

Scientific mentoring and research groups in U.P. Diliman

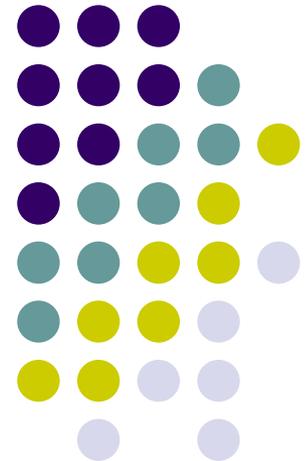
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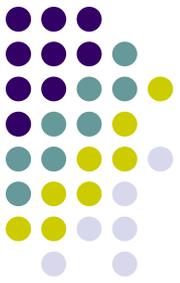
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OVCRD Research Colloquium 2013

January 21, 2013, NIP-UP, Quezon City



Outline



- Motivation
- Objectives
- Modes of mentoring
- Scientific mentoring
 - Challenges and programs
- Research groups
 - Goals, memberships, activities
- Group formation and performance metrics
- Testimonials on research groups
- Summary and Conclusions

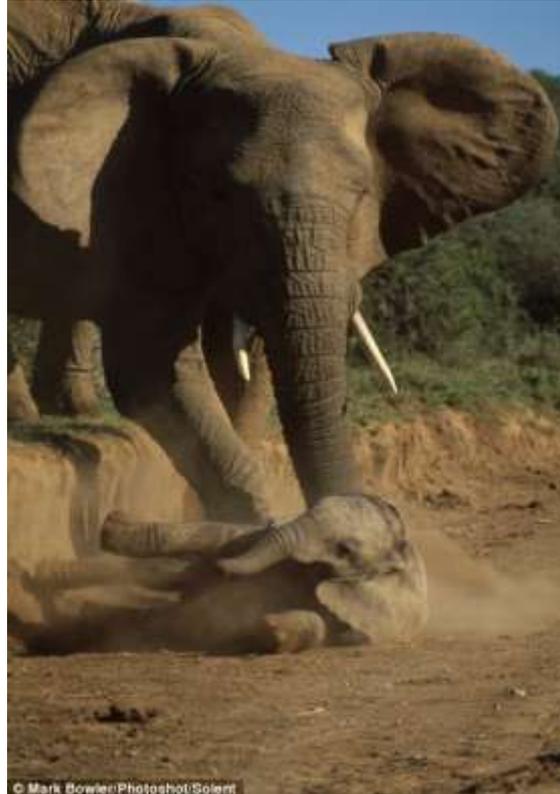


Motivation

- Lessons from our magnificent friends



Photos of Mark Bowler



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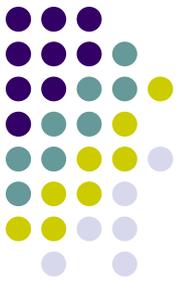


