Abstract

In some ways, the methods we utilize for helping teachers teach in our modern society presume that each of us is born with the ability to not only teach but to teach effectively with technology. The truth is most faculty are ill prepared to handle the complexity of our new high tech learning environments. Southern Polytechnic State University addressed this problem by creating the Teaching and Learning Academy. The Academy provided the framework for faculty to learn about teaching pedagogy as well as technology through an interactive semester long program. This program helped form a community of people at SPSU who cared and focused on teaching and learning issues. This community later went on to create a permanent Center for Teaching Excellence on campus whose sole job is to promote teaching and learning.

Background

Universities typically expect faculty to begin using technology in the classroom almost immediately upon employment. And as more and more tools become available for use in the classroom, these expectations will continue to grow. This increase in demand is also driven by growing student expectations.

Most faculty, however, have not been previously exposed to the wide variety of technologies necessary to carry out this task. Their primary focus has been within their areas of expertise - biology, physics, engineering - not in creating effective electronic presentations or web sites. Because of this, most faculty teaching in these areas also lack knowledge of the fundamental concepts necessary for creating effective teaching and learning environments.

Universities across the country have started to address this problem with the creation of Teaching and Learning Centers. These centers tend to provide tutorials and short courses on how to use the various technologies necessary to conduct a modern class. In general, these courses are well done and show the participant how to use the individual target technologies. These courses, however, tend to be short and highly focused.

This scatter gun approach to faculty training just doesn't work well in practice. It is somewhat akin to learning how to pilot an airplane one instrument at a time. The bottom line: you never get the opportunity to see the big picture and focus on your overall goal. In the classroom that goal would be to enhance the students' learning.

To answer this challenge, the Teaching and Learning Academy was created at Southern Polytechnic State University. The Teaching and Learning Academy was created as part of the University System of Georgia's Distinguished Professor program. The Distinguished Professor program provided financial resources to a selected faculty member from each University System of Georgia school. Each distinguished professor was able to spend the funds in any way that directly supported teaching and learning on their respective campus.

I applied for and was selected as the Distinguished Professor for SPSU in 1998-99. A large majority of the money from this program was used in the creation of the Teaching and Learning Academy. With the initial success of the Academy, I again applied for and received the Distinguished Professor award for 1999-2000. All of the money from the second award was used to support the Academy for a second year.

The Teaching and Learning Academy would not have been possible were it not for the collaboration between myself and my very capable colleague Susan Putzel. Susan brought a wealth of pedagogical knowledge and experience to the Academy and her role as director of the Center for Instructional

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Technology was invaluable for the program. CIT also provided the classroom and computer resources as well as the hard-core technology instruction.

**The Teaching and Learning Academy**

The T&L Academy was designed to provide a framework for introducing faculty to technology in the classroom while investigating and reinforcing good pedagogical practices. By combining pedagogical discussions with state-of-the-art classroom technology, the Academy was able to enhance teaching and learning both now and in the future.

**Program Structure**

The Teaching and Learning Academy invited anywhere from 8 to 12 faculty members to participate in the program. These faculty members were selected through an application process and all faculty members of SPSU were invited to submit applications. A selection committee reviewed the applications and selected the participants based upon their individual needs and the potential impact on the rest of the University.

When selecting participants, the selection committee sought to involve as many people from across campus as possible. Every effort was made to get representatives from as many different academic departments as possible. Another consideration for selection was the potential number of students each participant would encounter and ultimately influence.

The T&L Academy was modeled after a typical 4-hour semester course. The participants met twice every week for two hours each meeting time. Unlike the standard workshop-series model commonly employed when assisting teachers with instructional technology, we selected the semester course model in order to build a community of teachers. By having the same individuals meet twice per week, complex and very important teaching and learning strategies and goals could be discussed. And, as is the case with most classes, investigative assignments could be made and reviewed at a later time.

