

Tools for New and Transitioning Faculty

and Well-Worn Tips to help our students



Larry D. Peel, PhD
MEIE Department
Texas A&M University – Kingsville

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Why Me and Why Now

- The Center for Teaching Excellence helped me attend the American Society of Engineering Educators Conference in Salt Lake City, Utah, June 2004.
- I agreed to present a seminar, based on papers and speeches at the conference.
- I have added some personal data & observations.
- I wanted to prime the pump for the next generation... hence “Tools to help our Students” at the end.
- **I have much to learn, up for tenure this spring.**



Case Study – Promotion to Associate in College of Engineering

2003 – Promotion Denied

- Criteria not well-defined as new faculty in 1999.
- Encouraged to apply at 4 years... perhaps early?
- Good Teaching Reviews.
- Lots of service & supporting activities, 10+ proposals, 2 Summer Fellowships.
- High Ranking in University Promotion Committee, Positive Recommendation by Provost.
- Publications met minimum criteria.
- Only 1 advisee completed MS.
 - Reapplied in 2004 after being pestered.....



Case Study – Promotion to Associate in College of Engineering

2004 – Promotion Approved

- Criteria defined, but implementation uncertain.
- Re-applied at 5 years.
- Good Teaching Reviews.
- Lots of Service, 13+ proposals, 2 Summer Fellowships.
- Rankings on Committees satisfactory.
- Publications increased by 2 or 3, exceeded new criteria.
- Three advisees completed MS, others in pipeline.
 - *More pubs, more MS students, mostly same application, Tenure application in Spring 05.*

Requirements and Interpersonal Relations [1]

- Agree with your Department Chair and Dean, the requirements for tenure/promotion, *get in writing*.
- Develop 2 or 3 mentors and spend time with them.
- Remember quantifiable measures such as publications, grants, books are looked at much heavier than teaching (*even though that's why we want to be here in the first place*).
- Stay positive and don't try to make enemies.
- **Speak a little and listen a lot.**



Research and Publications [1]

- Do quality work, but don't be a perfectionist ([see next](#)), shoot for reasonable goals.
- Remember 80/20 Rule: The last 20% of a project / proposal / paper takes 80% of the time.
- Block out time for writing every week.
- Get work reviewed early.



What type of proposals should you write?



Research and Publications [1]

- Make use of the resources that you have on campus. (Internet, software, renowned researchers, library subscriptions, etc ... *What resources do you use?*)
- Ask Anyway! If you need equipment, software, etc, get price quotes, write a proposal for it, even if there is no current monies. You will be ready when there is, new faculty may have higher priority over older members.

Example: Composites Fabrication Lab

Stress Relief [1]

- Take time for exercise. At least go walking 3 times a week.
- Say no to non-critical items.
- Stay positive... it's not perfect any place.
- Guard your time, but do those things most important to you!
- Balance your life, take a vacation once in a while, have personal time.
- You will get promoted & tenure!



Teaching Styles and Techniques

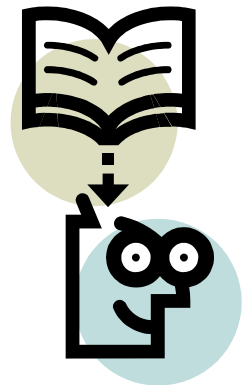
- Set rules in syllabus, go over them, stick to them.
- Be firm then give them a break once in a while. "Students don't care how much you know until they know how much you care"
- *Are you excited about what you are teaching?*
- It takes 3 times to get a course right. "3 times rule" – Peel.



Teaching Styles and Techniques [1]

Cont'd

- Teach fundamentals but use technology (email, web page, projectors, software).
- Put as much as possible on web page (syllabus, lecture notes, reviews, sample exams) to save yourself time in the long run.
- Be nice, but guard time. Encourage students to come during office hours.
- Conduct your own satisfaction surveys and save individual exam question scores.