Mentoring instinct



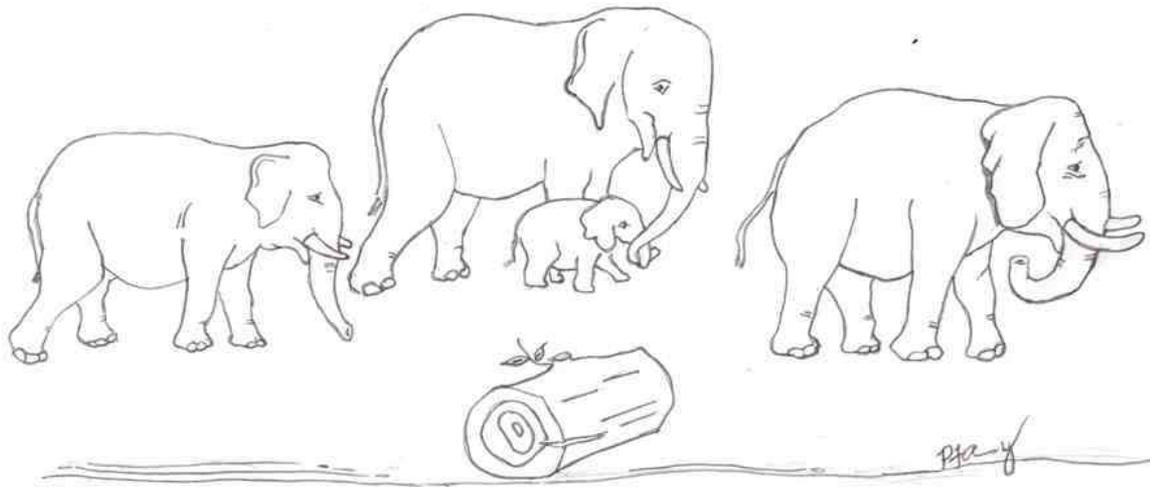
From the internet

Herding behaviour



Motivation

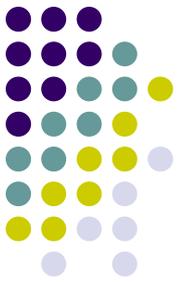
- Analogies with a matriarchal elephant herd



Matriarch
leads the herd

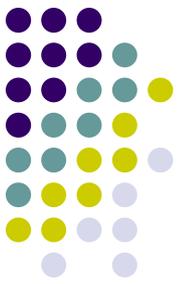
A female elephant shares in the supervision of the calf

Mother steers calf away from a log to avoid getting injured



Motivation

- UP is mandated to **lead in scientific research** with the **aim of creating new knowledge** (e.g., through publications)
- UP researchers are now publishing in both local and international journals, yet
 - **on the average**, number of ISI papers **remains low**
- One strategy: **PROMOTE Scientific Mentoring**



Objectives

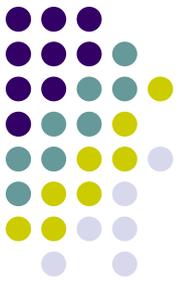
- Describe the **concept and mechanics** of **research groups** as an element for scientific mentoring
- Discuss **steps** and **conditions** to **start a research group**
- Assess the impact of research groups in scientific mentoring (**testimonials**)



Mentoring*

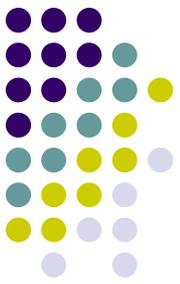
- Supporting and encouraging people to **manage their own learning** in order that they may
 - maximize their potential
 - develop their skills
 - improve their performance, and
 - become the person they want to be

