

Faculty Professional Development through Teaching Development Groups: Principles in Action

Margret Hjalmarson¹, Jill Nelson²,
Daria Gerasimova¹, Lori Bland¹, Anastasia Samaras¹
George Mason University

¹College of Education & Human Development,

²Volgenau School of Engineering



Background

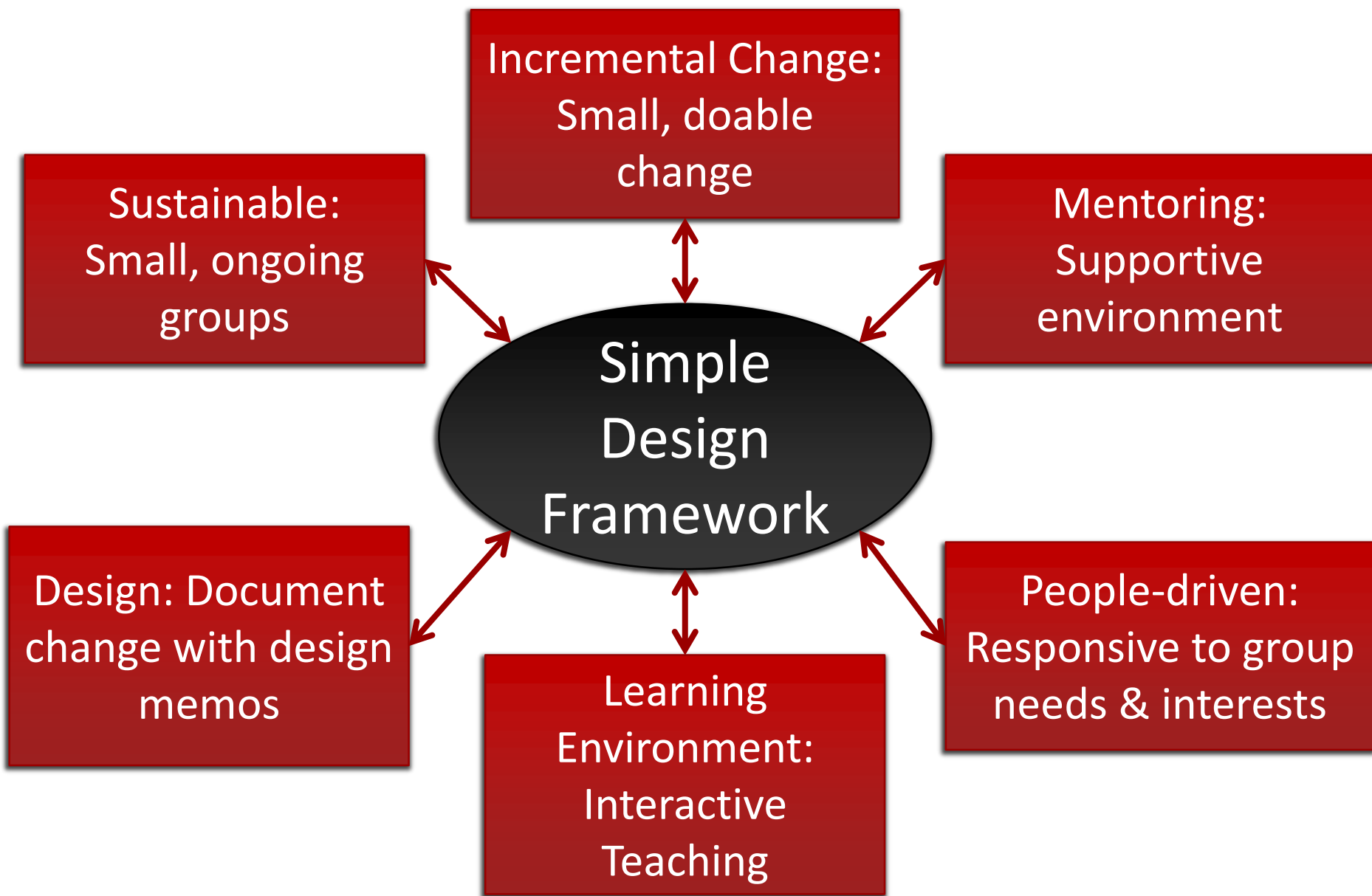
- Active learning and interactive teaching are positively associated with student learning outcomes
- Interactive teaching is not widely used in STEM disciplines
- Barriers include departmental factors (departmental culture, curriculum content, etc.), institutional priorities and reward systems, lack of time, student resistance, faculty beliefs, **insufficient pedagogical knowledge and awareness of effective teaching strategies, and lack of support during implementation.**