The Academy worked hard to mix instructional technology discussions with pedagogical discussions. The primary focus, however, was pedagogy. The goal was to not only instruct participants in how to use the technology but, more importantly, how to use it effectively in the classroom.

During the first year of the Academy, the Fall term was devoted to planning, organizing, and preparing for the first Academy in the Spring. The second year took advantage of this preparation and was able to offer two more Academy sessions the following year – one in the Fall and one in the Spring.

**Target Class**

The target class concept was probably one of the most important concepts of the Academy. In conventional workshops, the general approach is to flood the faculty member with a great deal of information and then send them on their way. A week or two later the material ends up on a shelf and the basic concepts are forgotten.

The structure of the Academy, however, provided the opportunity to break this model. To this end, each participant was asked to select a target class. The target class is a class currently being taught by the participant while they are going through the Academy. This provided the participant with the ability to try new techniques and technologies and get immediate student feedback while the academy was progressing. This experience and feedback was then brought back to the Academy for further discussion.

As an example, Academy participants were show numerous methods for assessing student performance – the one-minute-paper, the muddiest point, etc. Each participant was then asked to try one of these methods in their target class. In the following Academy session, each participant shared with the group their experiences.

In support of the benefits of the target class, remember that effective teaching requires us to "give students more time to dig beneath the surface, to grapple with the subject matter, and to make their own sense out of things" [Meyers, 1]. By having participants leave after a topic is discussed then think on how it could be applied to their classroom, we are providing this opportunity for active reflection. Also, for knowledge to be learned effectively it "must be processed, its meaning incorporated into the students' patterns of thinking, and ultimately communicated by the student in a coherent and acceptable from" [Jaques, 2]. The process of
trying the method then reporting back to the Academy to share the experiences forces the Academy participants to communicate the core ideas back to their peers.

This model of learn-try-discuss was extremely successful. It represented more than just active learning; it also encouraged the participants to teach others from their own experiences.

Program Resources

In order for the program to be successful, a number of resources were provided for the faculty participants. First, each participant received release time for one semester-based course. This was the most expensive and the most important resource for the program. By providing each faculty member with the time necessary to fully participate in the program, we are in effect saying the Academy is important to us and to the University. It sends the message that each participant's time is valuable and their full participation is expected. It also serves to allocate common weekly slots in their diverse schedules eliminating most conflicts.

Faculty release time was, without a doubt, the most difficult resource to provide. More than once in my discussions with the administration, it was suggested that purchasing equipment for classrooms would be a far better use of the funds. We tend to look at equipment as tangible but peoples' time as irrelevant. Ironically the reverse tends to be true – we invest in people's time and the knowledge they gain will be with us far longer than the life of most electronic equipment.

The program could not succeed, however without some tangible resources. To this end, each faculty member was also provided the following software and books:

**First Year Resources (1998-1999)**
- Microsoft FrontPage 98
- Microsoft Office 97
- Adobe Acrobat 3.01
- Macromedia FreeHand 8.0
- Macromedia Flash 3.0
- Mind Matters: Teaching for Thinking by Kirby & Kuykendall
- The Bedford Guide to Teaching Writing by Howard & Jamieson
- The Art of Thinking by Vincent Ryan Ruggiero
- Microsoft FrontPage 98 by Stephen L. Nelson

**Second Year Resources (1999-2000)**
- Adobe Acrobat 4.0
- Mind Matters: Teaching for Thinking by Kirby & Kuykendall
- The Art of Thinking by Vincent Ryan Ruggiero

Notice the resources changed from the first year to the next. This is primarily due the fact that only one Academy session was offered in the first year as opposed to the two sessions conducted the following year. Since faculty release time took a significant chunk of the money, there just wasn't that much money left over.

A number of resource decisions, however, were not based entirely upon funding. It was discovered, for example, that Microsoft Office was readily available to the faculty already. Also, the Macromedia software products turned out to be more advanced than necessary for the Academy and Netscape Composer, which is free, was available to all for web page development.

