

27th Annual Conference on RUME

From “Struggle” to “Acceptance”: Andy’s Narrative of First-Time Teaching and Her Frames

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Contributed Report

OUTLINE

- Motivation
- Theoretical Perspective of Frames
- Research Question
- The Narrative Study with Andy
- Discussion and Implications



MOTIVATION

Why should we care about frames?

Frames (Goffman, 1986) allow individuals to filter, organize, and make sense of a situation that allow them to respond appropriately.

Knowing instructors' frames allow us to understand more of what aspects of teaching or teaching practices they highlight and how they interpret these practices.

This gives a glimpse into how individual instructors understand practices and how to enact things such as student-centric, inquiry-based classroom environment.

MOTIVATION

Why should we care about how frames change?

Suppose an instructor who used to frame lectures as the best way for students to learn has changed to frame teaching with active group work as a better avenue for students to learn mathematics. (e.g., Louie et al. (2021) and Scheiner (2023) demonstrated that this type of change is possible.)

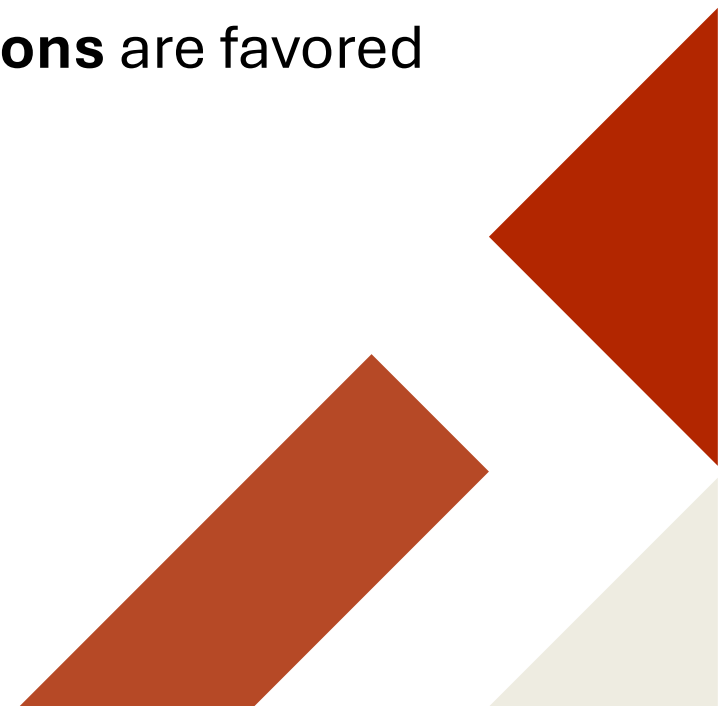
What experiences or things pushed them to interrogate their frames and consequently change their frames?

