b>	Robert Aiken Robert Cannon Corky Cartwright Lillian (Boots) Cassel Gordon Davies Peter Denning John Gorgone John Impagliazzo Marvin Israel Eydie Lawson Richard LeBlanc Terry Linkletter Russell Shackelford (chair prior to April 2005) Larry Snyder
<b>Headquarters liaison:</b>	Katalin Lovasz
<b>Standing Committee chairs:</b>	
Accreditation:	(dormant)
College:	Russell Shackelford
Precollege:	Robert (Corky) Cartwright
Professional Development:	Gordon Davies
Self-Assessment:	(dormant)
Two-Year College:	Robert Campbell
<b>Task Force leaders:</b>	
K-12	Chris Stephenson
IS2002	John Gorgone
SE2004	Richard LeBlanc
CE2004	Andrew McGettrick
CC2005	Russell Shackelford
IT2005	Eydie Lawson
<b>Representatives:</b>	
CSAB:	Don Bailes (Director, 2002-05) John Gorgone (Director, 2002-05) Lawrence Jones (Director, 2003-06) Patrick Walsh (Director, 2004-07)
PEPC Committee:	John Impagliazzo
ICCP Directors:	Joyce Currie Little Terry Linkletter
SIGCSE liaison:	Bruce Klein
CSTA liaison:	Chris Stephenson