Mentoring program for engineering departmental academic activities

Prof. Pallapa Venkataram
Protocol Engineering and Technology Unit,
Electrical Communication Engineering Dept.,
Indian Institute of Science, Bangalore – 560012.

Many of Engineering colleges in India are facing the scarcity of good faculty. Besides this every year they also experience 10% to 50% of the faculty migration. To promote the development and retention of faculty, the colleges need to support faculty mentoring, both at college and departmental levels. A successful mentoring program yields to effective teaching and excellence in research.

This article discusses some of the methods to conduct mentoring program along with the specification and responsibilities of mentor and mentee. The precise definition of “mentoring” is difficult to define.

1. What is mentoring?

Mentoring is to provide guidance, support and encouragement to the faculty. Mentoring has been defined in many ways but it is a system of structured guidance whereby one shares knowledge, skills and experience to help others to progress in their own lives and careers.

In other words, mentoring allows the mentee to explore novel ideas in confidence. It is a chance to analyse more closely on yourself, your issues, opportunities and your ambitions.

The article illustrates the scheme in the form of FAQs(Frequently Asked Questions).
Fig.1: Mentoring is providing guidance

2. What are the qualities required in a mentor?

The qualities that an efficient mentor is required to have are as follows:

- **Mentor must have clear vision of growth of a faculty**
- **Accessibility** – the mentor needs to spare time to the new faculty member by keep in touch through sending mail, calling, extending a lunch invitation or meeting in person.
- **If the mentor makes time to read and provide feedback to proposals and papers of other faculty and provide periodic reviews of progress then it will be very helpful for junior faculty.**
- **Networking** – faculty members can establish professional network can established with the help of mentors.
- **Independence** – preserving the intellectual independence of the faculty from the mentor and must avoid the development of a competitive relationship among the faculty.
- **Advocacy** - the mentor must support the junior faculty members in facilitating students, funds, space, etc.
- **Excellence** - setting high standards and assisting in the faculty to evaluate themself realistically must be done by the mentor.
- **Mentor must have a good academic background.**
- **Must be a good researcher and administrator.**
- **Well traveled and aware of different universities culture.**
- **He must has high, but realistic expectations.**
3. What are the benefits from the mentorship?

Both faculty and mentors benefit the following:

**For faculty:**
- Mentors helps in development of prominence and visibility within the teaching profession.
- Helping in achievement of career advancement.
- Getting help on how to teaching, research and other responsibilities are balanced and how a faculty can set professional priorities.
- Mentors must help the junior faculty to get familiarized with the campus environment and also they must help them to know about the shared governance between the Academic Senate and the Administration in the campus.
- Networking – mentors must introduce junior faculty members to colleagues and also must help in identification of other possible mentors.
- Developing awareness - The procedures and policies that are relative to the faculty work must be made aware by the mentors.
- Mentors should provide the compliments on achievements of junior faculty and develop the constructive criticism and encouragement.
- Mentors should assist junior faculty to sort out priorities like teaching, balancing research work and budgeting time for other services.

**For Mentors:**
- It helps to expand the professional network of mentors.
- Mentors can refine mentoring as well as their coaching skills.
- Helps mentors to develop future leaders in their organization.
- Support the department by sharing their knowledge as well as the resources that you gain.
- It helps to stay connected or get reconnected with the other faculty members.
4. How to conduct mentoring?

There's no universally agreed procedures to conduct mentoring. Mentors are not necessarily naturally endowed with effective mentoring skills. A mentoring scheme must involve career guidance, support, personal, psychological and social aspects of the faculty. With women, minorities, downtrodden and many under represented in many engineering fields, a conscientious mentoring and role modeling is especially crucial.

4.1 Models of mentoring:

4.1.1 Traditional Models

**Induction Mentoring** : In this type of mentoring a mentor will be assigned to faculty, to assist the junior faculty in orientating to the department and its policies, procedures, faculty, resources and location of key equipments. Generally someone outside the immediate circle is found to do a mentoring role and they will not be in direct authority over junior faculty.
**Peer mentoring:** It is known as the experienced person mentoring the faculty. But as the scheme progress, mentors can ‘peer-mentor’ each other in a particular areas (such as teaching or research work) or for general assistance. In this type of mentoring the mentors must hold each other's action plans that are accountable and help each other to achieve their goals.