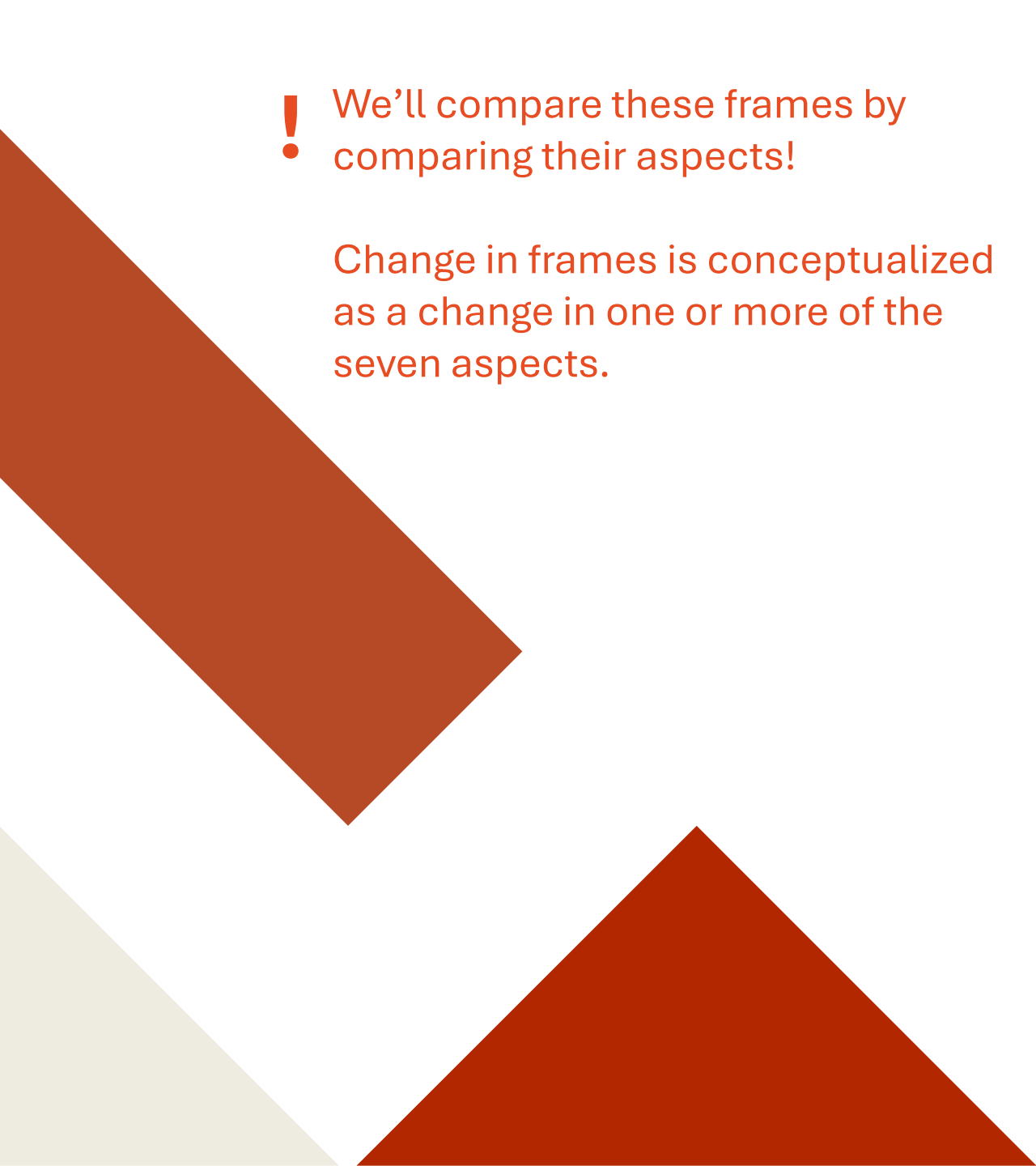
Specifically, can professional development opportunities leverage these to push instructors to adopt asset-based frames ahead of instruction and if so, how can they leverage that.

THEORETICAL FRAMEWORK: Frames

Instructor's frames of teaching (Cristobal, 2024)

Frames of teaching could be understood as interpretive contexts that support instructors' perception and enactment of (1) what their **role** is in the classroom as the instructor, (2) what **professional knowledge** is relevant or valuable in the act of teaching mathematics, and (3) what type of **interactions** are favored or useful in fulfilling their role.



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- ! We'll compare these frames by comparing their aspects!

Change in frames is conceptualized as a change in one or more of the seven aspects.

Study Research Question

How do frames of teaching ~~and of~~ students' learning compare before, during, and after instructor's first-time teaching as instructors of record?

At a large, mid-Western, public research university.

The Mathematics department requires all first-time graduate student instructors to:

- Attend a summer teaching orientation;
- Enroll in a pedagogy seminar (offered by the Mathematics dept);
- Attend weekly course meetings.



CONTEXT

Second-year doctoral student who served as a teaching assistant for Calculus recitations the year prior.

She is teaching for the first time as the instructor of record, teaching a section of College Algebra within a convened structure.

In this study, I interviewed Andy before, during, and after the semester along with collecting weekly journal reflections and conducting weekly observations.

I conducted thematic analysis on the interviews, using the journals and observations as augmenting the narrative.



Who is Andy?