Engineering Ethics and “Empathetic Engineering” [2,3]

- Exercise empathetic engineering – design good products.
- Ethics start with small things such as on your syllabus – set and maintain good standards on cheating, plagiarism, copying. You must follow and enforce your standards.
- **Treat students and other faculty with respect.**
- Engineering faculty should be good role models.
- Keep university politics out of the classroom.
- Hold mock public meetings.
- Use real ethics stories from practicing engineers.

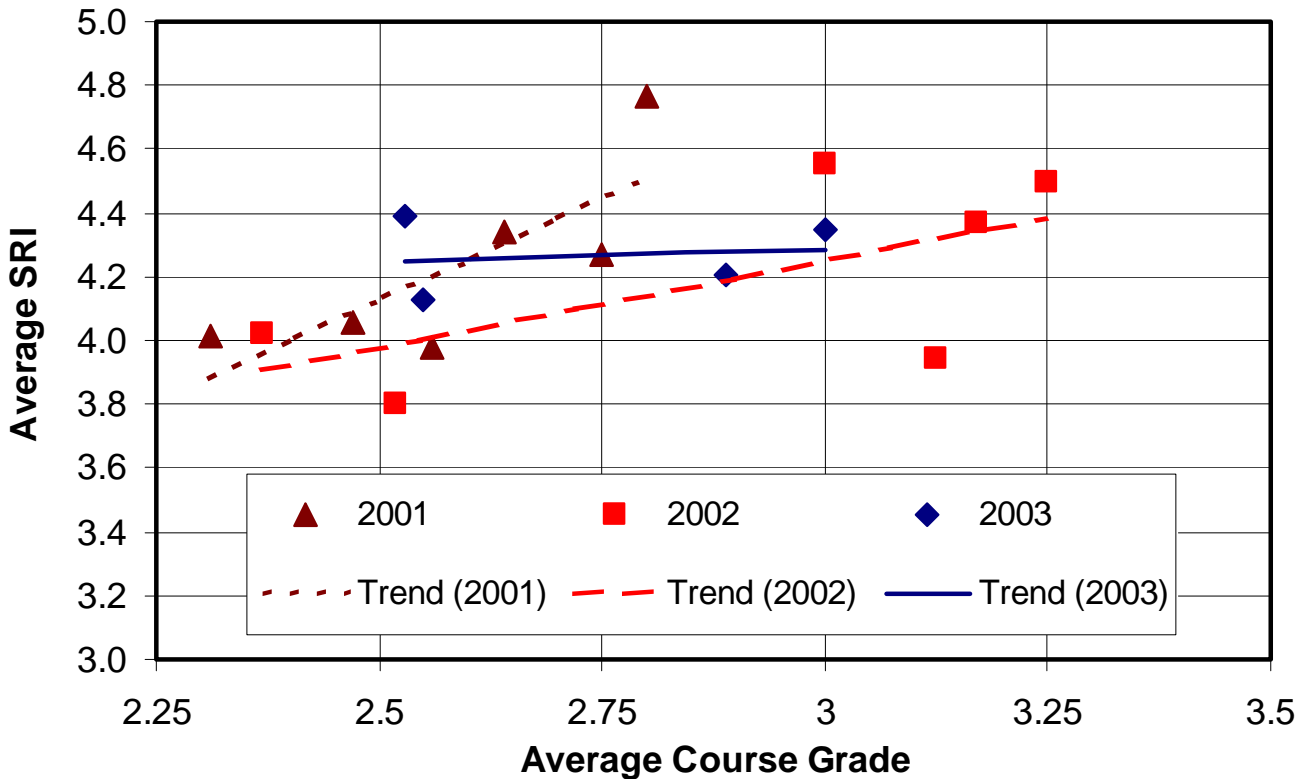


Student Grading and Student Evaluation of Faculty [4]

- SRI scores are not a function of student workload (*878 courses over 5 years at Tulane University*).
- SRI scores are a function of instructor performance, i.e. organization, delivery, examples.
- SRI scores are a function of average course grade but level out with experience. See next...
- High SRI scores result from good instruction and by challenging good students - Peel.