The final resource provided to the Academy participants was web server space. At the time this was a significant achievement and provided each member a place to showcase their Academy work. Many participants continue to use this account for their classroom instruction.

Program Participants

A total of three Academy sessions were run during this program: one session in the first year and two sessions in the second year. The following is a list of participants and their associated academic departments. Notice the diversity of members within each Academy class. I was informed much later that

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this diversity helped improve interdepartmental communication since everyone in the class became well acquainted with one another. Also, many professional friendships were formed that continue today.

**Spring 1999:**
- Member 1: Architecture
- Member 2: Civil Engineering Technology
- Member 3: Computer Science
- Member 4: Electrical and Computer Engineering Technology
- Member 5: Electrical and Computer Engineering Technology
- Member 6: Humanities and Technical Communications
- Member 7: Management
- Member 8: Mathematics
- Member 9: Mathematics
- Member 10: Physics, Chemistry, and Biology
- Member 11: Social and International Studies

**Fall 1999:**
- Member 1: Architecture
- Member 2: Civil Engineering Technology
- Member 3: Computer Science
- Member 4: Computer Science
- Member 5: Construction
- Member 6: Electrical and Computer Engineering Technology
- Member 7: Humanities and Technical Communications
- Member 8: Humanities and Technical Communications
- Member 9: Industrial Engineering Technology
- Member 10: Management
- Member 11: Physics, Chemistry, and Biology
- Member 12: Physics, Chemistry, and Biology

**Spring 2000:**
- Member 1: Architecture
- Member 2: Civil Engineering Technology
- Member 3: Computer Science
- Member 4: Construction
- Member 5: Electrical and Computer Engineering Technology
- Member 6: Humanities and Technical Communication
- Member 7: Management
- Member 8: Mathematics
- Member 9: Mechanical Engineering Technology
- Member 10: Physics, Chemistry, and Biology

**Program Topics**
The topics covered were as important to the program as its makeup and resources. Careful consideration was given to mixing good pedagogical discussions with advanced technology. Whenever a new pedagogical concept was explored, the Academy members debated its merits and looked at the variety of ways it could be implemented in the classroom. Whenever a new technology was introduced, the Academy focused on how to use the technology effectively in the classroom. A number of sessions, in fact, were held in the computer lab so that everyone could explore the target technologies together and share ideas for its effective use.

It is important to remember that each class emphasized group interaction. Much value was obtained when participants were able to debate and discuss important teaching issues. The Academy served as a framework for bringing participants together to explore teaching and learning.
The following is a list of topics covered in the conduction of the Academy:

- What is Good Teaching?
- Course Syllabus and Class Materials
- Change-ups in Lectures
- WebCT – Introduction & Discussion Group
- WebCT – Class Set-up
- Presentation Day – Show and Discuss Web Sites
- Effective Electronic Presentations – Web and PowerPoint
- How-to PowerPoint
- Teaching Styles and the Teaching Styles Inventory
- Learning Styles
- Modify Presentations to Accommodate Learning Styles
- Acrobat – Creating PDF Files and Scanning Text
- Presentation Day
- Critical Thinking Strategies
- Stages of Learning
- Classroom Assessment Techniques
- Online WebCT Assessment: Quizzes & Surveys
- Web Site Development
- Visio
- Instructional Technology Solutions
- Sharing

Programs End

After the last Academy in Spring 2000, the Distinguished Professor program was discontinued by the University System of Georgia. Without adequate funding for faculty release time, we were forced to close down the Academy.

When the program ended, a number of people requested that the work continue in some form. The Academy had created a community of learners excited about teaching and learning in general. A committee of volunteers was formed to address this issue and our new directions. The result was the Center for Teaching Excellence. I have been serving as the Director for this center for almost two years now. Details of these developments are in the following section.