Modes of Mentoring



- One-on-one mentoring
- Peer mentoring
- Group mentoring

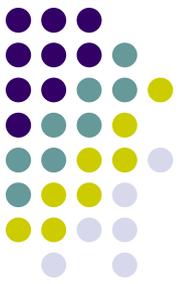
One-on-one mentoring



- Dedicated mentoring



- Singing/voice mentor

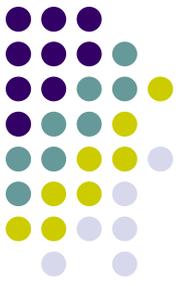


Peer mentoring

- Slightly older youth with younger students



- Senior and junior resident physicians

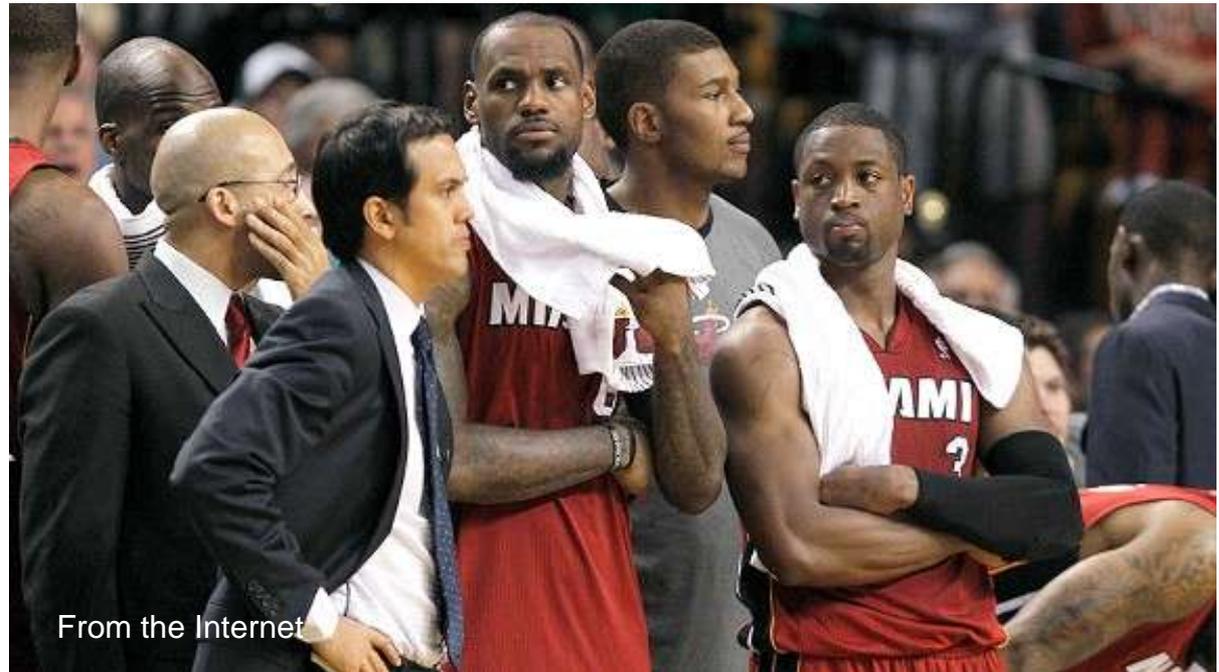


Group mentoring

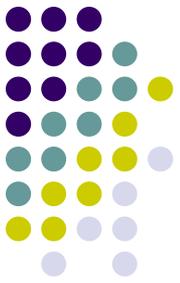
- Youth groups with one or more adults

- Team sports

- coach
- asst. coach
- manager
- veterans
- rookies



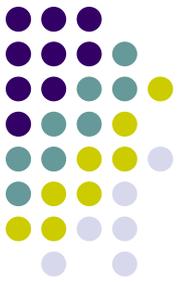
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Scientific mentoring

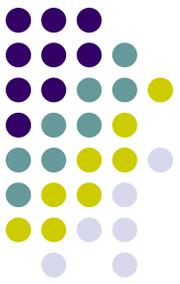
- Mentoring that involves **activities related to research**
- **Collaborative**
 - NOT a hierarchical mentoring
- Scientific mentor and mentee **solve problems together**

Qualities of an ideal scientific mentor



- (S) Serves as a good role model
- (M) Matches interests of mentee with a research topic
- (O) Offers fresh perspectives
- (L) Looks out for research opportunities

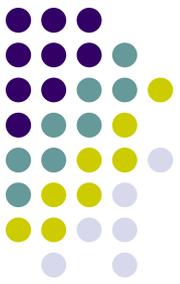
Establishing scientific tradition (challenges related to mentoring)



