Academic Technology Task Force Report

I. Executive Summary

"The RIT community engages and motivates students through stimulating and collaborative experiences. Our mission is to provide technology-based educational programs for personal and professional development. We rigorously pursue new and emerging career areas. We develop and deliver curricula and advance scholarship relevant to emerging technologies and social conditions. Our community is committed to diversity and student centeredness and is distinguished by our innovative and collaborative spirit."

- From the RIT Mission Statement

The complexities of RIT’s academic computing environments warranted the establishment of a Provost task force initiative to review the implementation of technology among various groups in Academic Affairs and to make recommendations to the Provost for action. We have produced a list of recommendations that will inform and support our practice as we address the rapid pace of technology advances, changing student demographics, and the technology to support our global outreach.

A cohesive vision and strategic planning will help guide individuals and units as they provide support, maintain quality services and pursue innovation despite increasing costs and financial exigency.

After collecting and studying a comprehensive data set, the Task Force, which is comprised of 22 team members representing the Colleges, Wallace Center, Academic Senate, Student Affairs and ITS, the Task Force makes the following recommendations:

1. Establish a Dynamic Environment for Technological Collaboration - Where do we want to be in 3-5 years?
   a. We recommend establishing a team of campus leaders in technology (faculty, staff and students) who will help develop a vision platform in the 2025 vision document of policies, strategies and initiatives that supports an innovative environment, encouraging partnerships across the RIT community as well as international collaborations

2. Establish an Academic Technology Advisory Board (ATAB)
   a. Report to Provost
   b. Faculty or Academic Senate leadership
   c. ITS Representation
   d. Regular communication to the RIT Community
   e. Input to budget
   f. Provide direction and set priorities to working teams that implement recommendations
3. Research – Addressing the current fragmented approach  
   a. The Deans Council should create a strategic plan, including a centralized approach for polices, management, infrastructure, coordination and technology  
   b. The Information Security Office and Chief Information Officer, along with the proposed ongoing Academic Technology Advisory Board (ATAB), will address the obstacles to research collaboration  
      • Access for external partners  
      • Security systems that address sandbox needs  
   c. The Provost, based on recommendations from the ATAB and the Wallace Center, should explore the need for a budget allocation to support more research databases to meet needs of an R3 University  
   d. Centralize management/allocation of database subscriptions housed in the colleges through the library  

4. Instructional/Classroom Technology – Consistency of campus technology  
   a. Where needed, upgrade classroom technologies.  
      • Rooms should be systematically updated in a timely fashion  
      • Include design standards for renewal and replacement  
      • Adjust current classroom support allocation to meet the actual need  
   b. Emerging: Develop a process for investigating & recommending emerging technology to Provost (AT Advisory Board)  
      • Establish a sub-committee of the AT Task Force responsible for recommending the evaluation and implementation of new technologies.  
      • Provide on-going support, training and recommendations for resource allocation.  
      • Investigate interactive whiteboards, e-Portfolios, Video-conferencing, e-Text alternatives, iTunesU, etc.  
   c. Virtual: Allocate the resource infrastructure necessary to support virtual classrooms (global and remote) and continuity of instruction. These resources may be on campus or outsourced.  

5. Security  
   a. Support a dynamic environment for enabling external technological collaboration  
   b. Review of policies and standards with the cost/benefit analyses included in the review. Partner with the ISO for ongoing dialog. We need a plan for information security and a plan for information management.  
   c. Single sign-on capability  

6. Create a Knowledge Management System - centralized access to repository(s)  
   a. Create and operate for all campus academic technologies  
      • Information on campus software licenses and product versions  
      • Information about campus support contacts  
      • Training (availability and information)  
      • Documentation and FAQs  
      • ITS plans on implementing a Knowledge Management Tool and has the endorsement of the Academic Technology Task Force.
II. Process

- Sub-teams were formed to collect data and make recommendations:
  - Global use of Academic Technology
  - Support of Legacy/Hardware
  - Research
  - Institution/Faculty
  - Licensing/Training
  - Student Experience

- Measurement and Data Collection:
  - Faculty/Staff survey of Technology Use
  - Report on Global Delivery at Benchmark Schools
  - Software/Hardware Audit
  - Classroom Technology Audit
  - Open ended Needs Assessment to specific RIT populations
  - Focus Group Sessions
  - Meetings with ISO and CIO

- Internal and external wikis created
- Initial list of recommendations developed
- Prioritization and financial impact assessment

