

**Miami University's Alumni Teaching Scholars Program:
A model of a teaching enhancement program**

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As new full time engineering faculty we desire to use the best techniques in the classroom, to incorporate the experiences of seasoned instructors, and to be aware of the current state of the art in education. To do this without some sort of guidance or support is difficult. Luckily there are institutions that have programs that address this issue. These programs range from casual seminars on good teaching to formal effective teaching programs. One formal program is the Alumni Teaching Scholars program at Miami University. This program draws from a university-wide pool of tenure-track professors and introduces participants to the scholarship of teaching. This paper describes the program in general, and the experiences of the authors as participants in the program. A description of Miami University is given to provide the background for understanding the implementation of the program. A brief history of the program is discussed, then the elements of the program are presented.

MIAMI UNIVERSITY

Miami University is a state-assisted, comprehensive Research I university in southwest Ohio. The primary focus at Miami is on undergraduate education. With a current enrollment of 20,000 students, Miami offers degrees from the College of Arts and Sciences, the School of Education and Allied Professions, the Richard T. Farmer School of Business Administration, the School of Fine Arts, the School of Interdisciplinary Studies, and the School of Applied Science. The majority of Miami students, about 16,000, attend at its main campus in Oxford, Ohio, with the remainder attending regional, nonresident campuses in Hamilton, Ohio and Middletown, Ohio, and a European center in Luxembourg. The three Ohio campuses are within an hour's drive of each other.

The Manufacturing Engineering department, of which the authors are faculty, is housed in the School of Applied Science, which also contains the departments of System Analysis, Paper Science and Engineering, Nursing, and, on the regional campuses, Engineering Technology. The School of Applied Science also conducts an Engineering Management program in conjunction with the School of Business. The school has around 2000 undergraduates, with half of them majoring in the engineering-based disciplines.

The emphasis on undergraduate teaching at Miami University has led the administration to the development of programs to enhance the teaching effectiveness of its faculty. The program for

tenure-track faculty is the Alumni Teaching Scholars Program.

THE ALUMNI TEACHING SCHOLARS PROGRAM

The Alumni Teaching Scholar Program at Miami University is an outgrowth of the Lilly Teaching Fellows Program. The Lilly Teaching Fellows Program was established in 1974 by the Lilly Endowment. Schools of higher education could apply for up to three years of funding to develop and conduct programs to encourage good teaching through faculty development. The program at Miami was developed by a committee of senior faculty, students, and administrators in 1978, and the first three years, 1979-80 through 1981-82 were funded by the Lilly Endowment. Subsequent funding has been provided through Miami alumni. By 1990, Miami was one of only seven institutions of the thirty that participated in the Lilly program up to that time to continue its program after the endowment funding ceased. In 1994, Miami's Teaching Scholar Program won the Hesburgh Award, given to the faculty development program in the United States judged best in the meeting the three award criteria: significance of the program to higher education, appropriate program rationale, and successful results and impact on undergraduate teaching and learning^{1,2}.

Activities in the Alumni Teaching Scholars Program include seminars and workshops on teaching effectiveness and other topics relevant to higher education, mentoring by senior faculty, and a project of the participant's choice to improve some aspect of his or her teaching. Candidates are drawn from a university-wide pool of faculty in the second through fifth year of the tenure process who have applied to participate in the program. In the application the hopeful participants discuss why they want to participate, what they hope to obtain by participating, what they think they would contribute to the program if selected, and a description of what they envision their teaching project to be. A committee of former participants reviews the applications and make recommendations for selection to the director of the program. Selection is limited to nominally ten participants, and is based on the responses in the application and a desire to choose participants to give a balanced representation of the different schools, programs, and campuses at Miami.

The authors of this paper, Stenger and Schmahl, were selected as Teaching Scholars in the program years 96-97 and 95-96, respectively. Each of the elements of the Alumni Teaching Scholars program are described below in general terms, after which the authors provide insight into their experiences.

