Ideological Contestations in Faculty's Conversational Categories for Students in Faculty Online Learning Communities

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Abstract: Faculty Online Learning Communities (FOLCs) have shown potential gains in supporting instructor implementation of new curricula. Influenced by work from Ilana Horn (2007), we set out to determine if FOLCs recreate or challenge dominant ideologies towards students as fast, slow, or lazy. After analyzing transcripts from recordings of FOLC meetings, we found that while these discussions at times recreate problematic student framings, there are also explicit challenges to this ideology (e.g. away from dominant problematic framings toward a focus on student learning). We find that these contestations are taken up more in later meetings though there isn't necessarily a clear convergence on these alternative ideologies. In further research we hope to determine if convergence toward alternative ideologies and a focus on student learning occurs more frequently over time within the FOLC.

Introduction and motivation

While multiple research-based instructional strategies exist for physics, their adoption is lacking (Henderson et al., 2012; Froyd et al., 2017). A proposed reason for this is a lack of support for faculty attempting to implement these new curricula (Froyd et al., 2017; Dancy et al., 2019). Faculty Online Learning Communities (FOLCs) are a proposed solution to this problem (Dancy et al., 2019) and inspired the creation of the Next Generation Physical science and Everyday Thinking (NGPET) FOLC. While FOLCs show some positive results in supporting instructors' implementation (Barab et al., 2003; Shere et al. 2003), we do not expect them to be devoid of their own problems. We sought to determine if FOLCs recreate situations where faculty problematically frame students, if FOLCs provide a space for faculty to challenge dominant ideologies, such as fast paced students as smarter, and slowly paced students as struggling, and how those contestations are received by the group. We expect that there will be subtle differences in the conversational norms of FOLCs that affect how likely, and how effective those ideological contestations are. Thus, continued research is needed to understand how conversational norms impact the ideological convergences within FOLC conversations.

Study setting

The NGPET curriculum is a research-based curriculum for introductory, conceptual physics classes that focuses on collaborative model building (Goldberg et al., 2010). The FOLCs in this study are unique as they bring together faculty from various institutions across the country who are all working to implement the same NGPET curriculum. Our broader faculty community (of ~50 faculty) broke into "clusters" of about a dozen with varying experience with the curriculum. The members in these clusters meet twice monthly through an online video conferencing system. These conversations are recorded, and then transcribed for analysis.

Methods

Our guiding research question was "What impact do FOLC conversations have on how faculty frame students?" Our methodological approach draws heavily from Ilana Horn's work (2007) to explore the conversational categories that educators use during in-situ talk. Using her definition of episodes of pedagogical reasoning (EPRs), we iteratively coded transcripts of FOLC conversations identifying EPRs and recurring themes to determine patterns. Below, we present an analysis of two EPRs from one FOLC cluster early in their time together (~3 weeks in).

Horn's 2007 paper found that category systems influence how problems of practice are modeled, and therefore play an influential role in teacher's zones of enactment and collective decision-making processes. Horn specifically found that often students were categorized as either fast, slow, or lazy. This influenced our interest in the conversational categories' educators used to frame their students in the NGPET FOLCs. We focused on conversational segments that pivot around student-centered implementation challenges and involved substantive back and forth between participants. Substantive back and forth was defined as a conversation with at least three turns of talk where multiple participants share additional information and perspectives. Upon reviewing the student-centered EPRs for thematic content over time, we identified a recurring topic of managing student groups and their variable pacing. Finally, we analyzed turns of talk line-by-line to determine: (a) what ideological stances (Phillip, 2011) toward students are reflected and (b) whether these are taken up by other

participants in subsequent turns of talk. In our analysis, we recognize an ideological stance as "taken up" if pieces of that stance are substantively revoiced or recast in subsequent talk turns (Phillip, 2011).

Results

In this paper, we illustrate a recurring pattern where a cluster member makes a bid for an ideological shift, and it is not taken up by the group (see EPR 1). However, in EPR 2, we see a glimmer of shifts in faculty participants' ideological stances. In comparing EPR 1 & EPR 2, we also notice a shift in faculty's focus: from a discussion of students' completion of activities to a discussion of students' understanding the content. This suggests that shifts away from problematic dominant ideological category systems for students may be coupled with a shift in focus on student learning.