FINDINGS: Before the Semester

When I asked Andy to complete the sentence

“Teaching mathematics means ...”

She **reactively** answered with “struggle” but then explained further:

“[Students] are expecting you to teach them a useful skill which to them will always only be a skill... knowing in your head [that] there is like a beautiful structure to it they don’t want you to give them... And you kind of have no right to make them want more from it, and it’s like a struggle.”

ROLE: Andy thought about her role in teaching as passing down knowledge from the past, inviting students to participate and (to an extent) also appreciate the subject that she finds beautiful.

FINDINGS: Before the Semester

KNOWLEDGE: She focused on content knowledge that would allow her to build a “cohesive story” amongst the different topics of her Algebra course.

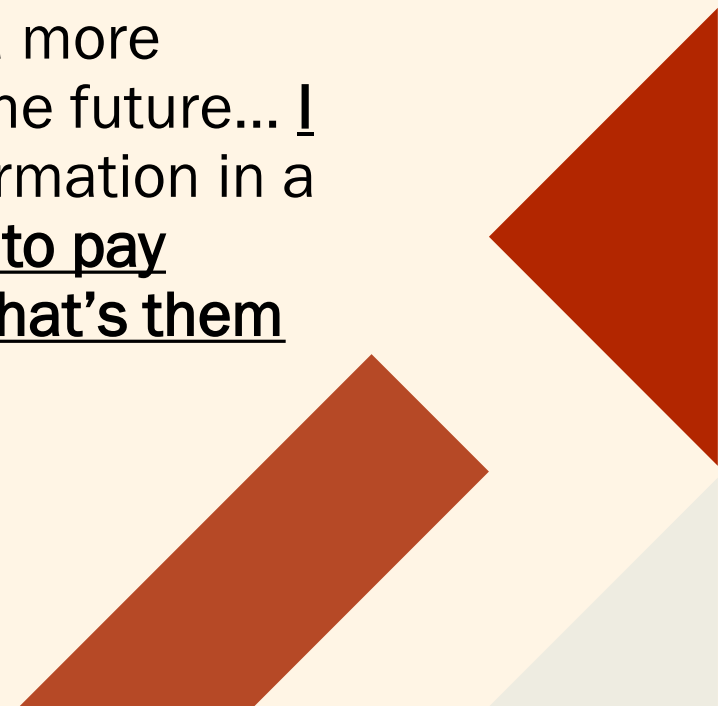
Tying to a story of one of her challenging undergraduate courses where the instructor neglected to explain how the topics of the course tied together.

INTERACTIONS: Since this was before her first time teaching, we did not discuss specifics on interactions she would highlight as the instructor. However, there are hints in that she wants to invite students to participate and appreciate the subject.

FINDINGS: During the Semester

A common occurrence in Andy's classroom are students leaving early (with or without asking) which began from the very first day of class. Andy had shared some unease about this in her reflections. When I asked her during an interview, she shared:

“My **role** in the classroom is as someone who's seen the material before and is comfortable with it to try to relay what I know about it in a more approachable way to people who will need to make use of it in the future... I kind of feel like I am providing a resource by structuring the information in a way that I think helps get the idea across. But if they don't want to pay attention or do the work that I'm asking them to do, ultimately, that's them refusing a service they're paying for.”



FINDINGS: During the Semester

With this burgeoning “business” frame of teaching, Andy understood that she needed to focus on content knowledge so she can better deliver this service with little confusion to the students who paid for it.