(NRC, 2012)

Teaching Development Groups

- Discipline-specific faculty learning communities, designed for STEM faculty interested in
 - Learning more about interactive teaching
 - Discussing teaching strategies
 - Being supported in their teaching innovations





Research Question

- How were the SIMPLE Design principles represented in the Teaching Development Groups during their first year of functioning?

Participants

- Recruitment of group leaders and a semester-long group leader training
- 4 groups organized in STEM departments (2014-2015 AY)
 - Members recruited by group leaders
 - 4-9 active members per group with a total of 25
 - Two groups included graduate teaching assistants
 - Term faculty represented about a half of all members
 - Monetary incentives

Data Sources

- Semi-structured interviews (after the academic year):
 - With group leaders (5 out of 5)
 - With group members (16 out of 20)
- Monthly group leader meetings (during the academic year):
 - Audio recordings of the meetings
 - Mini-feedback forms

Data Analysis

Three stage coding process*:

- Initial coding
- Focused coding
- Hypothesis coding with the SIMPLE Design principles as hypothesized themes

* Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed..). Los Angeles: SAGE.

Learning Environments

	Reviewing material	Learning new material	Formative assessment
In-class	iClicker questions Think-Pair-Share Cold calling	Demonstrations Videos Stories Student presentations Games Problem solving exercises Experiments	iClicker questions Think-Pair-Share Cold calling Wrappers Exit cards Quizzes
Out-of-class	Review sessions Social media	Field trips	Homework assignments Projects

People-Driven: What motivated participants?

- Desire to learn from both each other and external resources
- Desire to share teaching experience
- Desire to improve teaching practice

“I believed it [participation in the group] could help us to exchange the information about the teaching, help us to improve our strategies, understand better how other faculty members are managing their classrooms, managing their teaching skills.”

People driven: What motivated group leaders?

➤ Group leader goals

➤ Teaching community

“A place and time for people, who are interested in talking about these [teaching-related] things, sharing what they were trying, what they’ve done, and getting ideas, to come together.” (Group Leader, interview)

➤ Educational research

Graduate students paired with faculty members

Mentoring: Meeting Structure?

Flowing Meeting

- Teaching discussions on the topics emerging during the meeting

Focused Meeting

- Teaching discussions on the particular topics known beforehand (e.g., a discussion of a journal article or book, an invited guest speaker, etc.)

No unanimous preference of meeting structure was identified

Balancing the two was challenging for group leaders

Mentoring

Regardless of the structure, participants highly appreciated the opportunity to interact with each other:

“It’s very useful to actually have some set time when the faculty can get together to talk about teaching; we don’t normally do that in this department.”

(Department Chair)

Incremental Change

- Many participants gained ideas to try in the future
- Some participants implemented innovations in their classrooms

“I feel like having the group kind of forced me into doing it, so that I had something in the middle of the semester I knew we were all gonna meet and I have to talk about it. I didn’t wanna say, oh, I haven’t done it yet. So, I knew they were gonna keep me accountable for.”

Barriers to Implementation?

- Lack of class time / very tightly structured courses

“The way the course is designed, I wish I had more... I don’t want to say freedom, but more leeway to be able to implement some of these techniques.”