III. General Observations/Findings

- While the committee's large, diverse size was key in assessing the current environment and generating ideas, we are recommending a smaller committee moving forward to speed up decision making (see IV. Recommendations for more detail)
- Some decentralization, i.e. pockets of innovation, should be preserved as we continue to look for redundancies and optimize resources.
- The smaller committee should include representatives who are cognizant of our needs for delivering educational materials internally and externally, as well as our needs to conduct fruitful research internally and with external collaborators
- Consideration should be given to establishing test beds for the development of new technologies without encumbering or interfering with the use of existing technologies
- Plans should be developed for incorporating new technologies in a timely and methodical manner while maintaining existing technologies
- Security concerns should be balanced with the need to share and collaborate
- Outsourcing some needs should be considered in order to manage changing technologies in an economically responsible manner
IV. Strategic Recommendations

- Areas Addressed:
  - Growth Areas
  - Emerging Technologies
  - Infrastructure Requirements
  - End of Life Recommendations
  - Technology Support Recommendations
  - Teaching Technology Recommendations
  - Outsourcing Recommendations
  - Training Recommendations

- Recommendations:
  - Establish a Dynamic Environment for Technological Collaboration - Where do we want to be in 10 years?
    Details: We recommend establishing a team of campus leaders in technology (faculty, staff and students) who can help develop a vision platform in the 2025 vision document of policies, strategies and initiatives that supports an innovative environment, encouraging partnerships across the RIT community as well as international collaboration.

  - Establish an Academic Technology Advisory Board (ATAB)
    Details: One of the key takeaways from this Task Force is that there is a need for this group to continue to serve as a resource to the Provost. For Academic Affairs to manage technology efficiently there is an ongoing requirement to identify, evaluate, and recommend investments in new academic technology initiatives while assessing the effectiveness of current technologies. This team will seek cooperation among colleges where centralization can be effective, yet recognize and support innovation within individual colleges where appropriate.

    We recommended that the team is chaired by a representative from The Wallace Center and have 3-4 rotating faculty or Academic Senate representatives, as well as ITS representation. We believe a working team of 6-8 individuals can manage the process and provide effective recommendations to the Provost. We expect the process to include:

    - Bi-Monthly meetings with public notes (Wiki)
    - Regular communication to RIT community
    - Open and transparent process
    - RFP process for new projects
    - Bi-Annual legacy reviews of existing technologies
    - Bi-Annual Provost Survey of faculty, staff, Ph.D. students to inventory technology usage and gather comments to open-ended questions regarding gaps and issues that need addressing
    - Annual Presentations at FITL
    - Annual Budget review and input
• Research – Addressing the current fragmented approach
Details: The Deans Council should create a strategic plan, and centralized approach for policies, management, infrastructure, coordination and technology
The Information Security Office and Chief Information Officer, along with the proposed ongoing Academic Technology Advisory Board (ATAB), will address the obstacles to research collaboration
  
  ▶ Access for external partners
  ▶ Security systems that address sandbox needs

The Provost, based on recommendations from the ATAB and the Wallace Center, should allocate funds for more research databases to meet needs of R3 University
  
  ▶ Centralize management/allocation of database subscriptions housed in the colleges through the library

• Instructional/Classroom Technology – Consistency of campus technology
Details: Where recommended, upgrade classroom technology to 2009 standards, as defined by Support Services at The Wallace Center:

Budget should ideally be consolidated, but if it remains distributed to the colleges, each one should commit to funding this standard, as well as periodically refreshing it. Guidelines for refreshing should be established by the Academic Technology Advisory Board.

We are also recommending the establishment of a process for investigating & recommending emerging technology to the Provost (AT Advisory Board). Primary emphasis should be placed on the following emerging technologies:
  
  ▶ E-Portfolios
  ▶ Course design (critical for the change to semesters)
  ▶ Electronic materials
  ▶ Mobile access
  ▶ Social sharing of materials (e.g. the BookBag project)
  ▶ Virtual classrooms
  ▶ Continuity of instruction

• Security
Details: The need to adhere to established security policies must be balanced with the desire for open access and the sharing of academic information. The dialog with the Security Information Officer was eye-opening and beneficial in that it helped better define the issues and the challenges. The Task Force is recommending a continued dialog with more input from Academic Affairs with regard to defining the risks associated with information sharing as well as possible options for permitting collaboration and the associated costs.

The Task Force is also recommending continued benchmarking with universities that are leaders in managing research efforts in a secure way. ITS has recommended the adoption of
Shibboleth (http://shibboleth.internet2.edu/about.html) to establish a secure means of information sharing. This will also help with single sign-on capability.

