

Academic Computing Report

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Today, information technology is integral to almost every aspect of TCNJ. Teaching, research, and simple communication have been changed by the technological advances of the last decade. Recent studies document that these advances often result in more effective pedagogy and research. Thus, TCNJ must ensure that it remains close to the cutting edge of change as it seeks to be counted among the country's "most selective" colleges. To ensure the most educationally effective use of resources, there needs to be a close partnership between the Division of Information Technology, who are the campus suppliers of the technological tools, and the academic schools, who are the campus users of these tools.

During the Fall 2004 semester, as the campus advisor for Academic Computing, I studied the working relationship between Information Technology and the academic schools. Specifically, I was charged with understanding the current level of supports, its strengths and weaknesses, and to study the current system for aspects that could be improved. For that purpose, I held meetings with many people at IT, notably Nadine Stern, Jeff Kerswill, Craig Blaha, Shawn Sivy, and Kevin Little, faculty representatives and deans from all seven academic schools, as well as the computer liaisons from several departments, including all those in the School of Science. The purpose of these conversations was to understand the different perspectives of the individuals involved and to gather input and information from them on this partnership. Subsequent to the first draft of this report, additional meetings were held with Craig Kapp and Pat Pasinski to more fully understand their perspectives and concerns.

Faculty and IT personnel work together on a daily basis throughout the college. The numerous projects make it a difficult task to gain a thorough understanding of all the interactions between the academic schools and IT. A true comprehensive study of all these interactions would require more time and resources than those that were available. As a result, to direct my efforts, I focused my attention on the few areas of interaction that others described as needing improvement, and on trying to recommend changes that would solve these problems. However, such a focus should not obscure the excellent computing and technology structure and support that IT currently provides. Of my findings, the main conclusion is:

1. Information Technology provides a high level of hardware, software, and personnel support of the academic mission of the college. There is a very solid, professional computing infrastructure at the college. IT, and in particular the Instruction Technology Services area, has also developed fundamental software, such as SOCS, in support of the academic program. The IT staff is knowledgeable, helpful, and supportive of the college's academic mission. From the evidence seen, I conclude that IT has and provides

the necessary technical, personnel, and administrative resources to support the academic mission of the college in an exemplary manner.

Despite this overall finding, improvements can be made in some areas to further increase the effectiveness and efficiency of the support and to improve the working relationship between IT and the academic schools. Such conclusions and recommendations should be viewed as small but important modifications of the main finding above. The other conclusions are:

2. Overall, I believe there is tremendous respect by faculty of the work done by IT staff and conversely, by IT staff of the work done by the faculty. However, the working relationship can be frayed at times. IT staff often feel they are "treated like plumbers" who are only called when things go wrong. Faculty may feel their problems are being ignored by an IT department that they believe has limitless resources and support personnel. The communication problems listed in item (3) may contribute to these feelings. Similarly, the lack of sustained discussion on academic computing issues between faculty and IT staff (to be discussed in (4)) misses an opportunity for positive productive engagement between these two groups.

3. In some of the academic schools, there appears to be uneven communication and engagement between the schools and IT with respect to computer needs and strategy. These weaknesses have several causes, but the underlying one appears to be a fragile organizational system in which minor incidents can cause the cessation of effective two-way communication. In particular, the creation of new schools and administrative structures over the past three years and the continued shifting of academic personnel have strained the current system. The communication problems are not problems by themselves, but their existence enables small computing problems to become larger ones.

There are several different levels on which communication between faculty and IT occurs. The primary interaction that many faculty members have with IT is through the help desk. There appears to be effective communication between faculty and the help desk for the solving of common technical questions and problems. Any problems with the help desk that existed in the past seem to have been satisfactorily solved. While some faculty initially reported difficulties, such items were from several years ago. Inevitably, new problems will and do arise but the system appears to respond to and solve them in a responsible fashion.

Second, faculty members also work with their respective support specialists on more general support issues. The replacement cycle for computers, the update and installation of software, and the maintenance of the computers in the classroom and in the labs are all areas where faculty and support specialists work together. The respective departmental computer liaisons may represent faculty on these issues. Faculty members generally gave high marks to their support specialists. Those concerns that were raised seem to reflect a frustration about the system's inability to respond to their specific needs.

The third way faculty engage with IT is through the high-level discussion of computing concerns. The resolution of ongoing technical problems, requirements for the continued integration of software and hardware into the curriculum, as well as long-term computer plans and budget issues are four areas that I believe fall into this area. The

academic schools presently have slightly different systems for reporting overall computer concerns to IT. Such differences are natural due to the diversity of the schools, but one result is that the effectiveness of communication between the schools and IT varies from school to school.

For example, in the School of Business, there is an organizational system with which both the faculty and IT are pleased. The Assistant Dean Teri Gerberg has responsibility for technology concerns and faculty report problems directly to her. She then meets monthly with the Dean of the School of Business and the Director of User Support Services to go over these issues. Thus, in the School of Business, a faculty member essentially has one "degree of separation" from IT for higher-order concerns.

