Literature Review

Faculty Development

By MAJ Kirk Ingold
Department of Electrical Engineering and Computer Science

Faculty development is a fluid system that is continuously changing to meet the needs of the students and the teachers. Institutes that have successful faculty development programs develop those to meet the specific needs of their students. Some key topics noted in faculty development models are goal-oriented teachers, social systems, and a learning-centered model. Faculty development models possessing these attributes have the potential to be very successful in producing excellent teachers with successful students.

Over the course of this essay, faculty development models will be discussed and evaluated. The changing needs of students over the past 30 years have driven an adjustment in faculty development models. Faculty development programs at the university level were initially created to meet the changing developmental needs of students. As students progress through different generations, so must the development programs linked to faculty.

Each institution that has some model for faculty development has created that model to target some aspect of education. All models work to improve their faculty as educators, but each has slightly different methods of achieving this goal. One focuses their model to reduce the effects of large turnover rate of their faculty. Another implements the model to increase retention of the students in their discipline of study. And yet others use a model that targets their graduate students in order to prepare students to become future faculty members. The underlying basis inherent in all of these faculty development programs is to improve the quality of teaching in order to provide students with the best possible education.

Many institutions have created their own Centers of Excellence (CE) to offset the difficulties in standing up a faculty development program. Grady (2004) argues that due to the different disciplines within most institutions, each discipline should have their own "discipline-specific" Center of Excellence. A discipline specific CE as such allows faculty to share similar pedagogical approaches to teaching due to similar subject matter. On the other hand, Suchan et. al. (2006) describes a Center for Teaching Excellence (CTE) that uses an "innovative approach to insure that faculty development is a continuing process" in order to deal with a diverse background and high annual turnover rate of faculty. Both techniques use a series of workshops or meetings that allow the faculty members to evolve pedagogically by discussing various teaching techniques and methods with their leaders, peers, and subordinates.

Grady (2004) describes the transition of faculty development programs moving "from a teacher-centered to a learner-centered paradigm." The purpose for this adjustment comes from four main objectives: 1) promoting teaching excellence; 2) provide interface between technology and pedagogy; 3) foster collegiality; and 4) support faculty growth. These objectives stem from an institution whose faculty's primary focus is teaching and not research.

Just as Froyd et. al. (2005) discuss, faculty development can be viewed as faculty learning. In this sense, even faculty members never stop being a student. There is obvious dissent in this statement from the more senior professors due more to the feeling of loss of seniority. However, given sentiments from faculty that students should be responsible for their own learning and the responding argument from students that poor teaching is the reason for poor performance (McShannon et. al. 2006); it is evident that all faculty members can benefit from evaluating their own teaching style and continuing their personal development on teaching.

Froyd et. al. (2005) adapts a framework for faculty development from the GAMES model offered by Svinicki. The five parts of the GAMES model are: 1) Goal-oriented learning; 2) Active learning; 3) Meaningful learning; 4) Explaining while learning; and 5) Self-monitored learning. Froyd has adapted this by adding two additional elements: 1) Social networks and 2) Experiential learning. Now GAMES becomes MESSAGE with the purpose of "helping faculty draw connections between their learning experiences in faculty development activities and their classroom and course practices or experiential learning." (Froyd 2005). These are not explicitly noted by either Grady (2004) or Suchan et. al. (2006), but each program incorporates all seven parts into their faculty development models. The purpose of the addition to the GAMES model is to use peer support in order to improve learning through teaching, thus the underlying goal of teaching excellence and student success in education.

An alternative approach to faculty development is presented by Lewandowski and Purdy (2001) and Jones et. al. (2004) in which they discuss introducing the development model during the latter part of a graduate students education. Starting at this point in a students' career improves two things regarding the institutional faculty model. First, it increases the number of students joining the ranks of the faculty following graduation, and second it provides the students with feedback on their experiences of teaching in order to introduce different pedagogical styles and improve their own teaching style. Although a completely different model from those mentioned prior, the underlying goal is to produce excellent teachers.