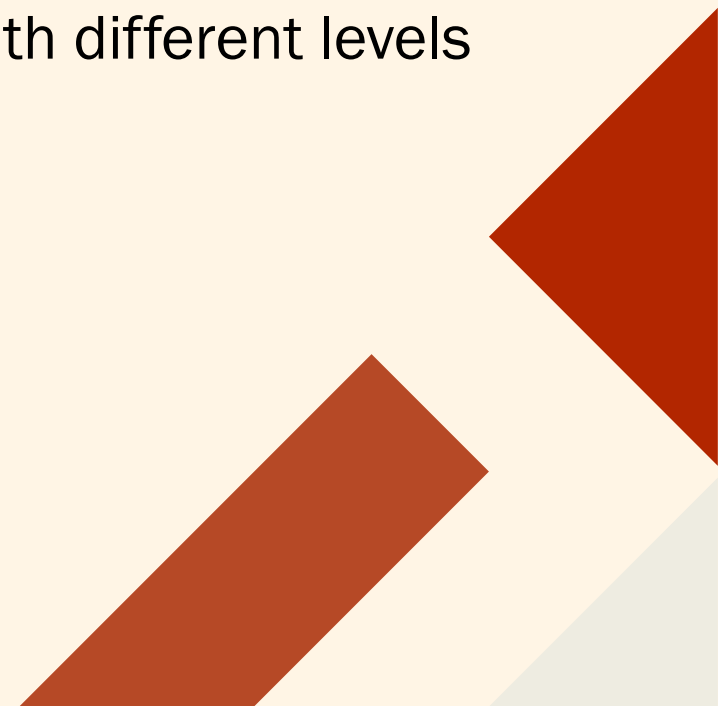
Relatedly and surprising for her, Andy realized she needed counseling knowledge with regards to her students who would “doom spiral” whenever they felt too discouraged about the difficulty of the classroom material.



FINDINGS: During the Semester

Additionally, her observations and journal reflections revealed that she feels more success and comfort when she is helping students individually or in smaller groups. She expanded on this:

“I find that when I'm lecturing I know that I feel like I can't gauge student engagement, or rather that there are so many of them with different levels of engagement.”



FINDINGS: After the Semester

Throughout the semester, Andy had apprehension in demanding students to engage, pay attention, and not leave class early.

It did not feel a part of her role or purview to do that and tying to her business frame of teaching:

“For me, I had the luxury of being able to spend time on my schooling if I wanted to... and so, of course, it’s easy for me to be like ‘oh, this is a business. If you want to learn what I’m teaching you in class, then you will dedicate the time to or you won’t.’”

FINDINGS: After the Semester

That said, Andy does not believe this 'business' frame of teaching will change for her since this is a consequence of current attitudes towards what a college education means.

However, though seemingly stuck, she adds to her understanding and enactment of teaching the following things:

- **TOWARD ROLE:** Ask students to participate and engage fully in the class.
- **TOWARD KNOWLEDGE:** Leverage more pedagogical/psychological knowledge with regards to classroom management.

FINDINGS: After the Semester

After 4 months, I again asked Andy to complete the sentence

“Teaching mathematics means ...”

She answered with:

“**Acceptance**, I think, like you’re always gonna want your students to see the beautiful thing... I think I said something similar, but maybe a little bit more cynical at the beginning. It’s like you want them to see the beautiful thing, they don’t necessarily care about the beautiful thing. But you have to accept that you’re gonna try to show them something nice, and maybe they won’t get it, but they’ll at least have had to have thought about it for a little bit, **and that’s something.**”

DISCUSSION: Struggle → Acceptance

	BEFORE	DURING	AFTER: “Business” frame of teaching
ROLE	<p>Passing down knowledge from the past, inviting students to participate and appreciate the subject that she finds beautiful.</p> <p>“Struggle”</p>	<p>As someone who’s seen the material before ... providing a service by structuring the information in an understandable way.</p> <p>If students refuse, they are refusing a service they paid for.</p>	<p>She feels stuck in this business view since this is a consequence of the public’s view on what a college education is.</p> <p>But she at least hopes to convince students to participate and not preemptively refuse her service.</p> <p>“Acceptance”</p>

DISCUSSION: Beholden to a Promise

Andy began the semester one way and felt **pressures to adhere** to her frames as opposed to changing them, even when she found the framing undesirable.

On one part, the culture of college education that Andy spoke towards.

On another part, a common worry with (new) instructors is with regards to changing their way of teaching in the middle of the semester.

On another part, like the other graduate student instructors in my dissertation, Andy was spread thin with all her responsibilities as a new instructor and as a second-year doctoral student.



