

TEACHING TEACHERS:

*New Perspectives on Understanding Graduate
Student Instructors' Longitudinal Experiences
with Active Learning*

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United States Conference on Teaching Statistics

July 1, 2021

GSI's Experiences as Novice Instructors

- Research suggests beginning instructors' first year teaching is a **survival year** (Katz, 1972; Vonk, 1983)
 - “Can I get through the day in one piece?”;
 - ‘Can I really do this kind of work day after day?’” (Katz, 1972, p. 3)
- Graduate student instructors (GSIs) are **not necessarily ready to enact active learning techniques** when teaching for the first time (Beisiegel, 2017)
- Many GSIs teach **intro to statistics courses** (Blair et al., 2015) where active learning is recommended (GAISE, 2016)
 - Promotes student engagement (MAA IP Guide, 2018)
 - Results in better student performance (Freeman et al., 2014)
 - Promotes equitable learning opportunities (Theobald et al., 2020)

Survival Mode



Research Questions

- How do GSIs experience active learning?
 - What **knowledge** do GSIs have about active learning?
 - What are GSIs' **beliefs** about active learning?
 - How do GSIs **utilize** active learning?

Participants



Andy

- Facilitator – wrote about the value of students' self-discovery
- Ph.D. Math Education
- International
- Completed prior teacher development program
- Prior lead instructor experience



Max

- Lecturer – wrote about the instructor passing information onto students
- M.S. Mathematics
- United States
- No prior teaching experience

Research Timeline & Data Collection

	Fall 2017	Spring 2018	Fall 2018	Fall 2019
Teaching Support	GSI Development Program: Orientation and weekly workshops Weekly course meetings with course coordinator	GSI Development Program: Monthly workshops Weekly course meetings with course coordinator	Weekly course meetings with course coordinator	Weekly meetings with course coordinator
Data Collected	Pre- and post-semester surveys	Classroom observation Pre- and post-observation interviews	Classroom observation Post-observation interviews Survey	Interview Survey

Results - Andy

- Understood active learning as **engaging your students in the learning process**
- Believed active learning was the **superior** way to teach
- **Facilitated discussion** and **used activities**

- Continued to describe active learning as **engaging your students in the learning process**
- Continued to be **fully committed** to active learning
- Structured techniques around **communication**

Spring 2018 (1)



Spring 2018 (2)



Fall 2018



Fall 2019

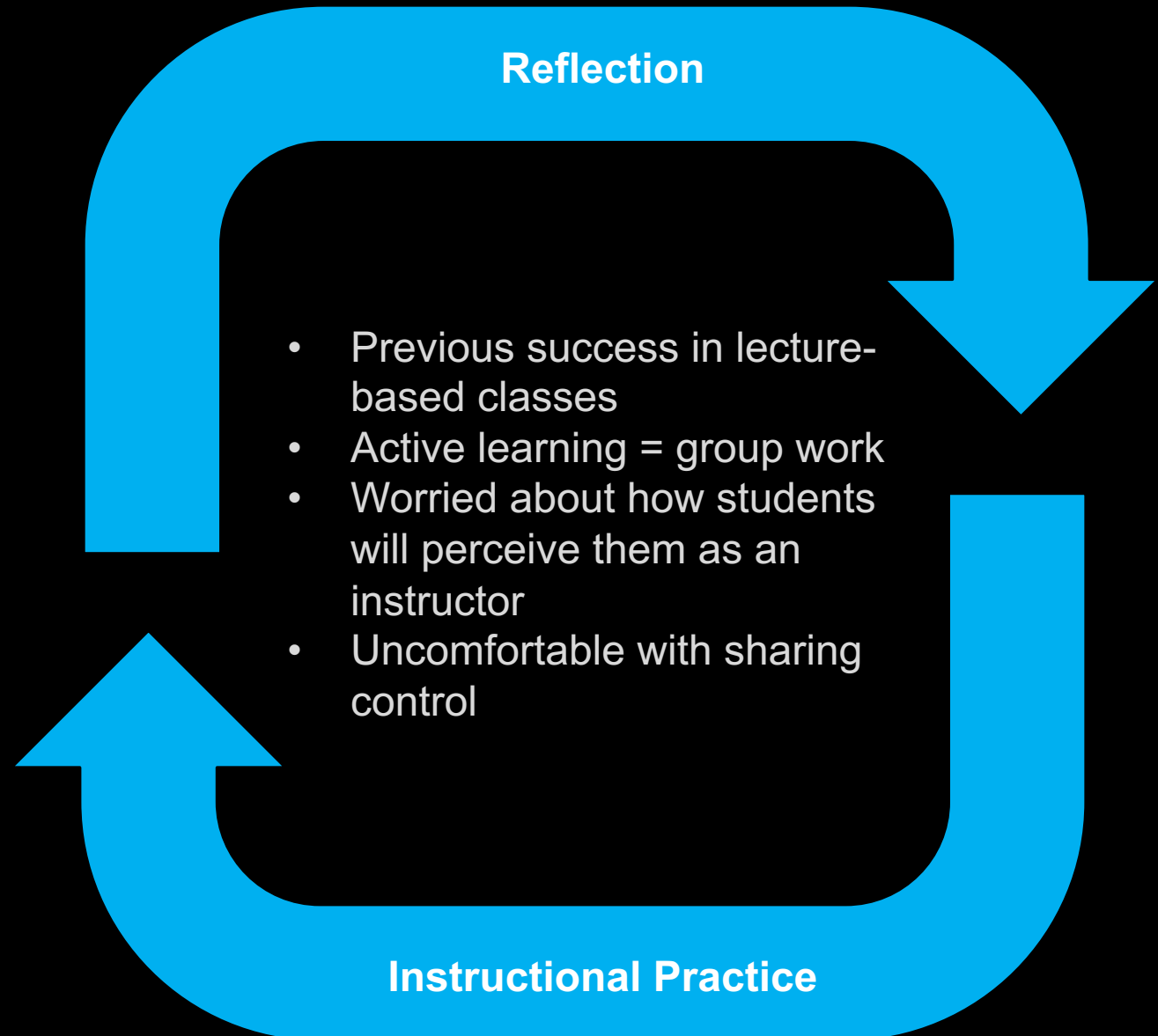


- Continued to describe active learning as **engaging your students in the learning process**
- Saw active learning as an opportunity to **learn more** about students
- **Flexible approach** towards active learning

- Added that students must take **active roles** in their learning
- Continued to be **fully committed** to active learning
- Committed to a **flexible** approach centered around **communication**

Discussion

Previous learning experiences and current teaching experiences create a **feedback loop** that promote or inhibit the use of active learning



Takeaways

- Studying GSIs' experiences with active learning helps uncover hurdles to address when supporting early and consistent usage
- Balance and discuss GSIs' experiences with active learning as both learners and teachers
 - Implement mock teachings and reflect how strategies may be different then when GSIs were students
 - Discuss a variety of active learning strategies and how students may interpret GSIs' intentions
- Offer continued support beyond GSIs' first year
 - GSI mentorship
 - Exploring educational research

Acknowledgements

- A special thanks to Max and Andy for participating in our research study

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