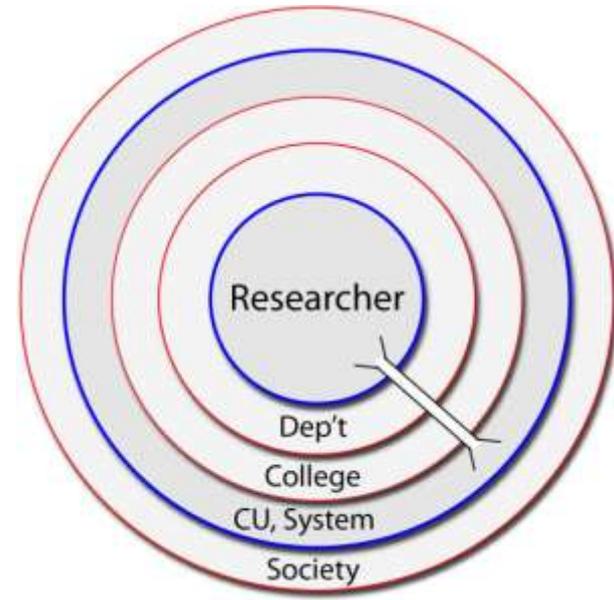
- **Increasing the number of competent PhD supervisors**
- **Attracting foreign-trained** researchers
- **Addressing *in-breeding***
- **Containing the diaspora** of the brightest students from UP to graduate schools abroad

*Derived from “My Expectations of the Filipino Scientist” by Dr. Caesar A. Saloma, during the awarding ceremony of the 1st Dadulfalza Achievement Award (2001).₁₄

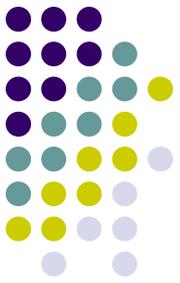
Programs that promote scientific mentoring (CU-System level)



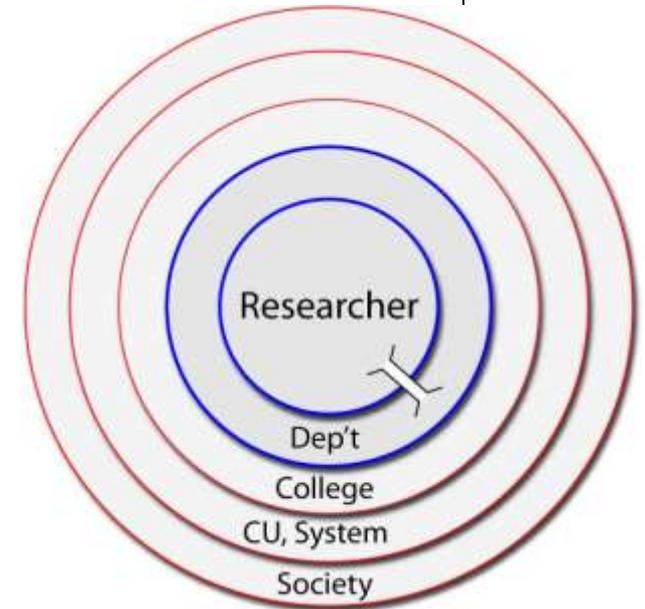
- Mentoring award
- Research dissemination grant
- Revised int'l publication award
- Foreign-trained PhD recruitment program
- Visiting professors program
- Scientific productivity system
- Versatile Instrument System for Science Education and Research (VISSER)