IMPLICATIONS



*So, we confirmed that frames could change in a short time and without intentional professional development (PD) pushing them to change. **Now what?***

Asking instructors to reflect on their teaching and their own learning is one way to begin the process of shifting frames or identifying hurdles to shifting.

PD might serve novice instructors like Andy better if PD includes stories from previous instructors that demystify the realities of teaching at their institution.

Andy and other graduate student instructors juggle competing responsibilities of being a student and an instructor, we need to find ways to better help their dual identity.

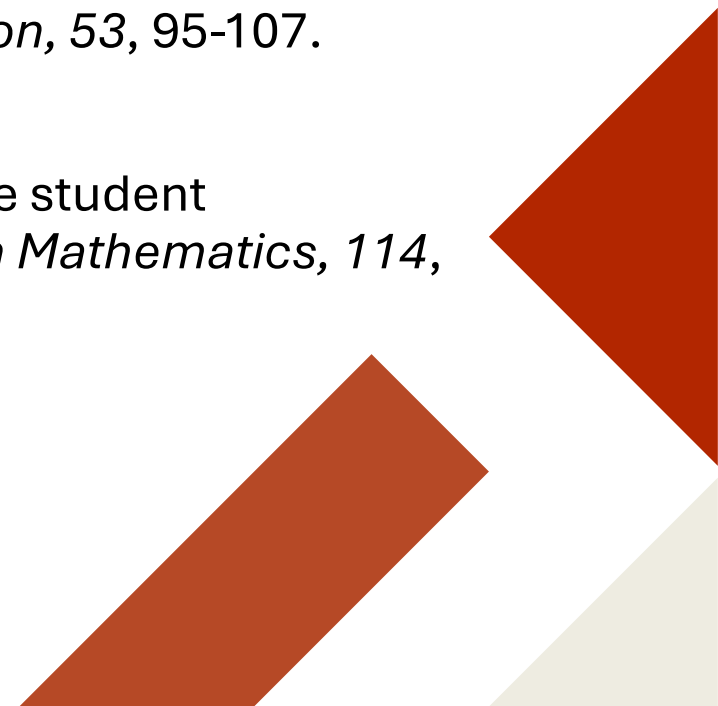
Thank you!

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REFERENCES

- Cristobal, J. B. (2024). Complicating the relationship of frames and responses in teacher noticing. In Cook S., Katz B., Moore-Russo, D. (Eds.), *Proceedings of the 26th Annual Conference on Research in Undergraduate Mathematics Education*, Omaha, Nebraska (pp. 268-276).
- Goffman, E. (1986). *Frame Analysis: An Essay on the Organization of Experience*. Boston, MA: Northeastern University Press.
- Louie, N., Adiredja, A. P., & Jessup, N. (2021). Teacher noticing from a sociopolitical perspective: the FAIR framework for anti-deficit noticing. *ZDM Mathematics Education*, 53, 95-107.
<https://doi.org/10.1007/s11858-021-01229-2>
- Scheiner, T. (2023). Shifting the ways prospective teachers frame and notice student mathematical thinking: from deficit to strengths. *Educational Studies in Mathematics*, 114, 35-61.
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	BEFORE	DURING	AFTER: “Business” frame of teaching
ROLE	Passing down knowledge from the past, inviting students to participate and appreciate the subject that she finds beautiful.	As someone who’s seen the material before ... providing a service by structuring the information in an understandable way. If students refuse, they are refusing a service they paid for.	She feels stuck in this business view since this is a consequence of the public’s view on what a college education is. But she wants to try to convince students to participate and not have them refuse the service.
KNOWLEDGE	Focus on content and pedagogical content knowledge	Content and pedagogical content knowledge are focused on packaging the material	To do a better job next time, counseling knowledge and classroom management knowledge are also needed in Andy’s arsenal.
INTERACTIONS	A hint of wanting to invite students to participate and appreciate mathematics as a subject	Highlighted smaller interactions (preferably solo) since she should tailor the explanations as opposed to having to account for different levels of understanding	Andy really liked smaller interactions and found great success in helping students through that. She wants to continue doing that and urging students to come to office hours.

EXTRA! EXTRA!