

# Development of a monitoring protocol to enhance mentoring in the IRIS REU site

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# Intervention goals

- Increase the extent to which the intern is satisfied with the mentoring relationship
- Increase the extent to which the mentoring relationship is centered on the intern.
- Enable mentors and interns to feel more effective in monitoring their own/intern's personal/professional growth

# Intervention elements & protocol

Week	Elements		Pedagogical methods
	Rubric	Meeting	
1	Intern only	X	Reflection, modeling
4-5	Jointly	X	Reflection, modeling, coaching
9-10	Both separate	X	Reflection & coaching

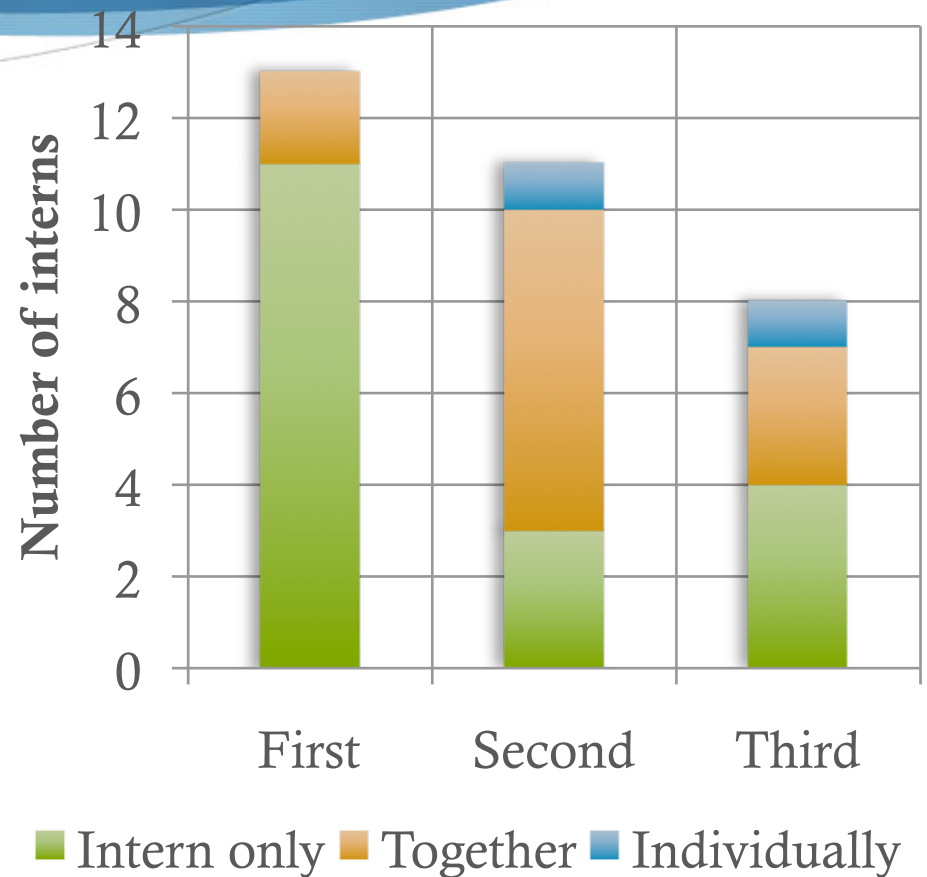
# Methods

- 2012 Pilot – Post survey
- 2013
  - Pre survey (*I & M*)
  - Post survey (*I & M*)
  - In-depth interviews (*I*)

In both cases participation was encouraged but not enforced

# Adherence

Use	2012	2013	
	Rubric Completion	Discussion meetings	
Zero	0	0	1
One	4	2	3
Two	4	5	6
Three	6	7	4



Confidence – ~80% agreement between paired responses (intern/mentor)

# The “veggie effect”

(Strongly Agree or Agree)	Interns	Mentors
Motivated me	21%	25%
Looked forward completing it	21%	38%
Beneficial to the mentoring process	79%	100%
Illuminated areas for improvement and where growth occurred	79%	62.5%
Provided a structure for discussing my intern's progress	-NA-	75%

Increase the extent to which the  
intern is satisfied with the  
mentoring relationship



# How effective was the support provided by your mentor?

2013

Meeting Frequency	Effectiveness
3	4,4,3
2	4,4,4,4,2
1	4,4,2,
0	2

2012 & 2013

Rubric Use	(n)	Effectiveness Mean (SD)
3	12	3.4 (.79)
2	8	3.6 (.74)
1	6	2.8 (.98)

Superior- 4, Very Good- 3, Satisfactory- 2, Poor-1



# Intern satisfaction with mentoring

Meeting Frequency	My mentor treats me with respect	I like being around my mentor	My mentor talks to me in ways I don't like	When my mentor gives me advice, it makes me feel stupid
3	5,5,5	4,4,4	2, 2,1	3,2,2
2	5,5,5,5,4	5,5,5,5,3	2,1,1,1,1	3,2,1,1,1
1	5,5,5	5,5,4	2,1,1	2,1,1

5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree, 1= Strongly Disagree

Increase the extent to which  
mentoring relationship is centered  
on the intern

