

The Everyday Work of Rural-Serving Community College STEM Faculty: Lessons from an Institutional Ethnography Across Wyoming

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Abstract

Rural-serving community college (RSCC) STEM faculty play an essential role for their students and communities. We employed an institutional ethnographic (IE) approach to elucidate the social and ruling relations organizing the everyday work of RSCC STEM faculty in Wyoming. Our data confirm that RSCC educators see students at the center of their work. They detailed gaps and barriers to STEM transfer and explained administration and policy impact on their work, and described work that is invisible. Faculty's feelings of isolation and connection were inextricably linked to social networks and administrator acknowledgement. We explicate a problematic wherein RSCC administrators not centering the student when making decisions grinds with faculty's philosophical and practical focus on student-centered work. Based on our findings, we hope to persuade readers with our practice implications as you question whose interests are being served and the role that power and politics play in the everyday RSCC work.

Keywords: *institutional ethnography, community college, rural education, STEM transfer, inclusion, educational development*

Introduction

Rural-serving community college STEM (science, technology, engineering, and math) faculty have long provided an essential role, teaching those in transfer STEM degrees and terminal degrees in allied health and other technology-related programs. Alliance for Research on Regional Colleges (ARRC) labeled 1,087 colleges as rural-serving, serving nearly 15 percent of the 10.2 million students in higher education institutions in the United States (Rush-Marlowe, 2021). Moreover, with historically strong enrollments of women and underrepresented minorities, rural-serving community colleges (RSCC) could play a pivotal role in attracting more significant proportions of these populations to STEM fields (Patton, 2006).

Rural communities often aim to broaden their economies through growth in STEM-based industries. However, rural students may be reluctant to pursue STEM occupations if they feel that jobs cannot be found at home (Harris & Hodges, 2018). Employing an ecological perspective when considering rural communities can enable educational developers to integrate the unique community context, value systems, and cultural ways of knowing to strengthen their career guidance strategies, better opening pathways into STEM. This systems approach, which includes genuinely listening to teachers who know local value systems, enables a richer understanding beyond typical

individualistic career advising approaches (Gibbons et al., 2019). RSCC faculty members serve a critical role in the community as STEM disciplinary experts engaging in the community and bridging the social and cultural context of the community to the discipline to support the students' learning (Rivera et al., 2019). In addition, by building relationships between the rural postsecondary student and the STEM field, the faculty members often do the hidden or invisible work of building student STEM identity while connecting the rural student to future opportunities not otherwise available (Kim et al., 2018).

In Wyoming, the community colleges are designated as rural-serving based on the measures of place, including population size, adjacency to a metropolitan area, and the share of credentials conferred in agriculture and natural resources (Koricich et al., 2022). RSCCs are often found in communities facing socioeconomic disparities, with smaller and more diverse enrollments, a more significant share of Native American students, and are reliant on declining state appropriations (Koricich et al., 2022). However, these data miss more contextual findings on the STEM faculty experience, social and cultural aspects of the teaching and learning institutional framework, and the faculty's role in facilitating student success and transfer.

Our study utilizes institutional ethnography (IE) to explore RSCC educators' everyday work as it is organized within the ruling relations of rural-serving community colleges. This work was part of Phase I of the Inclusive Excellence 3 (IE3) Initiative, funded partly by a grant. The IE method was used to explore the barriers of two-year to four-year transfer, particularly as faculty navigate them in their work with students in STEM disciplines. We approach this work from the standpoint that faculty members' experiences within institutions directly impact student inclusion. This work was part of Phase I of the Inclusive Excellence (ie3) initiative, funded partly by a grant to the university from the Howard Hughes Medical Institute (HHMI) through the Science Education Program. HHMI's guiding questions for the IE3 initiative are: (1) What are the root causes of institutional barriers to inclusion in STEM? (2) What creates and sustains those barriers? (3) Moreover, why are those barriers so durable? These questions provided context for the focus groups conducted at the community colleges across Wyoming.