**Developmental mentoring:** It widens the assistance network by providing motivation and it helps in improving confidence among the mentors as well. Developmental mentoring can be said as - an experienced mentor assisting juniors to strengthen their skills and potential and also to recognize and improve the changing values, aspirations and needs.

### 4.1.2 Alternative Models

**Group Mentoring** -- in this type a mentor is teamed with several faculty. As the mentor poses different questions, listens to the junior faculty and reflects on the need of group members and provide the solution to each of them and insight to share which can draw their own learning from the discussion among the group.

**Team Mentoring** – if a mentor involves with more than one faculty member then it is known as team mentoring. This kind of mentoring allows the mentors to work together in a group or they can work individually to help the faculty reach identified goals (If mentors work individually, then they should communicate regularly to share information, plans and ideas to the group.)

**Virtual Mentoring** – Mentors can uses the Internet, mail or videoconferencing to provide mentoring to the faculty. This kind of mentoring is beneficial for those kind of faculty members who are unable to leave their workplace and it also provides the assistance for those who are in rural or remote communities. Virtual mentoring is regarded as the less expensive mentoring type, compared to other types such as face-to-face mentoring and also it provides an individual faculty with more choices for mentors. Even with this kind of mentoring, it is recommended that there will face-to-face at least once between the mentor and faculty.
Reverse Mentoring -- In this method, the mentoring is done for a senior faculty by a junior faculty. This type of mentoring aims to assist the older or senior faculty members to learn from the younger faculty, usually in the field of computing, information technology and Internet based communications. Creating and maintaining an attitude of openness to the experience is the key to success in this type of mentoring and also it helps to remove the barriers of status, power and position among the faculty members.

Situational Mentoring – In this kind of mentoring a mentor provides the right help at the right time to a faculty who is in need of guidance and advice. This type of mentoring is usually a short term addressing and immediate solution can transit to a more long-term connection between the mentor and faculty.

Supervisory Mentoring – It is required to develop an inherent responsibility of leadership among the faculty. If there is an individual development plan it outlines expectations for supervisory coaching. This type of mentoring is informal and it is related to day-to-day guidance from mentor about the current job to the faculty. Supervisors must also encourage outside mentoring partnerships, informal and formal, and allow faculty the time to work on them.

5. Mentoring in Research

In this section the guidelines for conducting of research have been summarised with following duties and responsibilities of mentors and research-students(RS)/research assistants(RA).

Duties of a Mentor:

- Conducting regular meetings with the RSs/RA.
- Ensuring that RSs/RA are familiar with academic and non-academic policies.
- Carefully supervising RS/RA work being done.
- Treating RSs/RA with professional courtesy.
- Keeping RS/RA best interests in mind.
- Involving RSs/RA in small research groups meetings and encourage them to have a group.
• offering candid advice whenever it is required.
• Encouraging RSs/RAs to view joy prospects realistically.
• Need to observe the Behavioral changes in RS/RA indicating the stress.
• Write good and qualitative letters of recommendation.
• Assist in career and job placement.
• Schedule career planning session to monitor progress and avoid conflict.

**Guidelines recommended for the RSs/RAs**

• Conduct research or work by themselves in a mature manner.
• Always remember the mentor time constraints.
• Avoid over identification with the mentor.
• Be proactive in terms of career direction.

6. **What are the responsibilities of a mentor?**

Some of the important responsibilities that a mentor must posses for mentoring faculty to be good teacher and researcher are as follows:

• Advance contact of the faculty before his/her arrival at the University/Institution.
• Meeting the faculty members on a regular basis for at least the first two years.
• Providing the informal advice to the faculty whenever it is required on aspects of teaching, research work and committee work or direct the faculty to appropriate other experts who can assist them.
• Identification of which staff one should approach for which task is the greatest assistance a mentor can provide.
• Making the faculty aware of the funding opportunities within and outside the campus.
• Treating all dealings and discussions in confidence with the faculty.
7. Deliverables

- Every mentee jointly with mentor publish a International journal paper in a year or
- Every mentee should develop pedagogy based course material or
- Set up qualitative student assessment papers
- Design and develop a course using concept maps.
- Design a scheme for repeated reading by average or below average student to master the concepts of a course by using educational softwares like MOODLE, etc.