Student Grading and Student Evaluation of Faculty [Peel]

SRI scores vs Average Course Grade



Notice the slope is decreasing each year...



Tools to prepare and help Students

- Pre-K students and the Home Environment
- K-12th Grades
- Freshmen & Undergraduates
- US Graduate Students
- International Graduate Students



Pre-K students & the Home

Personal Case Study [5]

- 9 kids: 5 boys, 4 girls, 2 parents
- Rural environment, farming, heavy work load, finances always tight, one girl died at 9 yrs old.
- College education not emphasized in community,
- Mother – teacher & homemaker, Father – farmer ,
- No TV, Reading encouraged, Encyclopedias bought.
- Oldest son led way, middle son told he'd fail in life,
- Some taught to read early, Encouraged to save for college,
- Most served LDS missions, paid own way in college,
- Mixed academic success in Jr High & High School,
 - *20 years later*



Pre-K students & the Home....

Case Study Continued.....

- 5 Associate degrees.
- 7 Bachelor's degrees.
- 4 Master of Science degrees.
- 1 Master of Fine Arts (Terminal Degree).
- 3 Doctorate of Philosophy degrees.
- 2 studied in Russia for a year.
- 1 Post-doc in Switzerland.
- Eldest son defended MS in Plant Science after loosing eyesight.
- Supported through work, fellowships, scholarships, persistence.
- All but one married, no divorces, all financially stable.



Pre-K students & the Home

- A two-parent home gives the children a huge boost.
- Single-parent families can make adjustments.
- Read to children and encourage them to look at books,
- Good academic achievement doesn't have to be a function of income,
- Spend time with children,
- Turn the TV off,
- Get away from computer games,
- **Children will watch and mimic parents.**



K-12th Grades

- Priority: Parents must help and encourage children.
- Develop work ethic & self discipline in children.
- Encourage reading for fun.
- Science Kits, encourage math and science classes.
- Don't overload children.
- Good role models.
- Some children will change greatly between high school and college.



Freshmen & Undergraduates

- Not all are ready for college. (work, Peace Corps, religious volunteer work will help many to “grow up”)
- Must have basic desires, willing to put in effort.
- Study habits from high school will continue, but can be improved.
- Continually repeating classes doesn't help.
- **What have you noticed?**



Graduate Students

Graduate Students

- There are many opportunities for funding.
- **Hard work is just as important as innate intelligence.**
- Not many undergrads going on from TAMUK.

International Graduate Students

- Cultural, health, religious, educational differences.
- Concerns about finances may consume much time.
- **Work on writing skills early.**
- Dedicated workers.



Useful Web sites

- ** Iowa State New Faculty Tips **
- Univ of Washington Pre-Tenure Helps
- Faculty Teaching Tips – San Francisco State
- Tenure Track Lunches
- Common Sense Tips from an Ag Dean
- Penn State Promotion & Tenure Resources



References

- [1] Lima, M., "Tips for Beginning Faculty in Engineering," ASEE 2004, Salt Lake City, UT, June 2004.
- [2] Flowers, W., "Empathetic Engineering," Main Plenary Speech, ASEE 2004, Salt Lake City, UT, June 2004.
- [3] Houghtalen, R.J., Rogers, G.M., "Don't Give Up 'Good Teaching Principles' To Teach Ethics," ASEE 2004, Salt Lake City, UT, June 2004.
- [4] Dee, K.C., "Reducing the Workload in Your Class Won't 'Buy' You Better Teaching Evaluation Scores: Re-Refutation of a Persistent Myth," ASEE 2004, Salt Lake City, UT, June 2004.
- [5] Buchanan, K, "Family Studies," Sanpete Messenger, July 1, 2004