INCENTIVES FOR FACULTY INNOVATION

Scott E. Siddall
Director of Academic Computing
Kenyon College
Gambier, Ohio

In the 90's, both faculty and support staff are being called upon to do more with fewer resources. Expectations are rising while resources are stable if not shrinking. The public questions the rising costs of college yet acknowledges the roles technology can play in education. Faculty are immersed in teaching, research and service work, activities central to their achievement of tenure and promotion; faculty typically do not have the opportunity to develop new applications of educational technology. As William Graves has pointed out, "Academic governance and reward structures are inhospitable to developing and using instructional technologies" (Graves, 1989). All the while, academic support staff are struggling to maintain a status quo in the face of increasing technical complexity and rising demands. Those of us charged with supporting faculty need tools to promote new technologies in ways that will not exceed our abilities to support the faculty.

This paper describes two incentive programs which promote new applications of computing, provide more stable institutional support for innovation, empower the faculty innovator, and which recognize the often significant intellectual effort invested by faculty in new educational technologies. As Martin Ringle notes in his review of computing in liberal arts colleges, "..innovation often defers to tradition" (Ringle, 1992). I hope to show that well conceived incentive programs can use traditional academic processes to encourage innovation in computing.

Before describing the specific programs, let's consider briefly the context in which faculty incentives operate. What do members of a modern faculty seek? The traditional response may be tenure and promotion, but given the changing perception of tenure, allow me to distill those criteria into simply peer recognition. Faculty seek peer recognition as a result of their work in teaching and research. Therefore, one might imagine that an effective incentive for faculty is one which results in recognition for their innovation in teaching or research. How is innovation recognized in an academic community? Peer review remains a central, if not exclusive, process for evaluation of teaching and research, and therefore we can extend our definition of a successful incentives program as one which relies on peer review to bestow recognition.

In the brief case studies that follow, peer review is one of the most important aspects of the incentive

programs. At both Kenyon College, a small, residential liberal arts college in Ohio, and at the State University of New York at Stony Brook, a much larger, research-oriented university, peer review as a tool to award support for computing has been effective.

ACADEMIC COMPUTING AWARD PROGRAM - Kenyon College, Gambier, Ohio

The Academic Computing Award Program, or ACAP, was initiated in 1989 with funds allocated to academic computing for hardware and software. These funds were part of the operating budget of Information and Computing Services (ICS), the information technology division of Kenyon, and would normally have been spent in consultation with the faculty, the director of academic computing and the vice president of ICS. Instead of applying the funds to meet individual or departmental needs in the traditional fashion, the funds were earmarked for ACAP. Through extensive consultation with the faculty Academic Policy Committee, as director of academic computing, I drafted set of guidelines for the Program which focused on faculty peer review of proposals for innovative applications of computing. I sent out a call for proposals; proposals were due one month later and were to be filed on very simple forms which strongly emphasized the innovative nature of the project and its impact on the educational mission of the College. Proposals exceeded funds by a factor of two which underscored the value of the peer review process. Most importantly, the six members of the faculty receiving ACAP awards in 1989-90 received exceptional recognition for their proposals. Because the process was based on faculty peer review, this support for computing was transformed from traditional on-budget hardware and software purchases into a notable award worthy of a place in the faculty curriculum vitae. The academic computing support staff wrote news releases which were polished and distributed by the College's public affairs office. Faculty who had declined to submit proposals in the first round were encouraged to do so in the next round of competition as a result of the public awareness of their colleagues' awards.

From 1989 until the present, the program has grown by leaps and bounds. While only $5,000 was allocated in the first round, $35,000 is set aside for the 1992 competition and nearly double that planned for 1993. For a small, liberal arts college with a faculty of 130, this has become a significant opportunity. ACAP has become "institutionalized" in many ways and the important support role of the Program is cited in proposals for extramural funds related to information technology. Faculty proposals still exceed the ACAP budget by a factor of two, which is a clear signal from the faculty that they value the competition and are not short of innovative ideas.

Some of the projects funded to date include systems and software for faculty in studio arts to explore and teach design and advanced image editing, workstations for music notation software and MIDI boards for ear training, funds to support summer student interns who work closely with faculty on such projects as three-dimensional animations of biochemical pathways of nerves, Asian language study using Windows, and interactive hypertextual programs for students to explore moral dilemmas in philosophy courses. Faculty in all divisions of the College have participated in ACAP.

Critical Features of ACAP

Many details of ACAP are important to the success of this incentive program.

(1) First and foremost is the faculty peer review process to determine which proposals are funded

each year.  This review is coordinated by the director of academic computing who serves on the review panel along with four members of the faculty and the assistant director. The assistant director is the only contributor to the review process who is not officially a member of the College faculty. To date, we have not called for proposals in specific areas, but rather rely on the faculty to come forward with their own ideas.  Thus, the review panel evaluates each proposal on its own merit rather than attempts to relate proposals to an institutional agenda.

(2) Careful budget planning in the 90's is an absolute necessity, but it is often a long, drawn out process.  Providing funds for often high-risk, innovative work (or "exploratory computing") can be a budgetary challenge. Providing those funds to independent faculty for rapidly changing technology makes the problem much worse.  Specific, line-item planning is nearly impossible when objectives and opportunities change so fast.  Institutionalizing the incentive program has given us the budgetary tool to support innovation.