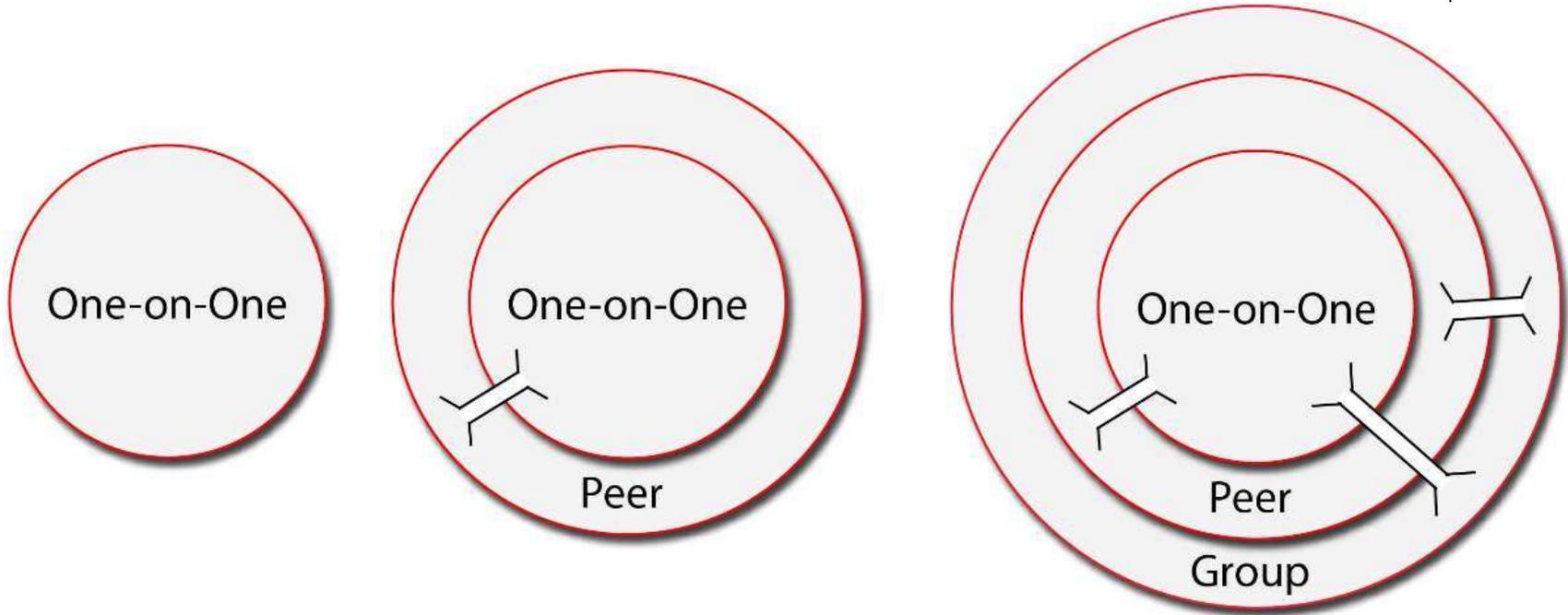
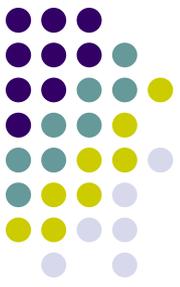
At the Department level...



- Many research challenges may be alleviated by research groups at the department level
- What is the purpose of forming research groups?
 - *To attain a situation of **collaborative learning** where researchers attempt to learn something together*
 - ***Collaborative group mentoring = scientific group mentoring***



Concept



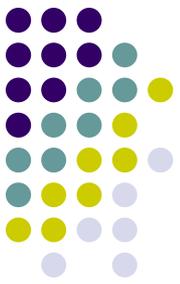
How does a research group affect scientific mentoring?