# Centered on the intern

Meetings frequency	My personal development is at least as important to my mentor as producing science results	My mentor encouraged and enabled me to pursue my interests	My mentor did not actively help me achieve my goals
3	5,5,3	5,4,4	2,1,1
2	5,5,4,4,4,4	5,5,4,4,4	3,2,2,2,1
1	5,5,3	5,5,3	2,1,1

5= Strongly Agree, 4= Agree, 3= Undecided, 2= Disagree, 1= Strongly Disagree

# Conclusions

- If the intervention is optional, most will opt out
- The intervention appears to have...
  - some positive impact on perceptions of mentoring effectiveness
  - some influence (?) on the mentoring relationship
  - little effect on centering the mentor relationship on the intern

# New year's resolutions

- Analyze qualitative data for additional details
- Find another REU interested in participating as a control group
- Identify/develop an assessment to pre/post changes in intern's intellectual skills
- Develop strategy to ensure all intern/mentor pairs “eat their veggies”



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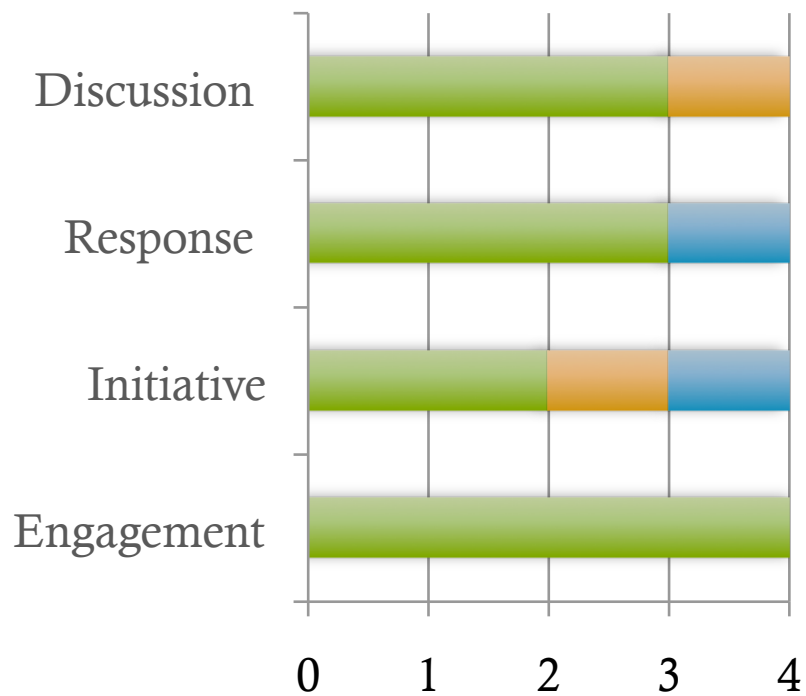
# Example rubric items

- **Recognize research problems** - Explain how your research project will contribute something new to existing knowledge.
- **Knowledge of recent advances within one's field and related areas** - Discuss and prioritize a range of methodologies to address a research question
- **Analyze and evaluate research results** - Critique work (both your own and that of others) objectively, acknowledging the weaknesses and assumptions, and define future work.
- **Summarize, document, report and reflect on progress** - Maintain and use a research log or record of research activity
- **Work both independently and interdependently** - Monitor progress towards goals and develop/adjust task plan to achieve them.

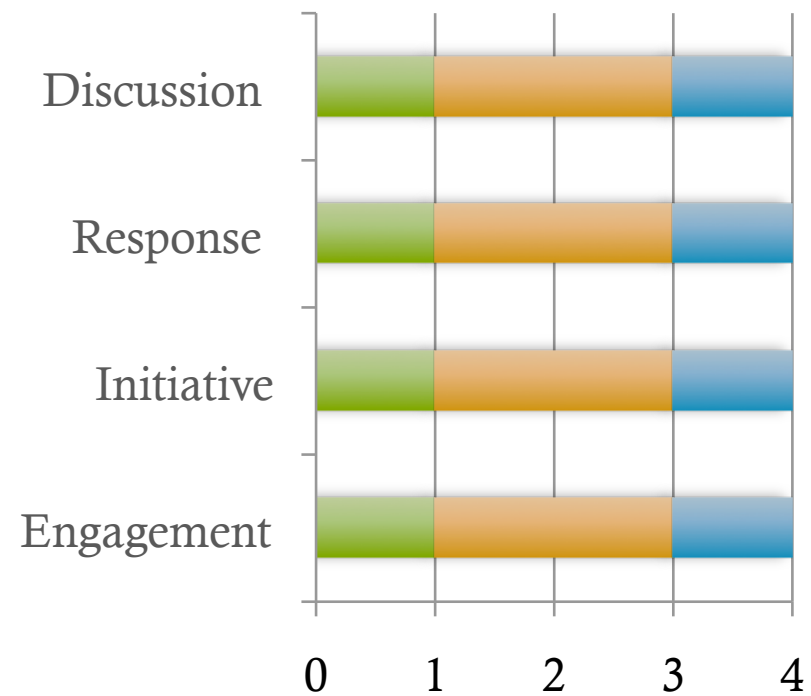


# Mentor preparation matters

## Prepared



## Did not prepare



■ Superior ■ Very Good ■ Satisfactory ■ Poor