Funds were initially set aside as ACAP monies, but as the Program became more successful, it became a line item in the College's annual budget.  This is an important step in stabilizing support for academic computing, and should be a goal of any incentive effort: secure the program as a specific entity in the institution's operating budget.

While growth of the Program has been supported very strongly by the faculty, it is not perceived as an entitlement because of the Program's competitive basis.  Making this incentive program a part of the budget has allowed us to plan strategically for our promotion and support of faculty needs. Indeed, the existence of a stable faculty incentives program can even be used as a faculty recruiting tool.  On the other hand, the commitment of funds to an annual incentives program, competitive or not, takes a certain level of fiscal courage.  I suggest the benefits to the institutional mission justify the nature of funding for the program.

(3) Simplicity of the process encourages faculty, who may be innovative but skeptical about technology, to invest a minimum amount of time in the proposal.  In fact, the proposal form requires only a statement of the faculty members' vision of what they want to achieve, not the technical details about the means of achieving the goal.  The academic computing support staff, who receive all proposals at first, provide technical and financial advise to faculty who are not sufficiently versed in the technology to prepare a complete proposal.  The staff works closely with the faculty proposer to ensure that each proposal is technically and fiscally the best it can be prior to presentation to reviewers.  Additionally, the computing staff presents recommendations to the review committee on each proposal to ensure that the Program promotes projects that can be supported in the long term. Kenyon's computing users have benefitted from the adoption of hardware and software standards which are applied in ACAP.

(4) Long term support for an ever-growing list of projects can be a burden for support staff, however the faculty have a sense of "ownership" of these projects, a sense which has kept the faculty involved in learning more about the project they initiated.  One of our goals is to empower users: this is an excellent example of a program that motivates people to do more on their own.  This does not imply that support for continuing projects is not available.  Rather at the level of sophistication most of our project faculty achieve, self-help is the preferred first approach.

(5) The Program guidelines include periodic and informal evaluation of supported projects by the academic computing staff. While there are no guidelines prescribing what actions to take in the event of a "failed" project, the concept of an award and an evaluation has tended to reduce technological waste in the Program. There are very few underused resources acquired through the Program.

(6) The public announcement of the awards has been crucial to the growth of the program. Showcasing new awards is perhaps the easiest means for the computing staff to inform the campus community of both their colleagues' work as well as the ACAP opportunity.


PROGRAM FOR THE ENHANCEMENT OF RESOURCES FOR INSTRUCTIONAL COMPUTING - SUNY at Stony Brook, New York

The Program for the Enhancement of Resources for Instructional Computing, or PERFICt, at the State University of New York, is supported with operating funds coming from student fees. Funds from the SUNY Central Administration are redistributed to each campus as part of the state-wide Student Computing Access Program, or SCAP. At most SUNY campuses, SCAP funds are channeled into the operating budgets of computing centers, but at Stony Brook, PERFICt was established as an faculty incentives program. Rather than redefine this faculty incentives program, I will concentrate on the unique opportunities and features of the PERFICt program.

Initially, all SCAP funds coming to the Stony Brook campus were set aside for new PERFICt proposals. After initial projects were funded, subsequent SCAP funds were earmarked not only for new projects but also for maintenance of continuing PERFICt projects. Most projects were envisioned to have a three to five year term. In the absence of a separate, institutional budget for the maintenance of computing equipment, a significant fraction of the annual SCAP budget was soon allocated to maintenance.

However, during the first three years of operation, the Stony Brook PERFICt program funded several very significant programs in instructional computing. Large computing labs were set up at several locations on campus including social and behavioral sciences, marine sciences, and chemistry. Specialized programs in Technology and Society were funded as were projects in Germanic and Slavic Languages, Philosophy, Music and Nursing, among many others. The nature of instructional computing at Stony Brook was advanced in a very few years through this incentives program.

Each year, the PERFICt review committee, in consultation with the larger faculty committee on campus-wide computing, issues a call for proposals which included several areas of particular interest to the campus. In at least one year, the majority of funds were allocated directly to a major initiative to put UNIX-based computing tools in the hands of advanced undergraduates. As in Kenyon's ACAP, Stony Brook's PERFICt encouraged the support of the latest technology driven by faculty interests in a manner that was relatively independent of the constraints of long range budget planning.

It is noteworthy that these incentive programs were effective in such different academic settings as

Kenyon, a small liberal arts school with 130 faculty and an ACAP budget of $35,000, and Stony Brook, a state research institution with 1,500 faculty and a PERFICt budget of nearly $300,000.


CONCLUSION

Clearly, there are many means to create incentives for faculty to incorporate computing into their teaching and research, and I have outlined but a single model applied in two very different academic settings. The emphasis should be placed on the principles of the incentives, not the details of the local implementation. Create an incentives programs that gives faculty the recognition of their peers, both in the peer review of proposals and in the award itself through publicity. Create an incentive program that is part of the budget planning process, a separate and distinct budgetary entity that can be evaluated (and hopefully continued) on its merits. Work closely with faculty to help potential project leaders in all disciplines develop their vision of computing into the best possible projects. And use the incentives program to gauge the all-important balance between promotion of new applications with quality support for existing work.


REFERENCES

Graves, William H., (ed.) 1989. Computing across the curriculum: Academic perspectives. Reading, Mass. Addison-Wesley.

Ringle, Martin D., 1992. Introduction: Liberal Arts Colleges and Computing. IN Computing Strategies in Liberal Arts Colleges. Martin D. Ringle, (ed.). Reading, Mass. Addison-Wesley.