- **Knowledge Management System** – a central repository
  Details: The Task Force recommends the development of a dual knowledge management system. One would employ the use of RIT’s Wiki and contain information about campus software licenses and product versions, as well as areas of expertise on campus in various technologies, as well as a listing of support contacts.

  The other would be a traditional knowledge base containing documentation, online help, and FAQs on various technology tools used at RIT. ITS plans on implementing a Knowledge Management Tool and has the endorsement of the Academic Technology Task Force.
  
  | Priority: Medium |
  | Timeframe: 1 year |

- **Currently In Progress**
  - **SIS Replacement**
    Details: The Academic Technology Task Force endorses the implementation of a new Student Information System and wants a role in its development in order to ensure input from clients campus wide who are represented by the Task Force.
    
    Priority: High
    Timeframe: Three years (in process by another Institute Committee).

- **Quarter to Semester Conversion**
  Details: The quarter to system conversion project has brought to light a need for technology to automate new or revised course outlines, new program submission and approval processes across the colleges.

    Priority: High
    Timeframe: Two years (in process by another Institute Committee).

- **File Storage/Sharing**
  Details: Increased and extensible file storage is need to facilitate sharing among collaborators within and outside of RIT

    | Increase email quotas (Addressed) |
    | Data warehousing/storage (In-Progress) |
    | Document and image management system (In-Progress) |

  Priority: Low (currently being addressed by ITS)
  Timeframe: In progress – one year.
V. Conclusion

The ad hoc Academic Technology Task Force was an unwieldy experience because of its size (22 members) and the diversity of the experience of its members but the experience revealed many areas of overlapping responsibilities as well as unmet needs in academic technology at RIT. The AT Task Force recommends establishing a standing committee with 6 to 8 members to address the ongoing processes for the coordination of services, allocation of resources, and sharing of information. A standing AT committee would be able to develop an ongoing and dynamic expertise to more effectively address new and ongoing issues.

The lack of coordination between Research and Security interests was a remarkable and unexpected finding of the AT Task Force that deserves immediate attention. Some of the goals of the research community and the goals of Security are at odds and have already resulted in dysfunction that is hurting the progress of both areas at RIT. The AT Task Force was similarly struck by the inconsistency in instructional and classroom technology on campus. Although we have many new and innovative classrooms on campus much of our basic instructional infrastructure is below standard. This can be remedied by applying existing standards and funding them appropriately. The disconnect between what we say we have and what is reality in many classrooms is painfully obvious to faculty and, more importantly, students. The AT Task Force also found widespread confusion, misinformation, and redundancy of information and services at RIT. The Knowledge Management approach we recommend will help minimize these problems and potentially reduce costs to RIT through a more natural coordination of services. The wiki recommended for part of the Knowledge Management system provides for organized faculty/staff/student participation through comments and dynamic updates.

The action items in the Recommendations of this report can help RIT move forward quickly and effectively on these issues. As a first priority we recommend the creation of an Academic Technology Advisory Board to validate and then initiate implementation of the solutions recommended by the AT Task Force.

These recommendations were derived through discussion among the members of the task force, discussions with others at RIT, including the CIO and ISO, and through observations of the needs of RIT faculty and staff with regard to their for teaching and scholarship.

VI. Background

We face many opportunities and challenges that will be best served by a collaborative, thoughtful approach to the implementation and maintenance of academic technology. On one hand, we witness the power to be realized by the effective use of technology to reach and teach students: learning by media literacy, virtual worlds, distance, time shifted, blended and technology enhanced courses, mobile learning through the use of tools such as webinars, wikis, courseware management tools, blogs, cell phones, GPS units, incubator classrooms, etc.
Collections of print media are being digitized rapidly as books, journals, images and videos are brought online and repositories created for their archiving and retrieval. New discovery tools are being developed to provide efficient access to the flood of digital information to support research and teaching. On the other, the choices are overwhelming for most individuals and it is unrealistic to provide support for all available technologies or to expect that faculty take on the responsibility to investigate every tool to assess its value to their respective efforts. These tools require us to build on existing teaching skills, and establish strategies and resources to support teaching and learning at RIT. There is expertise in the various technology departments at RIT and we need a process that will allow everyone to access them all when making important decisions and to eliminate the redundancies where appropriate.

**Problem Statement:** The rate of technological change, RIT's application of technology for teaching and learning, and changing student demographics, combined with the current financial pressures challenges the efficiency and effectiveness of RIT's delivery of curriculum and support services. The adoption and use of academic technologies directly impacts the image and satisfaction of RIT's (Rochester Institute of Technology) constituents, including its faculty, staff and students.