While there are more EPRs than these two in our dataset, we saw these two as particularly illuminating for the purposes of this paper. Both conversations were born from a concern about differential student group pacing, and how to mitigate it. The EPRs shown are condensed from the actual transcript in order to conserve space. We present a narrative of the conversation as it plays out, until the moment of ideological contestation, and its subsequent uptake (or lack of uptake). All facilitators' pseudonyms start with the letter "C", while participants' pseudonyms vary.

EPR 1: Second meeting: An ideological contestation with no uptake

Clay begins this segment by asking the cluster if they intentionally design their groups, and how often they are switched. Carter responds by explaining how in a previous semester he intentionally designed groups by "getting their grades and their GPAs and mixing them, smart and not as smart together." He goes on to explain that in another semester he let students create groups with their friends, and while he had a more difficult time with student pacing, he didn't notice a large difference in student grades. Carter's stance here is that mixing of academic performance heterogeneously will even out the pacing of the groups, and at the same time he conflates the GPAs of students with their "smartness." Courtney shares her approach next:

> I mix the groups, but I mix them in a weird way, I put all the smart people together because they tend to not like having to explain things to the not so smart people. They like to be with the smart people, and I found they will really entertain themselves, you put them together and off in the corner. And it doesn't matter if they're a speedy group because they're doing extra stuff they've thought of by themselves. And then I put the students who struggle together and this doesn't always work it depends on personalities also, but if they're used to relying all the time on a smart person giving them the answers or directing them, by the time it comes time for the test, they think they know but in reality they've just relied on somebody to help guide them. And if you put them together then they're sort of forced to think about it more. And I have found that really helps, sometimes it backfires sometimes students will end up just digging themselves into a hole and I have to watch out for that and rearrange groups again immediately if that seems to be happening. But usually, I have had good success putting the not so smart people together in a group.

Here we see that Courtney is equating speed with intelligence, specifically with proficiency in physics. She describes that these fast students always push themselves with extra content they themselves have created. She also describes how the slower students, which she describes as inherently struggling, are also prone to not thinking through the material themselves and relying on the stronger students. She is equating a slower pace with not only a lack of intelligence, but a lack of motivation to try. She describes a need to separate the struggling students in order to force them to think about the material, assuming that they aren't in the first place and that they won't unless forced to. Carter responds to this idea by explaining how in his classes he gives the faster groups an extra activity to do while the slower groups catch up, which would help with a full class discussion. He adds that he "worries about stigmatizing the slower groups, but they don't seem to mind." This shows some more nuanced focus on student learning; however, the group does not converge upon this stance. Instead Clay adds that he asks this question with the intent to discern if intentionally designing groups could help mitigate pacing issues. Kraig pushes against the ideological stance of fast kids versus slow kids, stating:

> you have the one student who really wants to get out of there, and I don't know if they're a strong student or not strong student, but they're really good at going really fast and dictating to the group that this is what the answer is. And they plow through really fast and they end up getting half of it wrong.

Instead of fast-paced students being lauded as inherently more intelligent, Kraig questions if they are digesting the material fully or allowing all group members to participate. This is a shift of focus from activity completion to a genuine understanding of the content. Courtney responds to this by explaining that she tends to put these people in the smarter student group because she believes the smart people won't be negatively affected by these student's desire to be speedy. Carter adds that in the course evaluations some people say that class was too slow, and some will say it was too fast and there is nothing you can do about it, to which Clay and Courtney agree, and the conversational segment ends. While Kraig presented a counter ideological stance about what it means to be a fast student, the cluster doesn't converge around this counter ideological stance.

EPR 2: Third meeting: Repeated contestations left unresolved

In this EPR, the conversation begins with Yin discussing pacing issues in her class between groups and suggesting a range of possible explanations for these pacing issues, such as the sequencing of the course modules, or incentives provided by the teacher. Yin specifically is curious as to why this semester is going so much faster than previous semesters. Courtney then clarifies that a new thing Yin added this semester is incentivizing the work and which reinforces that as this is the most likely cause of the change in pacing, relaying her own experiences. Courtney explains how when students are promised that they can leave early if the activity was finished, they start working much faster. Courtney explicitly mentions that "they weren't just working fast and sloppy. They were working fast and getting their work done and concentrating and paying attention and it made a huge difference." Yin says that it is good to know and opens the information back to the group asking if anyone else has experienced a difference when changing the sequence of the modules, to which only Carter responds, and he says no. Carter then explains that he finds checking in with the students' progress periodically helps them to stay focused. He explains, "I'm trying to communicate to them that they should work at their own pace, in order to make sense of all the ideas, but also that there is some urgency to keep moving forward." This highlights nuanced thinking about the pacing of students' work, as Carter emphasized, he wants students to go slower to digest the content, which counters the ideological stance expressed in EPR 1 that faster students are inherently more adept.

