**A Road map for increasing number of Doctorates thereby improving Research and Development**

It has been my observation throughout my professional career spanning nearly thirty years that faculty members usually fell into four basic scholarship categories mentioned below, and that the first three categories require slightly, and sometimes vastly, different strategies for support:

1. High motivation with high ability;
2. High motivation with low ability;
3. Low motivation with high ability; and
4. Low motivation with low ability.

**High Motivation - High Ability:***.*The first type of faculty scholarship mindset include faculty who have high motivation and high ability to conduct research and publish prolifically. These faculty are characterized by a strong desire to do research that facilitates them to bring their research to their classroom teaching. They generally teach a course for three to four hours per semester, but spend substantial time during the week, in the evenings, and during summers conducting research. All the faculty in this category have/had doctorate degrees, which they have/had obtained immediately soon after their Undergraduate and Postgraduate degrees, with a few notable exceptions. Unfortunately, we have only one or two of such among our faculty in Engineering departments, who have obtained Doctorate, but even they too have left their research quite some time ago.

Perhaps, because many of our faculty members who have obtained Doctorate degrees, have learnt to do research in institutions whose main focus was teaching, hence, they are not able to value the importance of research contribution and have not carried out their research further.

**High Motivation - Low Ability:**The second type of faculty mindset include faculty who have high motivation but low ability to conduct research, write, and publish. This group usually is composed of faculty who have deliberately sought out a teaching position in a teaching institution long ago. Some of them have doctorates which they have obtained much later in their professional life, perhaps spanning nearly twenty years or more after having obtained their Bachelors and Masters degrees, and have not pursued research since their Doctoral dissertations.

Others, belonging to a vast majority have Master’s degrees and have perhaps became dedicated and experienced teachers. A good number of these are highly committed to the institution and have put in enormous efforts which contributed to their teaching success. They are also concerned that students need to receive their degrees from an accredited program and need to get placed in a good company. Hence, these faculty members usually are open, willing, and self- motivated to learn so that their future exists by obtaining a Doctoral degree.

We need to identify this group as the most likely to make positive change. They are motivated, but generally lacked the ability to start research programs. Strategies for this group should include the following:

* Mentor matches are to be made with research faculty of other institutions with similar interests.  These matches are to be made informally through our contacts.
* Workshops focusing on basic research skills are to be held every fortnight and must include research basics such as developing a research question, qualitative research, case publication, and the writing and editing process.  Need to ensure the faculty attend each of these workshops during the academic year without fail. This would perhaps build a research culture in the college.
* Institutional support for those interested in completing a Ph.D. is to be developed.
* Faculty who have conducted research extensively and guided a good number of Ph.Ds and have retired from very highly reputed institutes are to be invited and are to be paired with the faculty (mentees) already identified. The mentor faculty may be given "lesser or no" teaching load and must be given a target of guiding at least two PhDs in a span of three-four years. The mentee faculty may also be given lesser teaching load.
* Faculty entering doctoral programs are to be given a one year sabbatical leave to pursue PhD in a premier institute with a part of reasonable salary and subsequently a reduced load for an additional two years following the leave. Of course, this is to be done with a firm commitment of these faculty to serve the college for a period of at least three years after they are awarded Ph.D.
* A good number of workshops on "Writing for Scholarly Publication" are to be designed and conducted which are to be monitored for sustainability.

Perhaps among the existing doctorates, who have recently obtained Ph.D. may be given a target to guide at least one Ph.D in the next four to five years. The target may be linked to their promotion for the post of Professor. They may also be rewarded with an enhanced pay if they secure research project with external funding for an amount not less than Rs. 10, 00, 000 (Ten lakhs rupees).

While, we have no faculty with "Low motivation with high ability", we do have a fairly good number of faculty who have "Low motivation with low ability" and some of them need to be weeded out, while a few others may be mentored to develop themselves to be involved in facilitating students with Project Based Learning.

In course of time, perhaps, in about five years or so, we may bring in a reasonable research culture among the faculty, which would eventually pave way for securing more number of research projects through external funding.