The bottom line in faculty development is continuously evolving the roles of the teacher and the means to which they can educate themselves in teaching. To produce a teacher that knows how to be an excellent teacher is one thing; to produce an excellent teacher with successful students is the goal. As seen by the various models, there are a few consistent themes in faculty development.

The first is the establishment of a social network. This provides a resource to which teachers can share their ideas and provide success and failure stories in a broad or narrow audience. By talking with peers and leadership, a teacher can learn different methods to improve their role. The Centers of Excellence provide a means for teachers to do just this. The second is the focus of goals for the teacher. The goals for an educator are not limited to the classroom; they should encompass the teacher's long-term goals. This can help foster career development and allow the teacher to grow while still meeting the needs of the student and institution. The last is that a teacher never stops being a learner. Teachers must always be open to new ideas and models for teaching. By staying open to the idea of always being a learner, an educator is able to stay in touch with the constantly changing generation gap between teachers and students.

Annotated Readings:

Froyd, J., Fowler, D., Layne, J. and Simpson, N. (2005) Frameworks for Faculty Development. *35th ASEE/ISEE Frontiers in Education Conference*, S3E: 23-28.
This is an outstanding conference article that models a successful faculty development program. It develops a program that is learning-centered in order to foster learning-centered teaching. The authors reorganize an already successful faculty development model, GAMES presented by M. Svinicki in 2004 into MESSAGE. The paper presents the new seven-step model with detailed results of each step after presentation and use at an educators workshop.

Grady, H. (2004) Centers for Excellence in Engineering Education: A Case Study. *34th ASEE/ISEE Frontiers in Education Conference*, S1C: 1-5.
This conference article discusses the move from a teacher-centered center to a leaner-centered model for faculty development. The article lauds the use of Centers of Excellence (CE) and describes how Mercer University has approached using their CE. The author describes, in detail, the activities the Mercer CE performs. This article should have presented more results of their program.

Higgs, C. F., Graham, S. and Mattei, N. J. (2006) Development of New Faculty: Summary of the NSF-CMS WEE Workshop. *Journal of Professional Issues in Engineering Education and Practice*, 132(2): 133-137.
This is a short journal article that describes a workshop focused on retention of minorities, women, and disabled educators. A key topic relevant to all faculty development models presented in this article is the use of mentors for faculty members. The article gives a summary of the workshop and focuses on how new faculty should approach developing a research program.

Lewandowski, G. and Purdy, C. (2001) Training Future Professors: The Preparing Future Faculty Program in Electrical and Computer Engineering and Computer Science at the University of Cincinnati. *Proceedings of the 2001 American Society for Engineering Education Annual Conference & Exposition.*
This article presents a faculty development program used at the University of Cincinnati. The program used prepares Ph.D candidates for the possibility of careers in education as faculty members. This focus is for universities that have a graduate education program. Some very useful techniques for mentorship and gaining experience at teaching are presented. They can certainly be used at an institution that only has an undergraduate program. Unfortunately, the paper does not present very many results of the program.

McShannon, J., Hynes, P., Nirmalakhandan, N., Venkataramana, G., Ricketts, C., Ulery, A. and Steiner, R. (2006) Gaining Retention and Achievement for Students Program: A Faculty Development Program. *Journal of Professional Issues in Engineering Education and Practice*, 132(3): 204-208.
This is a good article that addresses the retention of students within the engineering field. The article discusses the need for teachers to develop a relationship with their students in order to learn the students' various learning styles. It indirectly addresses the need for teachers to become learners and be open to change in their personal teaching styles. At the end the article, it presents the results of the program used at New Mexico State University.