Taylor joins in the conversation to discuss the different models of student checkpoints, comparing her experiences both with NGPET and her engineering courses. She specifically mentions how she finds the check-ins to be too far spaced out in NGPET to keep students on track compared to the engineering class she teaches. Mansour adds that he thinks it would be helpful to have more frequent check-ins in NGPET to prevent slow groups from becoming exceptionally far behind, to which Courtney adds that "slow groups often don't realize they're slow," and that check-in can serve to help them, and the fast groups, realize they are out-of-sync. Yin chimes in that she doesn't want to rush the slow groups, that she "want(s) them to take time and read the material, instead of me rush them through," to which Taylor agrees. Carter comes into the conversation to discuss how he deals with groups' pacing in his room, which is primarily to give the faster-paced groups something additional to do. This again shifts the conversation away from a potential ideological expansion.

After explaining his methods, Carter also states, "I often have at least one group in a class that just races through stuff, and I can't believe they're thinking carefully about all of the questions. So, I struggle with how I can slow them down." This again works to push against the dominant ideological stance of fast being a desirable quality and brings to focus the students' understanding of the content over their completion pace.

Clay then says he has consistently seen this issue come up not only with groups within classes but also with whole classes when compared to each other, and the consensus of groups becomes that "the issue will always exist," and the conversational segment ends. Here the idea that slow groups aren't inherently struggling with content, and fast groups aren't inherently more adept, is presented both by a facilitator and cluster member multiple times but is not converged upon by the group as a whole. We do see this as some progress when compared to EPR 1.

Discussion and conclusions

We set out to learn if FOLCs recreate settings for problematic stances toward students, and if these stances are effectively contested at all. What we see from the current state of our data analysis is that faculty use framing language, such as fast equated to smart and slow equated to struggling, when discussing student groups. In both EPRs presented, faculty struggle to conceptualize ways to prevent pacing differences between groups. Throughout the conversations in both EPRs, a predominant idea that fast groups are filled with more intelligent, adept, and dedicated students is presented. It is then not only implied but explicitly stated, that slower-paced groups are filled with students who are less intelligent, inherently struggling, and in need of constant supervision to stay focused. Both EPRs also showcase someone in the cluster, whether a member or facilitator, attempting to push back against this narrative by suggesting that perhaps faster students aren't digesting or

understanding the content as fully, and perhaps the slower students don't need to be sped up. In both EPRs, a counter ideological stance is not converged upon. However, we see glimmers of change in individuals' perspectives between the two EPRs, as in the second the counter-stance that fast students do not necessarily equate smart students is brought up multiple times from multiple voices in the group. While a counter ideological convergence did not arise, the repeated appearance or uptake of this stance implies that these conversations are likely to resurface over time. We also see a pattern of challenges to the dominant ideology correlating to a focus on student learning, instead of task completion and compliance (Baldinger, 2017).

We suggest that our specific FOLC features of being centered around a specific curriculum and not set up in a singular school or geographic area influence of positional power dynamics in the conversations. In Horn (2017), it is argued that the conversational categories of students in teacher workgroups meetings resulted from multiple systemic factors, such as the ideologies of the administration within the institution, and the emergent peer teacher culture of the institution. While do not argue that our FOLCs are devoid of power dynamics, we do argue that there exist far fewer institution-specific power dynamics, than workgroups created at a specific institution. The fact that these conversational categories of students appear so readily accessible to the FOLC members implies this ideology may be predominant in the wider physics culture (Archer et al. 2017; Leslie et al. 2015). We see faculty framing students with ideological assumptions that track them by perceived student ability which likely impacts faculty's decisions about how to address a perceived instructional issue (Bensimon, 2005; O' Connor et al. 2015). One possible reason for the dominance of these narratives even when challenged in conversation may be due to limited comfortability of the faculty pointing out ideological stances after only meeting for little over a month. Other possibilities could be that faculty worry about challenging a dominant cultural ideology of physics or the our FOLCs lacks explicit structures for such challenging such ideological stances. In future work, we plan to analyze additional student-centered conversational segments for how faculty frame students longitudinally over the 2 years of NGPET FOLC data, to determine if, with time, faculty's stances on conversational categories for students change, and what factors influence that change.

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