Post Analysis

The Teaching and Learning Academy benefited the individual participants as well as the University as a whole. From the standpoint of each individual, technical knowledge about creating course web sites, using web based teaching tools, creating electronic presentations, using visual thinking tools, developing web based documents, and interacting with other participants using asynchronous tools were all discussed and utilized. Pedagogical discussions concerning classroom assessment, student learning styles, teaching styles, and teaching philosophy where discussed and integrated with the technology discussions.

The effects on the University will be long term and significant. By selecting participants that represent a large cross-section of the campus, we have in effect planted seeds of technical and pedagogical knowledge around campus. Other faculty will see these colleagues using modern technology in their classrooms, will start asking questions and seeking answers, and ultimately will begin the process themselves. This represents the beginning of a grass-roots movement toward improving teaching and learning and using technology effectively in the classroom.

Program Focus

The most notable lesson learned while conducting the Academy was program focus. When we started the program, we began by focusing on technology. Only after a few weeks did we attempt to move into the more important pedagogical discussions. This made things very difficult. While we were able to discuss pedagogy, it was hard to remove the technology from our discussions.
To address this problem, we started out later Academy sessions with 2-3 weeks of pedagogy discussion. We intentionally avoided any talk of technology. We engaged instead in discussions on student learning styles, the role of the teacher, assessment strategies, and classroom management.

Technology was introduced only when we felt, as a class, it would help us become better teachers. The focus was always on improving teaching and learning and not on technology. This was the Academy's most significant discovery. And this, in my opinion, is what made it so successful.

**Possible Improvements**

One thing that would have been beneficial for the participants in the program would have been group projects. By pairing faculty members into groups we could have potentially enhanced learning even further. It would also further strengthen the professional relationships among the participants. This could even be extended to include peer observations among participants.

Another nice addition to the program would have been a permanent web site that featured the Academy members work. This would better showcase the talents of the faculty and possibly encourage others to follow by example.

**Teaching and Learning Committee**

When the Academy ended after Spring 2000, a number of faculty and administrators wanted to continue the work of improving teaching and learning on campus. To this end, a committee of volunteers was formed at the request of our Vice-President for Academic Affairs in early Fall 2001 to address the issue. Like the Academy classes, the committee was made up of members from a wide sampling of departments.

The result of the committees work was a recommendation to create a permanent teaching center on campus. A document was created detailing the development of the teaching and learning center and carefully analyzing the resources needed to make it work.

**The Center for Teaching Excellence**

When it was decided to create the Center for Teaching Excellence on campus, I was approached to apply for the Directorship of the center. I was awarded and accepted the position and have been direct the center for one and a half years now.

Much of what we do in the center is copied from the early successes of the Academy. While we still do not have the financial resources to offer reassigned time for faculty, we are trying to mimic the classroom structure with a concept called workshop series.

Instead of the old and sometimes ineffective model of standalone workshops, a workshop series spreads the topic over a variety of sessions. A typical model for session sequences is (1) introduce the concept and have participants reflect upon the topic, (2) continue to discuss the topic with a focus on applying the concepts in their own classes, and (3) discuss and review the results of classroom experiments with other participants.

This model provides many elements essential to effective learning - active engagement, reflection, and group interaction. This model also has the side benefit of building a learning community. When experiments are shared and ideas exchanged, we form closer bonds in our professional and personal relationships.

The Center for Teaching Excellence also has a number of very good resources for teaching and learning. To see what is available at the center, go to http://cte.spsu.edu.

**References**

Scott Tippens

Scott Tippens has taught at Southern Polytechnic State University for the last 10 years. He received his undergraduate degree in Electrical Engineering from Georgia Tech in 1988 and his Masters of Science in Electrical Engineering at Georgia Tech in 1989.

Scott Tippens received the Distinguished Professor Award in 1998-99 and again in 1999-2000. He also received the Outstanding Faculty Award in 1999 and was honored as Teacher of the Year in 1999-2000. Scott Tippens currently serves as Director for the Southern Polytechnic State University Center for Teaching Excellence.