Research group facilitates all modes of scientific mentoring

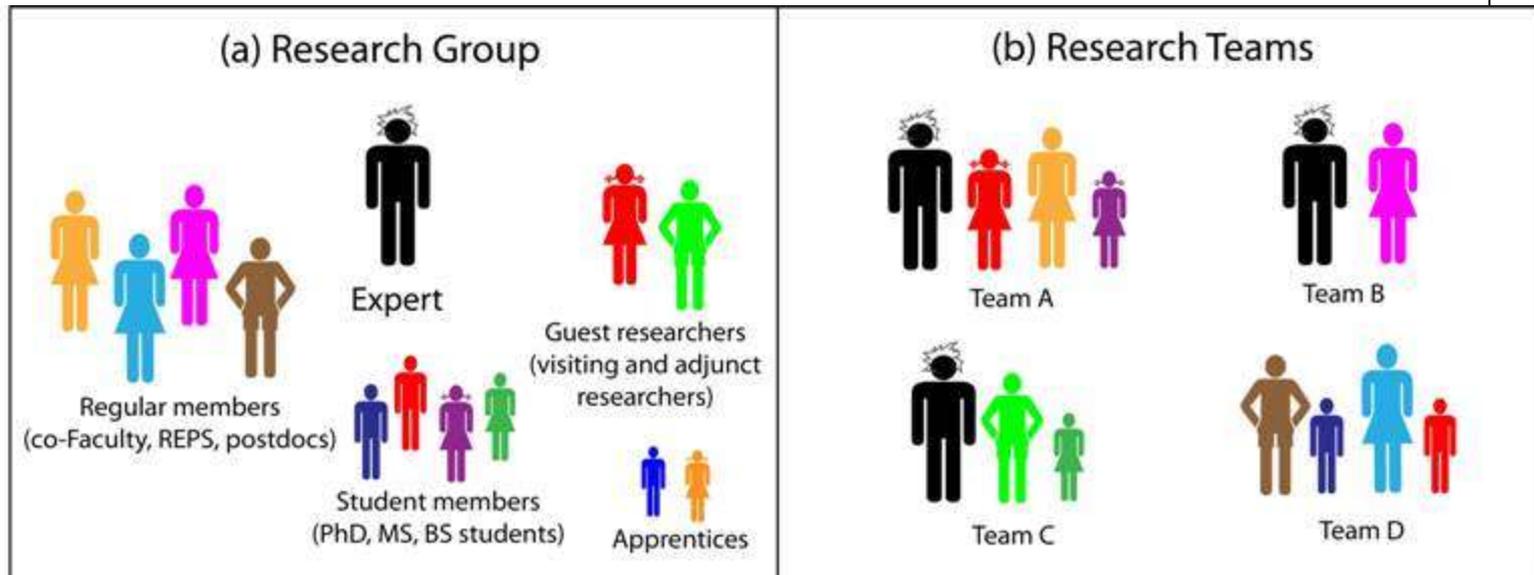


Goals of a research group

1. Contribute to scientific knowledge
2. Build a pool of experts
3. Establish collaborations (local and abroad)
4. Provide extension services to society



Membership and Activities



- Research Group

- Regular seminars
- Cooperative learning activities
- Team building and FUN activities

- Research Teams

- Work on specific problems and topics
- More focused

Starting a research group

Research interests
Dept'l thrusts
Industry, society
Funding agencies

Program

Define goals and objectives

Secure a research project

Human resource

Personnel

Invite colleagues and students

Support, services

Facility

Request for space

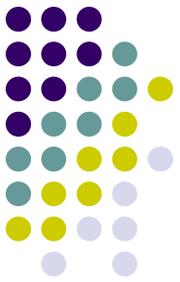
Buy equipment, supplies

Performance review

Metric

Experiment and publish

Develop spin-off ideas



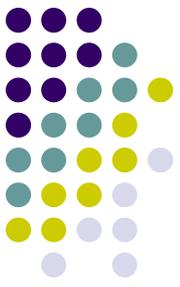
Metrics

- Evaluation period: 3 years
 - International publications (papers per PhD)
 - Number of mentees graduated (PhD, MS, BS)
 - Research grants (amount)
 - Collaborations (publications and MOA)
- Continue, dissolve or merge

