What I would do if I Ruled the World – Policies and Programs that Advance Excellence

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What are consequences if no change?

- I feel strongly that we need more trained scientists and engineers
  - May not work in traditional STEM fields but need mindset/approach
- STEM progress hindered by who we are losing from these fields (losing able people)
- Scott Page “The Difference”
  - The more diverse the team the more diversity of approaches that can be employed to come up with a solution to a problem
Crowds and Experts

- If you take a group of people and ask them to independently estimate something like the number of jelly beans in a bottle – likely average of individual estimates will be very close to correct answer
  - High and low estimates will balance out
  - Group will do better than a single randomly chosen individual

- If you ask a group to decide a complex issue were expert technical knowledge matters (e.g. should vaccines be used) group may not improve upon expert opinion
Shades of Grey

- Situations where diverse teams flourish
  - Complex situations that require skills drawn from many disciplines
  - Multiple good solutions
  - “Tree” not “Ladder” fields
  - Individuals on team feel empowered to speak/act
    - Creative conflict encouraged
    - Failure allowed/anticipated/accepted
- Does intellectual diversity correlate with gender and/or ethnic diversity?
Assuming Yes - What should be done?

- “Insanity: Doing the same thing over again and hoping for a different result” Einstein
- We need to make this a global issue
  - Not the responsibility of the women in the field to ensure broader access for other women..
  - OK for women not to be interested in these issues
  - White males may be better at influencing other white males…
    - See recent Catalyst.org article…
- Assessment needs to look at long term impacts
  - Less interested in if people enjoy a program than if it changes their behaviors…
Accumulated Disadvantage

- Leaders are expected to be charismatic, strong, decisive, assertive..
  - We tend to associate these abilities with men
  - The more feminine a woman is the less likely she will be seen also as a leader
  - The more a woman is seen as a leader the more likely she will also be seen as deviant....
    - Women can be penalized for acting too like men (expected to be more polite, spend more time on “niceties”....)

- Women face a **labyrinth** of accumulated disadvantages
  - It is possible to navigate
  - Ongoing work to make it easier
General Principles

- Actions should be research based
  - Need a model of organizational change
    - Multiple facets, multiple levels
  - Able to justify need for program
    - Cost effective
    - Evidence for problem
- Assess impacts
  - Qualitative, quantitative measures
    - How do you define success?
NSF’s ADVANCE Institutional Awards

- Move from small grants to individuals to large grants to an institution
  - Very visible – high level interest/access
  - More systemic approach
  - Work at key career stages/transitions
    - Different Fields
      - Different Loss points
      - Different Issues?
  - Work with key influencers
    - Department Chairs/Group Leaders
Required Features

- Supportive
  - Listen to people you want to help
  - Associate Professor grants
- Provide Accurate Information
  - Peer networking can only go so far
- Inclusive
- Flexible/Responsive
- Evolvable
  - If successful some needs should change over time
- Extendable
  - Not just Faculty
What we had - mentoring

■ Original plan was to develop a group of trained senior faculty mentors
  □ Easy to get volunteers, hard to restrict to people we felt would be most effective
  □ Case study based training
    ■ Worked well – much better than bringing in coach with little experience of academia
    ■ Use what is known about student engagement – make interactive

■ Few junior faculty members asked to be assigned mentors
  □ Useful for few having known problems, not majority
  □ Connection to “support” made some people reluctant to ask
What we have

- Recruitment and Work-life Brochures
  - Retention begins before offered job!
  - Recruitment stresses “best practices” to minimize bias
    - Define process, attributes looking for
    - Same process for everyone
- Workshops for junior faculty
  - Peer networks
    - Connect to key members of senior admin
  - Repeat information given at orientation....
  - Time Management, Difficult Conversations..
Workshops 101

- Use “in house” presenters if at all possible
  - Understand culture, more credible, builds networks

- Time management is number one request – if people can manage their time they can manage their stress

- People often query “difficult conversations” at the time presented and then later tell us how grateful they are they had it
  - Easier to minimize conflict in advance than deal with it after problems arise
  - Common and erroneous belief that conflicts will go away if ignored

- Have had women comment that it feels Machiavellian to employ techniques taught...
Policies

- Transparency in policies, central application (or monitoring)
  - Minimize chance for different interpretations and/or errors in use
  - Reward what you say is important
    - Ask faculty to comment in their annual report of activities on their work related to increasing diversity
- Opt out rather than opt in tenure clock stopping if take medical/family leave
  - No penalty if ask for early tenure consideration
  - Want default to be what we recommend
  - Use went up significantly…
Other activities

- Book groups, lunches, one off workshops, group invites to theater ....
  - Encourage connections across disciplines
    - Theater and Dance professor made film on young women science faculty members with families and how they managed it

- Associate Prof workshops, grants
  - Help people re-engage, get promoted

- Chairs trainings
What we will have

- Expand Postdoctoral support
- LEAPS (LEAP for staff)
Look for

- Flexibility in options
  - Address different needs
    - Children
    - No Children
  - Address changing needs
    - Childcare
    - Eldercare

- Are existing programs
  - Known about?
  - Used?
Unintended Consequences

- Many well meaning interventions have failed to be fully effective (assessment key)

- How would you solve the following?
  - Women may be underprepared for graduate courses in STEM if come from a liberal arts background
  - Women are paid less because they typically do not negotiate their starting salaries
Interventions

- Poor Preparation
  - A solution was to offer remedial classes
    - Stereotype Threat

- Negotiation
  - A solution was to train women to negotiate
    - Catalyst Study (http://www.catalyst.org)
    - “The Double-Bind Dilemma for women in Leadership - Dammed if you do, doomed if you don’t”
      - Women in leadership roles who act as men do not get the same responses and may not negotiate because they expect a negative response
Conclusions

- Increasing the number of women in STEM is not “rocket science”
  - Smart enough to work in STEM?
  - Smart enough to diversify the demographics!

- Over to you
  - Questions?
  - Comments?