Institutional ethnography (IE) is born out of the work of Dorothy E. Smith (1987, 1990, 2005, 2009). The IE approach queries, "what is actually happening?" in a material, connected world (Devault, 2006, p. 49). Dorothy Smith uses ruling relations as a heuristic device "...to discover how people's lives are coordinated concerning ruling ideas and practices" (Campbell & Gregor, 2002, p. 99). A problematic is used in IE research to direct attention to a possible set of tensions, paradoxes, or puzzles latent in, yet arising from, people's everyday actualities (Smith, 1987). IE is a liberating method critical of the traditional aim of sociological research, which objectifies those studied within a ruling hierarchy (Smith, 1990). The fieldwork of an institutional ethnographer focuses on those most marginalized by hierarchies. Then it aims to look "...from the margins inward - towards centers of power and administration searching to explicate the contingencies of ruling that shape local contexts" (DeVault, 1999, p. 48). Institutional ethnography focuses on physical, material connections and ruling relations and recognizes that these are organized in response to institutions.

Furthermore, IE acknowledges that the researcher never operates outside the interconnected relationship network (DeVault, 1999). IE speaks to the located knower and stresses the experienced knowing versus expert knowing. For our study, the rural location of the participants contextualized how the knowledge was organized and power was experienced (Campbell and Gregor, 2004). Rural faculty often play multiple roles across recruiting, curriculum development,

teaching, advising, community engagement, and outreach (Sansing-Helton et al., 2021). Our research frames what is known about RSCC educators' everyday work. It expands on how everyday practices are uniquely responsive to the social organization of the institution and the broader rural community context (Campbell et al., 2006). By understanding contexts that shape daily work and relationships that support transformation, the IE methodology has the power "to provide a rigorous, data-driven, and replicable explanation of actual practice" (LaFrance & Nicolas, 2012, p. 144). Herein, we seek to uncover the root causes of institutional barriers in STEM student transfer from community college to university by making visible the ruling relations governing coursework and programs seated at the faculty member's work. RSCC faculty and student services staff are frontline professionals caught up in the "ruling relations" of the broader organizational framework. From the literature and our experience as educators, we aim to shine a light on the everyday realities of RSCC educators. We further explicate how this work is shaped by institutional policies and procedures organized around social and ruling relations.

The Study

Our application of IE entailed collecting data through interviews and focus groups (Campbell & Gregor, 2002). We followed Smith's unique framing of collecting and analyzing data based on "looking up from where you are" to study how the individual works within a social order (Campbell et al., 2006). Our study was approved by the University's institutional review board (protocol #20211001RW03137). When conducting focus groups, we were sensitive to the rural community landscapes and unique contextual situatedness of our educators. Most participants were STEM faculty or student services staff; a few were educators and staff from other areas of the college.

We began our work informed by a problematic positing a disjuncture between what individual faculty experience daily and what the institution expects from them regarding the student-centered mission and institutional goals. Therefore, we approached every aspect of our study by taking the stance of the RSCC educator. During focus groups, we prompted participants to describe their role, their work, the influence of others, and policy and procedures' effect on the work (Krueger & Casey, 2014). Focus groups were recorded and analyzed with first and second-cycle coding used to categorize and group extended sequences of faculty work for further analysis and meaning. Extended narratives were read using a greater analytical focus on social organization.

Participant Recruitment and Focus Group Description

We utilized convenience and purposeful sampling (Patton, 2015). We made use of our existing networks with community colleges. These connections were previously established through a yearlong educational development program (herein referred to as the active learning training program) facilitated by the state's land grant university and serving college educators statewide. We began with the community college with the most educators trained by the active learning training program. We then proceeded to contact each community college in order of decreasing program engagement. Many educators in this network have remained connected to nurture inclusive excellence work. Amongst these educators, we selected one or two opinion leaders to whom we sent an initial email. In this email, we explained our goal of doing focus groups at each community college. We requested assistance from these opinion leaders in (1) compiling an email list of STEM/STEM-affiliated educators and (2) orchestrating our visit. In all cases, we reminded the opinion leaders of our inclusive definition of STEM/STEM-affiliated as "anyone who

interfaces in some way with our STEM students.” In all but three cases, we deferred to the opinion leaders to generate the email list. In some cases, opinion leaders were slow to or did not respond. In those cases, we generated a list of STEM/STEM-affiliated educators using the college web directory.