Cascade mentoring



Pay it forward

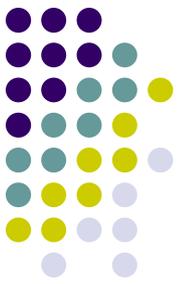


Hosting a foreign researcher



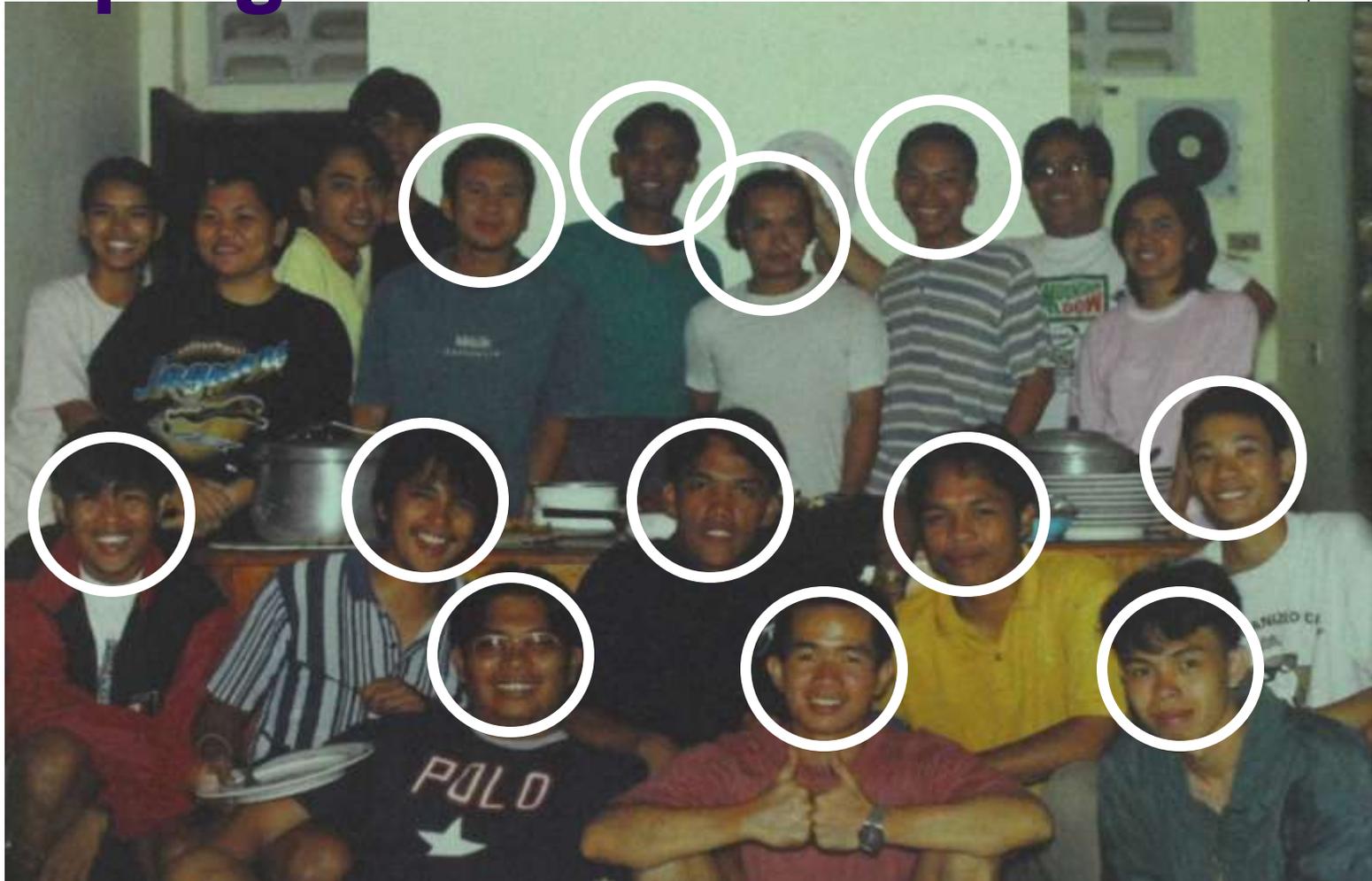
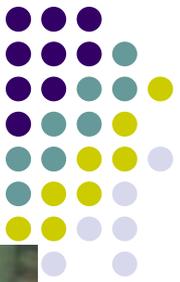
**Intimate exchange
of ideas**