Suchan, W. K., Blair, J. R., Fairfax, D., Goda, B. S., Huggins, K. L. and Lemanski, M. J. (2006) Faculty Development in Information Technology Education. *SIGITE '06*, 15-18.
This paper provides a great model for faculty development that addresses the issue of high annual faculty turnover. It is also a good source for describing the actual commitment required of the institution to implement a faculty development model. The authors describe the use of a Center of Excellence as used by the institution to maintain faculty development following the initial workshop for new faculty. Towards the end of the paper, the authors describe how to assess the model and the results of the development directed towards the faculty.

Terry, R.E. and Sandholtz, K. (1999) A Non-traditional Faculty Development Program. *29th ASEE/ISEE Frontiers in Education Conference*, 13C4: 1-6.
This conference article presents a faculty development program that focuses on long-term goals of the teacher. It is a model that is more oriented for faculty who are seeking tenure or longevity at an institution. One of the topics the paper focuses on is the goal orientation of the faculty. It discusses the effects of "plateauing" for a faculty member and methods to prevent this. The four stage model presented in the paper is a research-based faculty development model.

Utschig, T. T., Elger, D. F. and Beyerlein, S. W. (2005) Key Issues Surrounding Faculty Development of Expertise In Instructional Design. *35th ASEE/ISEE Frontiers in Education Conference*, T3F: 18-23.
This conference article discusses the shift from how to deliver content to what the results or outcomes are from the delivery of the content. It uses faculty development as the means to present a shift to instructional design. It lays out a good model for collecting data from a workshop that focuses on instructional design. The article presents the result in a very succinct manner that allows the reader to reproduce the methods used.

Additional Resources:

Harrow, K. (1982) A Faculty Development Program. *Association for Computing Machinery*, 82(2): 170-173.

Huang, Y., Yellin, J. and Turns, J. (2005) Future engineering faculty: How do they think about teaching? *35th ASEE/ISEE Frontiers in Education Conference*, T3F: 1-6.

Jones, A. L., Davis, S. N. and Price, J. (2008) Preparing Future Faculty: A New Approach at North Carolina State University. *Teaching Sociology*, 32: 264-275.

Layne, J., Froyd, J., Simpson, N., Caso, R. and Merton, P. (2004) Understanding and Improving Faculty Professional Development in Teaching. *34th ASEE/ISEE Frontiers in Education Conference*, S1C: 15-20.

Middendorf, J., and Pace, D. (2004) Decoding the Disciplines: A Model for Helping Students Learn Disciplinary Ways of Thinking. *Decoding the Disciplines: Helping Students Learn Disciplinary Ways of Thinking: New Directions for Teaching and Learning*, 98: 1-12.

Perry, R. P., Menec, V. H., Struthers, C. W., Hechter, F. J., Dieter, J. S. and Menges, R. J. (1997) Faculty in Transition: A Longitudinal Analysis of the Role of Perceived Control and Type of Institution in Adjustment to Postsecondary Institutions. *Research in Higher Education*, 38: 519-556.

Ruiz, B., Gamboa, F. and Alcalde, D. (2004) Work in Progress - Faculty Training on Team Management in the Classroom. *34th ASEE/ISEE Frontiers in Education Conference*, T3F: 15.

Schachterle, L. (2004) Faculty Governance Embraces Outcomes Assessment. *34th ASEE/ISEE Frontiers in Education Conference*, T3G: 3-6.

Svinicki, M. (1996) When Teachers Become Learners. *National Teaching and Learning Forum*, 5(3). http://www.ntlf.com/html/pi/9603/backup/article1.htm accessed 13 April 2008.

Vaughan, N. and Garrison, D. R. (2005) Creating cognitive presence in a blended faculty development community. *Internet and Higher Education*, 8: 1-12.

Purdy, C., Lewandowski, G., Hauser, J. and Coppock, S. (2006) Establishing and Sustaining a Preparing Future Faculty Program in Electrical and Computer Engineering and Computer Science. *Journal on Excellence in College Teaching*, 17.