PROGRAM ELEMENTS

The Alumni Teaching Scholars Program focuses on improved teaching through on-campus seminars and workshops, off-campus retreats, participation in teaching conferences, senior faculty mentoring, and a teaching project. To enable effective participation in the program, participants are given course relief (one course) in one semester and relieved of some committee duties in the other semester. Participants also receive a \$125 grant for material to use in their teaching project or to improve their teaching effectiveness. The program is run by a ½ time director and a 1/3 time secretary. A budget of \$36,000 is used to fund programming, participants' costs and participants' release time. The salaries of the director and secretary, office expenses, and sup-

plies are funded through the Provost's office.

Stenger: The selection committee does an excellent job of drawing diverse participants from across the university. My "class" contained 14 members, nine women and five men. We represented the disciplines of teacher education, zoology, religion, nursing, English, physics, German, education leadership, finance, speech pathology, mathematics and statistics, educational psychology, philosophy, and, of course, me in manufacturing engineering. Although the majority of us were on the Oxford campus, we had one member from each of the two regional campuses. We were equally distributed of being from two to five years in the tenure process.

Schmahl: We also had a diverse group from the different colleges across the Oxford campus as well as the regional campuses. The director of the program, Milton Cox, did a good job of assessing the groups needs and taking our suggestions to develop our program for the year. Most of our group were able to take advantage of the course relief to provide the time needed for the program. Others, like me, were unable to get course relief, but used the funds provided to pay for travel/conference registration for faculty development activity the following summer.

Retreats and Seminars

The year-long program is launched in a day-long off-campus retreat in May attended by the participants of both the concluding and upcoming years. The "graduating" class describe to the new class their experiences in the program and their teaching projects, and suggest seminar topics that they found to be useful.

Once the academic year commences in the fall, the participants meet twice a month for lunch discussions and once a month for dinner and a more in-depth seminar. The topics of the seminars are chosen by the Teaching Scholars at the opening retreat. The Program Director then coordinates the scheduling of speakers, collects from the participants one-page lists of questions to be explored and anticipated outcomes from the seminars, and selects appropriate readings to enhance the discussions. Table 1 lists typical conference and seminar topics for the program.

Early in the fall the participants travel to another school for a weekend retreat to interact with different faculty and participate in discussions and seminars. The Teaching Scholars participate in the Lilly Conference on Miami's Oxford campus in the fall, a University-wide teaching effectiveness retreat in February, and a national teaching conference outside of the University in the spring.

Stenger: Throughout the year, there was a continual emphasis on discovering teaching methods, and discussion of these methods with fellow participants. We were able through these discussions to see how different methods were carried out in different types of classes, and their relative success. We found more similarities than differences. With the mix of faculty participating, we could compare the effectiveness of various methods in the different disciplines. One suggestion to have students write answers to questions on overheads to use for class discussion from a History class became having students solve a selected homework problem on an overhead to

TABLE 1

Typical Conference and Seminar Topics for the Alumni Teaching Scholars Program

Role of Difference in Teaching and Learning: Awareness and Implementation
 Teaching with Case Studies
 Ethical Dilemmas in Teaching
 Faculty Stress
 Teaching and Learning Styles
 Cooperative Learning
 Our students' Views of Teaching
 Obtaining Feedback from Students
 From Teaching to Learning
 Grading and Evaluating Students
 Constructing a Portfolio
 Classroom Assessment Techniques

present to the class in Engineering. Topics that were new to some members were standards in the disciplines of others. For example, assessment, recently of major importance in engineering due to the new ABET requirements, is de rigueur in Education.

Schmahl: I didn't previously realize the extent to which there are resources and activities complementary to the classroom which have important effects on teaching. The retreats, seminars and conferences made me more aware of outside resources and facilitated discussions about learning with other new faculty. One of the most memorable sessions was on "Ethical Dilemmas in Teaching". We each prepared a mini-case in which we described a dilemma which we had faced. We had some really good discussions out of those cases and it was comforting to know that my colleagues were facing similar issues. Another eye-opener was the session on "Video-taping to Enhance Teaching Effectiveness" where we each had to bring a video of our actual teaching. We learned as much from watching each others tapes and listening to the constructive suggestions for others as we did from critiques of our own.