Social and emotional development

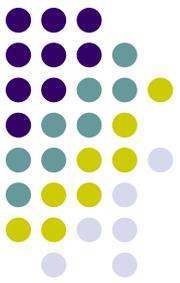


It's more fun

Shaping careers



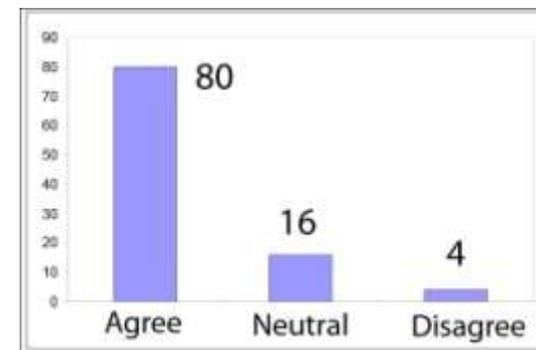
Critical mass



Testimonials on research groups

- Respondents: 25 researchers
- Demographics
 - Filipinos: 18, Foreigners: 7 (EU, US, Japan, India, China)
 - Age: 25-35 y/o: 16 respondents, 36-60 y/o: 9 respondents
- Exploratory only
 - small samples, not random, no comparison groups
- Nonetheless, **testimonials** revealed some insights and interesting trends

Do you think research group is **comparatively more beneficial** than conventional one-on-one mentoring?
Please elucidate.



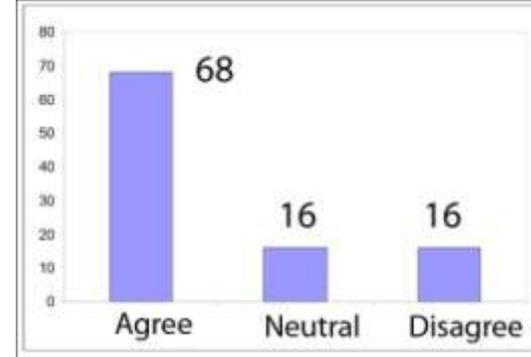
- “I strongly agree. I think research groups are imperative in order to achieve progress. The **era of “one-man” science is probably over**, at least it’s becoming more and more seldom.”

- Research professor, 60 y/o (M), Denmark

- “Generally I would agree. However **one-on-one** mentoring **for brief 3 month periods** can be **exceptionally beneficial towards the end** of one’s PhD program”

- Research scientist, 35 y/o (M), Ireland

● Do you think that the research group concept and mechanics should be **adopted and promoted in all the departments** of a **research university**? Please elucidate.



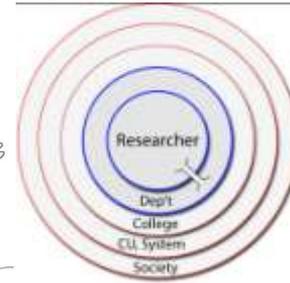
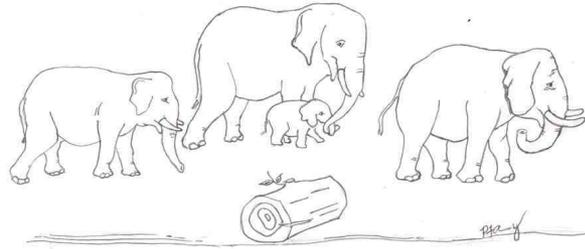
- I disagree. Different departments have **different dynamics**. However, all dept's should be **exposed** to the research group *concept* **but be able to decide if it will work for them.**

- Research scientist, 40 y/o (F), Philippines

- I agree. Any dep't that asks for (large) investment in research must adopt the research group concept **to assure longevity and progression.**

- Research scientist, 42 y/o (M), Philippines

Summary



RG



- Increasing the number of competent PhD supervisors



- Attracting foreign-trained researchers



- Addressing in-breeding



- Containing the diaspora of the brightest students



Concluding, research groups are an integral element in the scientific mentoring strategy

A close-up photograph of a herd of elephants. The focus is on the textured, wrinkled skin of several elephants. A white thought bubble is superimposed over the image, containing the text 'Maraming salamat po'. The bubble has a tail of three small circles leading to the main bubble. The background is slightly blurred, showing more elephants in the herd.

Maraming salamat po

Photo by Martin Grossnick