How effectively these higher-order issues are communicated appears to be related to the size of the schools. With its large size and many technical demands, it is not surprising that the School of Science reported many communication problems. Possibly because their smaller size enables better informal communication, such problems did appear as present in the smaller schools. In the college's largest school, the School of Culture and Society, a system for deciding budget issues has been instituted, whereby departmental computer liaisons meet to discuss budget requests, before passing them to IT. Thus, with respect to budget issues, Culture and Society faculty have one degree of separation from IT and no communication problems seem present.

Once an area of concern has been communicated (whether from the academic schools to IT or vice-versa), there is the need to ensure that the issues are being settled satisfactorily. Even in schools where communication was occurring, the unresolved status of some academic computing issues was raised. In my opinion, the reason for some of these issues is the numerous implementation details that often arise with technology. Even when a school has a technologically informed and interested Dean, the Deans may have too many other responsibilities to stay on top of implementation issues. It appears to be a mistake for the school Deans to be the single gateway in the communication process between IT and the academic schools. Deans should be involved as much as they desire, but the primary responsibility for following up on implementation issues should probably be given to either an assistant dean or a faculty member, depending upon the school.

4. There doesn't appear to be an overall, large-scale discussion of "academic computing" issues within the academic schools or ongoing organized discussions between IT and the academic schools on these issues. For example, one of my initial goals as academic computing advisor was to advise IT on how to proceed with the deployment of wireless computing and Internet2 on campus. IT has taken the initiative on both of these issues and has presented demonstrations of Internet2 to many of the schools as well as beginning the campus roll-out of a wireless network. However, outside of IT, only a few individuals I spoke with appear interested in these issues and the planning involved. Without sustained discussions on these issues, there would seem to be a slim chance for successful campus initiatives.

Computing initiatives can take place at many levels. Already, at TCNJ, there are many revolutionary technological tools being deployed by departments. Similarly, as already noted, IT is having internal discussions on wireless and Internet2, among other

projects, and is actively participating in meetings such as Educause and NJEdge, where academic computing discussions play a prominent role. Projects such as Internet2 may not require campus-wide discussion, but others would benefit from more campus input. However, there are many academic computing issues, such as those discussed at Educause (see Education Life, New York Times, January 16, 2005 for a discussion on how technology can improve the lecture course), where success requires the participation of many parties from throughout the campus.

5. The IT staff is already proactive in many areas of promoting computing initiatives on campus. Its division Instructional Technology Services sponsors the annual Instructional Technology Workshop on campus. This annual workshop is well-attended and provides IT an opportunity to share their knowledge about computer initiatives with the campus. For example, often the main workshop speaker is chosen based upon talks heard by the IT staff at the annual NJEdge Faculty Best Practices Instructional Conference, a conference of invited talks on using technology in the classroom. There is a need to build upon these successful activities.

RECOMMENDATIONS

In response to the findings above, in this section I offer some recommendations to further improve IT's support of the academic mission and its interactions with the academic schools. Given the general overview of my investigations, there are few specific recommendations. But in general, I have tried to focus on what structural elements can be improved to facilitate improved support.

1. If it doesn't already happen, IT (perhaps in conjunction with its corresponding academic partners) should document the many different academic computing projects it is involved in. There should be readily accessible descriptions of most academic computing projects, organized by their category, IT staff and department involved, and by the professor, department, school, and year. Such lists and documentation should be the bedrock from which IT, academic chairs, deans, and provosts can assess the success of academic computing at the college. Additionally, such information would be useful for chairs and deans to learn about campus computing initiatives elsewhere on campus.

2. Similar in spirit to item 1, IT should use its presence at NJEdge, Educause, and similar meetings to bring back more knowledge to the college about computing initiatives on other campuses. IT already does some of this by bringing non-TCNJ faculty members to the annual Instructional Technology Workshop. IT should build upon these initiatives. IT might consider making lists or summaries of new technologies, instructional or otherwise, that it sees at off-campus meetings and forward these summaries to the relevant chairs or deans. IT cannot force faculty to adopt new technologies but it should ensure that faculty are informed about what is out there.

3. IT should consider building upon its successful Instructional Technology Workshop. One suggestion is to attempt similar small presentations during the academic year. For example, IT could hold a periodic lunch seminar where items of interest to an academic computing audience might be presented (Princeton University has a weekly lunch 'n' learn seminar, see <http://www.princeton.edu/as/LNL/>). IT staff would not necessarily be presenters. Faculty and other staff could make presentations too. But IT probably should be the sponsoring organization. Topics such a discussion and presentation about wireless on campus, or internet2, or computerized homework grading systems would be suitable; cool new computer toys of late would also make good topics. The key to success is to start slowly and to insure that each of the topics will engage and entice some faculty members. Such a seminar would start small and may never be large (ten people might be a very successful gathering).