Interaction with Mentors

Each participant chooses a senior faculty to serve as a mentor for the year. (Some participants choose several mentors, or have a different mentor for each semester of the program.) Mentors participate as a group in several of the lunch and dinner seminars.

Stenger: I wanted to select a mentor from a technical discipline who was known for teaching and research. I found my man in the Physics department. We visited each other's classes, both upper and lower level. We discussed ways to improve the presentation of technical information. My mentor also provided me with a critique of my teaching, which I have included with my tenure documentation. As I told him, I plan to use him as a mentor-for-life, and request his services throughout my career.

Schmahl: I met with my first semester mentor, a full professor from the School of Business, several times for lunch and we visited each others classes. Although I learned much from him we never really “clicked” and seemed to run out of things to talk about. For the second semester, a colleague of mine from within the School of Applied Science did provide very valuable advice as well as friendship. We have continued our mentoring relationship on an informal basis.

Teaching Projects

Each Teaching Scholar designs and implements a teaching project during the program year. The project is viewed as a “license to experiment” and is expected to be conducted in a scholarly manner. Participants are encouraged to present and publish the results of their projects.

Stenger: I went into the program planning to revamp a course to improve student participation and student self-learning. The course I chose was one I teach first semester. By the time I had established my objectives, the semester was half over, and the momentum of the course precluded my performing the major overhaul I envisioned. Keeping with the theme of increasing student participation in a technical class, I joined with my colleague in nursing to investigate using game-based activities. We used game show type exercises, cross-word puzzles, and roll-playing to reinforce the technical concepts we were trying to pass to the students. I found the Jeopardy game a good instrument for reinforcing learning in a Thermodynamics class, using the question boards of Jeopardy and Double Jeopardy to get across concepts and Final Jeopardy as a problem-solving exercise. Students responded to our surveys stating that they felt important topics had been reinforced, and that they had fun during the process. We presented our work at the 1997 Lilly Conference on College Teaching-West in California.

Schmahl: My teaching project focused on development of a new laboratory experience incorporating student centered learning principles. An important aspect of the project was the way in which the project evolved. The first time I tried the approach it was disastrous. After several changes I now consider the approach successful. I presented my lessons learned from the attempts at the 1996 Lilly Conference on College Teaching-West in California and presented the (successful) approach at the 1997 ASEE National Conference in Milwaukee³.

BENEFITS OF PARTICIPATION

There are quite a number of benefits we obtained from participating in the Teaching Scholars program. These range from the exposure to current work in enhancing instruction to the mentoring program to the association with other tenure-track faculty in other disciplines.

The various seminars and workshops were a blend of presentations by nationally renowned educators, roundtable discussions with experts in various fields, and discussions within our scholars group. Topics covered a broad range of issues important to teaching and improving teaching, such as syllabus construction, establishing course objectives, assessment, ethics, diversity, and student views (we invited students from our classes to attend one of our dinners and provide their input). The opportunity to associate with faculty from other disciplines allowed us to see teaching techniques not commonly associated with engineering disciplines.

Probably the most valuable benefit was being able to associate with faculty from other disciplines who were also going through the tenure process. We took the opportunity to visit each other's departments and campuses. We learned that many problems and teaching issues were not unique to our own departments or disciplines. Through these comparisons we also got to see some of the unique characteristics engineering students possess.

Participants in the program established a camaraderie with the other tenure track faculty that allowed us to voice frustrations with the tenure process. We were able to discuss tenure issues, and see similarities and differences in the process in other divisions. Since there were participants in different stages of the tenure process, we could discuss what had work for some and what had worked for others, issues that caused obstacles, and techniques that eased the process.

The relationships with our mentors were also valuable in that we could learn from those who knew the system well. The advice provided by mentors helped us to avoid mistakes and to use our time more effectively. The mentors probably had more of an impact than they realized, as their advice to their "mentee" was soon shared with the program participants.

In presenting our experiences in Miami's Teaching Scholars program, we hope to encourage faculty at other schools to participate in similar programs at their institutions if they exist, or to encourage their establishment if they don't. We also encourage these programs to extend outside of engineering schools and be university wide so to include representatives of other disciplines.

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