**Charge:** By March 2010 the Task Force will create a cohesive vision and a widely accepted, realistic strategic plan for Academic Technology that aligns with the institute's strategic plan. The plan will include recommendations for organizational structure and resource allocation and establish an Academic Technology Standing Committee to implement the recommendations of the task force.

**Team Members:** Joeann Humbert, Co-Chair (Academic Technology, TWC) Chris Lerch, Co-Chair (Library Technical Services, TWC), Nicole Boulais (Student Affairs), Clare Dygert (NTID), Dave Hostetter (ITS), Jake Noel-Storr (COS), Jim Myers (CAST, CMS - Global Perspective), Gurcharan Khanna (Research Computing), Steve LaLonde (KGCOE), Joe Loffredo (Registrar), Dave Long (CIAS), Sam McQuade (CAST), Nabil Nasr (CIMS), Vic Perotti (SCB), Andy Phelps (GCCIS), Evie Rozanski (GCCIS), Wiley McKinzie (GCCIS), Amit Ray (COLA), Gary Skuse (COS), Anne Wahl (Academic Affairs), Tom Policano (Academic Senate), George Zion (CAST) & Zeid Nasser (Student Government)

**Champion:** Jeremy Haefner, Provost

**Sponsor:** Chandra McKenzie, Assistant Provost and Director, RIT Libraries, The Wallace Center

**Scope Includes:** We are addressing technologies developed, supported, pseudo-supported, or maintained within Academic Affairs units; many of which utilize ITS infrastructure technologies to do so. This may include technology research, selection, interoperability evaluation, deployment planning, and deployment execution of technological solutions RIT invents/creates or purchases/licenses. Items out of scope include ITS infrastructure (bandwidth delivery, landline voice, firewalls, etc.).
Scale Includes: The strategic plan should identify and create a campus and global process for support of an array of academic technologies, those used by faculty, students and staff directly, as well as those utilized within Academic Affairs to support operations.

Requirements:
2. Recommendations must be in alignment with the vision/mission of the Provost's Office and strategic plan of RIT.
3. Recommendations should include requests for resources needed for development and implementation.
4. On-going project review meetings with sponsor.

Guiding questions:
1. What are the technologies used within Academic Affairs?
2. What units are responsible for selecting/implementing/supporting the technology?
3. What units allocate the funds to maintain, replace, or upgrade the technology?
4. What replacement/upgrade/enhancement processes exist?
5. What unique technologies (specific applications and requirements) exist that do not utilize ITS infrastructure?
6. What are appropriate processes to encourage innovation and experimentation with teaching and learning technologies?

Goals as they tie to Institute Goals and Key Result Areas:
- Key Results Areas
  - KRA 1: Be renowned for Student Success: the extent that students obtain an education that prepares them for the challenges and opportunities that await them in a rapidly changing and diverse global society.
  - KRA 2: Maximize Opportunities for Innovation, Creativity, Research and Scholarship: the extent to which the educational experience is characterized by opportunities to develop and apply creative and innovative approaches to learning and problem solving.
  - KRA 3: Execute with Organizational/Operational Excellence: Achieve the organizational mission in the most effective and cost efficient manner.
  - KRA 4: Achieve the Highest Levels of Stakeholder Satisfaction: the extent to which the requirements and expectations of key stakeholder groups are met or exceeded by RIT. These include:
    - Students and their families
    - Alumni
    - RIT faculty and staff
    - Business community
    - Government
    - Donors
VII. Appendix

Resources on Wiki

- Global Delivery at Benchmark Schools
  (https://wiki.rit.edu/display/acadtech/Global+Delivery+at+Benchmark+Schools)
- Technology Inventory 2009 Summary
  (https://wiki.rit.edu/display/acadtech/Technology+Inventory+Summary)
- Open Ended AT Survey 2009 (https://wiki.rit.edu/display/acadtech/Open-Ended+AT+2009+Survey)
- Focus Group Summary (https://wiki.rit.edu/display/acadtech/Focus+Group+Summary)
- AT Critical Issues (https://wiki.rit.edu/display/acadtech/AT+Critical+Issues)
- AT Preliminary Results from June Survey
  (https://wiki.rit.edu/display/acadtech/AT+Preliminary+Results+from+June+Survey)
- International Report done by David Wilson
  (https://wiki.rit.edu/download/attachments/26214760/Benchmarking+_FINAL.pdf)