- Relative difficulty of implementation of some strategies accompanied by instructors’ time constraints

“Some of the things were difficult to implement. Originally, I wanted to post videos on extra example problems, and I found I didn’t have enough time to figure out an easy way to post videos, [...], so I didn’t do it.”

How did design memos help?

- A handy, sharable artifact, which describes a particular strategy and its implementation in a short form

“I think the design memo is pretty good because it makes us think about what we do in class and why we do it.”

“I thought it was very nice going over them. [...]. I mean, you can talk about stuff and who knows whether it’s gonna work or not, but when we went over the design memos, we really talked about what we did and how well it worked, and I thought we got really a good feeling of what we could do.”

Sustainability Challenges

Challenges for commitment to the group:

- Lack of time and competing responsibilities
- Scheduling issues
- Lack of university value of teaching
- Open-endedness, absence of precise goals, and unstructured meetings

Significance & Implications

The study provided further evidence for the importance of the SIMPLE Design principles in the development and implementation of Teaching Development Groups



These principles can be useful for future professional development organizers in designing and similar programs.

Work in Progress....

- Faculty-led Classroom-based Research
- Data analysis from the second year of group functioning
- Analysis of department chair involvement and potential change in the department culture
- Analysis of the roles of the group leaders

Questions

Margret Hjalmarson – mhjalmar@gmu.edu

Jill Nelson – jnelson@gmu.edu

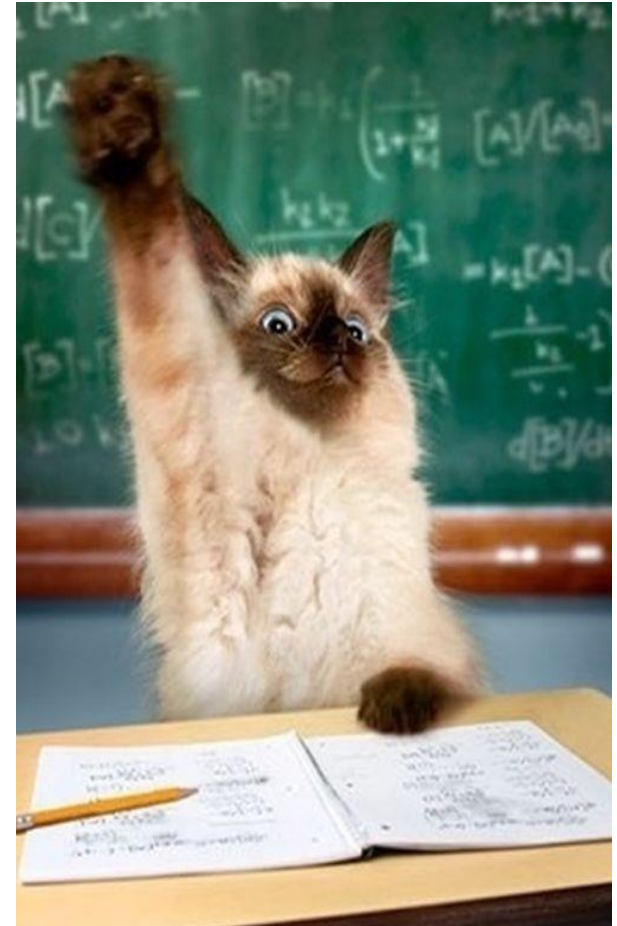
Dasha Gerasimova – dgerasim@gmu.edu

Lori Bland – lbland2@gmu.edu

Anastasia Samaras – asamaras@gmu.edu

Also, visit us at

<http://simple.onmason.com/>



Acknowledgement

This material is based upon work supported by the National Science Foundation under Grant No. 1347675 (DUE) and while the first author served as a program officer at the NSF. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.



References

National Research Council. (2012). *Discipline-based education research: Understanding and improving learning in undergraduate science and engineering*. (S. R. Singer, N. R. Nielsen, & H. A. Schweingruber, Eds.). Washington D.C.: The National Academies Press.

Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed..). Los Angeles: SAGE.