4. The information from items (1), (2), and (3) should be readily available to the college community. There should be a dynamic, engaging webpage for academic computing containing links to the various academic computing resources and information. The current Instructional Technology Services webpage is engaging and dynamic and could incorporate this information for the college community.

5. The IT support specialists as well as their assistant director, Pat Pasinski, should try to schedule more face time in the individual departments. I believe the working relationship between IT and the faculty would be improved if there were more interaction at times other than when solving a problem. Given the realities of scheduling, few professors are in their offices at a given time, but going through the department once a month on an informal basis, and seeing how things are going or if there are unmet needs, could be quite helpful. Most concerns would still be expressed directly via the phone, email, or through departmental liaisons, but this more informal interaction would build working relationships.

6. The formal communication mechanism between IT and those academic schools where there seem to be problems should be improved. IT cannot design the communication systems for an academic school, but IT has a unique knowledge of where communication is working well and where it is not. For example, at the beginning of my work, the Director of User Support Services already knew in which schools and departments the system was working well, and where it wasn't. IT could use this knowledge to make suggestions to the respective Deans when it sees difficulties arising.

While some schools already have such a system in place, each school should insure that it has a robust system in place ensuring regular monthly two-way conversation and necessary follow-up between the appropriate IT staff, dean, assistant or associate dean, departmental computer liaisons, and faculty. The diverse schools will want to have tailored systems, but regardless of the specific system adopted, the system should ensure that there is at most one degree of separation between a faculty member and IT personnel. Such a requirement should be viewed as a goal rather than a requirement, but care should be taken to ensure the efficacy of a system not meeting this requirement. It is particularly important that in addition to the deans, either another administrative person or a

designated faculty member be present. Such a person would serve as IT's point person for the school. They would ensure the convening of regular meetings and later follow up. It is important that the school's faculty members are aware of their point person.

The current system in the School of Business whereby faculty report concerns to the Dean and Assistant Dean, who then meet with IT personnel, meets this model. In the other schools, I recommend that each department have a departmental computer representative ("computer liaison") whose responsibility is to oversee the department's computing plan. Such computer representatives would participate in the regular meetings with the dean and assistant dean and IT personnel. The School of Culture and Society has adopted a similar model with respect to budget purposes. Whether that model needs to be enlarged for other computing issues may be a question for IT and the school to decide as needed in the future.

The IT personnel at these meetings would include, at a minimum, the Director and/or Assistant Director of User Support Services. Depending upon the topics at the meeting, it would also be helpful at times to have other senior IT personnel and the respective computer support staff at these meetings. Meetings should occur regularly, possibly monthly, and should have enough flexibility to adapt to emerging needs.

7. There should be a unified academic computing plan for the college as a whole. Such a plan would be brief and summarize the goals, priorities, and needs of the individual schools with respect to their academic computer needs. A timeframe for the implementation of plans should also be provided. The individual school plans will vary depending on the needs of the schools. In schools such as Science and Engineering, it may be advisable to have each department have their own academic computing plan. The departmental computer liaison, together with the departmental chair, would have responsibility for creating this plan. Again, while IT would not be the author of these plans, it would be involved in their creation.

8. A high-ranking administrator, although not necessarily a full-time position, should have responsibility for coordinating the college's academic computing plans. This person would not be responsible for the creation and maintaining of the computer infrastructure at the college, which is managed quite well by the Division of Information Technology. Instead, this new position would insure that the resources of Information Technology are being effectively used to support the academic mission of the college.

In the short term, such needs may be met by the appointment of several temporary faculty academic computing advisors serving 2 -3 year terms. However, there are time conflicts present in any dual-role faculty/administrator position that should be strongly considered in the future. Based upon the time considerations I faced, I do not foresee such a dual-role position as being effective in the long term. But as experience with the effective use of these positions increases, this projection may prove erroneous.

9. Concurrently with the creation of the position in item 8, IT should continue its proactive role in promoting the discussion of academic computing issues on campus. IT should expand its role to ensure the existence of academic computing plans and effective

communication avenues as described in (6) and (7). Though responsibility for these items is shared between the academic deans and IT, Information Technology is in some ways in a better position to judge whether clear (strategic) plans exist for the future academic computing needs of the individual schools by comparing the various plans. IT should ensure that each school provides strategic input on these issues.

10. IT should build upon its internal assessment procedures to monitor the completion of items (1)-(9). Given the many organization changes that may occur, no specific formal mechanism is recommended. If future faculty academic computing advisors are appointed, they could be involved in the assessment process. Regardless, any assessment procedures should occur regularly and at least yearly. It is particularly important that the working relationship between IT, the academic schools and the faculty be assessed at every level. Assessments of the help desk and the computer support specialists should include departmental and faculty opinions. The overall working relationship also needs to be assessed by gathering opinion from IT staff, deans, chairs, and faculty.

Assessments should be used as an opportunity for improvement. I believe the lack of appropriate communication channels and assessment instruments has been a cause of the relatively few criticisms I heard during my conversations. Their adoption will not eliminate all problems but should solve most of them.