Once we had a complete email list, we sent an invitation introducing the Howard Hughes Medical Institute (HHMI) Inclusive Excellence 3 work. It further detailed the statewide inclusive excellence efforts and stated our goal “...to shine light into the processes and experiences of the work done by educators at [named community college] in creating an inclusive, equitable and antiracist environment.” Ultimately, we aimed to reduce isolation and create learning communities. We then polled the potential participants to determine the best time for the focus group. From the responses received, we scheduled the focus group time and reminded all educators on the listserv one or two additional times prior to the focus group. In several cases, due to slow or minimal responses, we individually emailed every educator with personalized statements of the invitation. In-person and Zoom focus groups lasted for between one and one and a half hours.

There were two institutions with smaller existing networks of prior active learning training participants that were repeatedly contacted. However, because they eventually failed to respond, each became a non-participating institution. In the case of the first, initial contact non-response was followed by a second contact elevating the request to an administrator who never responded. In the second case, the program-affiliated faculty responded and scheduled the focus group. However, administrators vetoed the focus group and requested a reschedule. One administrator requested clarification on how community college educators were tied to inclusive excellence work. This explanation was provided, but no response was received. Two more attempts were made to reschedule through that administrator, but no response was ever received.

The study timeframe was from January 2022 to October 2022. The community colleges visited were geographically distributed around the state: north, central, east, southeast, and southwest. Each college was assigned color pseudonyms randomly. After performing the in-person focus group, an online follow-up option was provided via Zoom either on the same day or later. A total of 8 focus groups were held. In total, we had 36 participants.

Institutional Overview

Each of the eight community colleges differs in cultural, economic, environmental, and demographic characteristics. The college with the pseudonym Yellow College has the largest student population at 6,000. It is also located in the largest urban center - a city of ~65,000. It is found in the county with the highest average wage and salary employment. Red College is also located in a relatively large urban center - a city of ~59,000. Green College has the smallest student body at 2,000. Amongst the counties with community colleges, Green College resides in the county with the lowest average wage and salary employment. Yellow and Green Colleges are found in highly agricultural counties. Orange College is in a county with an extensive mineral extraction industry. Blue College is proximate to a large national park and has the second-highest destination and other travel in the state (Wyoming Office of Tourism).

Description of the participants

Most participants were STEM educators. However, some participants were classified as staff members and worked in student support programs. In one case, a faculty developer attended,

and in a couple of cases, an educator from the liberal arts attended. The number of participants in each focus group ranged from two to ten.

Facilitating/moderating the focus group

Each in-person focus group began with an informal greeting over lunch, followed by an overview of the informed consent language. The introduction was scripted in the same way for every focus group, and participants were invited to sign the consent form before us asking the first question. Principles of and extensive experience in collaborative communication guided the facilitator. Collaborative communication is a democratic form of dialogue, sometimes called reflective discourse (J. Peters, personal communication, June 16, 2022). All follow-up questions were open-ended. For example, if a participant stated something of interest, a follow-up question would be phrased as “you mentioned [thing of interest]; can you say more about this?” Focusing techniques were also used. For example, after several participants answered the question, the facilitator would say, “I hear you saying that you aim to nurture [theme of interest] in your students.” Nine questions guided the focus group: (1) Tell us who you are, what role you play at the college, and your hopes for your students in STEM. (2) Describe your work with STEM students who inspire to transfer from [institution]. (3) Describe the work that involves student recruitment, admissions, or transfer. (4) How do students affect the work you do? (5) How does the administration affect the work you do? (6) Describe the policies and procedures that impact your work. Would you be willing to share any of the documents that you use? (7) How would you describe your feelings of connectedness or isolation? (8) Who are your most important advice givers? (9) Furthermore, is there anything else you want to tell us?

