A Good Place to do Science: A Case Study of an Academic Science Department

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A Model of a High Quality, Interactive Science Culture

**STUDY PURPOSE**
We studied a successful academic science work environment that has been conducive to the advancement of women faculty and students. We were interested in identifying factors that have facilitated high quality science, cooperation and inclusion. Thus, we sought to answer the following research questions:

How did this work environment that has been conducive to the advancement of women at all levels develop?
How do people interact?
What cultural processes and practices operate in this academic science environment?

**METHODS & ANALYSIS**
We used several qualitative methods including document & archival research, direct observation, and 29 semi-structured interviews of department members (faculty, staff, post-docs, and doctoral students).

We recorded interviews by hand or audio recorder, depending on the wishes of participants. In addition, the interviewer took notes after each interview regarding ideas, emerging concepts and open questions. These notes guided the unstructured questions in subsequent interviews. These notes also guided the initial coding of a subset of transcribed interviews into topic areas, ideas and examples (Knight, 2002). The remaining interviews were analyzed to confirm or test emerging concepts or relationships. The observations and archival data were used to provide examples of concepts and identify relationships. Finally, all quotes were about 15% of examples of concepts were provided to participants for review and comment. This served to verify the meaning of the comments and provided confirmation of the link between examples and concepts.

**CASE STUDY SETTING**
This case study took place within a basic science research department at a Tier 1 research university in the United States. The department was about 15 years old at the time of the study. There have been two chairs of the department over the course of its history, both female. The department achieved top program and departmental rankings among departments in its field during the tenure of the first chair. It maintained its high rankings as it continued to grow in size under the second chair.

The department was ranked above average in terms of number of women faculty and number of female students. Two women faculty members joined the department at tenure ranks. One woman has advanced from assistant (junior) to associate rank. Women comprise about 56% of the students in the graduate program, which awards M.S. or Ph.D. degrees. The department attracts top students as indicated by higher than average student GRE scores for the field.

**CONCLUSIONS**
This study identifies factors that facilitate the development of a cooperative, inclusive, and productive work environment and work culture. A science environment that is both cooperative and scientifically productive begins with constructive interactions. Constructive interactions support inclusive departmental processes. The leadership practices of the chair can support or drive implementation of activities and inclusive processes that bring people together and create norms that embed cooperation, inclusion and productivity into the culture of the department.

Academic departments often produce high quality science in competitive, isolating, and male-dominated work environments. However, the academic science department studied for this report demonstrated that high quality science could also be achieved in a cooperative, inclusive, and interactive environment. Such an environment facilitates the advancement of all scientists, regardless of gender. In the words of a male associate professor, the cooperative science culture made the department simply “a good place to do science” for all.

**REFERENCES**