When questions were answered very broadly, the facilitator, or in some cases, the co-moderators, would invite the participant to provide specific examples. All focus groups were recorded using Zoom and a meeting Owl 360° camera. In addition, live transcripts were enabled, and meetings were automatically recorded to the cloud. Transcripts were saved and cleaned for accuracy and clarity.

Data Analysis

The transcripts were cleaned for transcription accuracy by the researcher. Then, they were uploaded in NVIVO 12 for further coding and analysis (QSR International Pty Ltd., 2020). First-cycle coding of the focus group transcripts used in vivo coding, process coding, and values coding simultaneously to attune the researchers to participant perspectives and the social organization of the work of faculty (Saldaña, 2016). Then, transcripts were read with second-cycle coding used to focus and provide categorization by producing data clusters that grouped extended sequences of faculty work for further analysis and memoing. These extended narratives between the focus group moderator and participants or between participants were reread with a greater analytical focus on social organization, social relations, and ruling relations from the experienced and located knower’s standpoint. Attention was placed on the talk that connected participants’ examples with the discourses of work with students and formal institutional work practices and professional discourses (Campbell et al., 2006). The presence and even absence of texts that mediated this discourse are presented as they arose in the community college educator’s stories.

Trustworthiness

Data were collected, coded, and discussed for consensus by the three authors. Author RM did the first round of coding, and author RS did the second round and collapsed these codes into categories. To increase rigor and trustworthiness, author RW did a code check of a randomly chosen transcript and reviewed and edited codes to confirm consistent coding. Before fully evolving this study's findings, all authors presented the work at an oral session to which RSCC educators were invited. Those in attendance gave feedback as a member check for our pre-final findings. In addition, a detailed description of our methods and recruitment and institutional context provides replicability, further increasing rigor.

Researcher Reflexivity and Positionality

Each author pre-journaled before the data collection and memoed on the process and analytical steps taken throughout the study. In addition, the researcher's thoughts and feelings were discussed and video recorded during weekly meetings. This process allows for bracketing of interpreting any more than writing on the basis of knowing as a requisite of IE data analysis (Campbell & Gregor, 2002). Author RS is a social scientist in pharmacy and an immigrant, woman of color coming into this work as a qualitative methodology expert and a content expert in rural disparities and inclusive pedagogy. Author RM served as a full-time RSCC faculty member for seven years prior to engaging in this research and was a Ph.D. student in curriculum and instruction throughout the duration of this study. Author RW is an educational developer, STEM faculty member, queer theorist, feminist scholar, and coach. She is the program director of the active learning training program through which primary recruiting for this study was done. As located knowers, we authors recognize that transfer discourse often favors university perspectives. We acknowledge that we inhabit space at the university set apart and privileged as compared to the spaces inhabited by the RSCC faculty member whose standpoint we aimed to take within the context of this study.

Findings

We elucidated six themes using mapping to describe and locate the individual's life experience (Smith, 1987, 1990). RSCC faculty, in conversations in the focus groups, mapped their work, either completed explicitly or because of other institutional demands, back to serving the student at the center. A discord was raised when they expressed components of their work that did not serve the student at the center. When questioned about their feelings of isolation or connectedness, these questions often returned to the student or the social networks they had built within the organization or broader community that reconnected them to their work serving student learning. Administrative and resultant faculty turnover in all the community colleges visited led to a perpetual state of change in policies and practices affecting the faculty member's work. The need to navigate the changing requirements dictated by the administration without reducing financial and resource constraints took a toll on the RSCC faculty's emotional health. The resultant faculty loss weakened the community college's social networks.

We begin by sharing our findings categorized into themes. We then explore an overt paradox that describes the disconnect between the work the RSCC faculty saw as best serving the student and the work they were being asked to do. In addition, our findings spotlight our research

problematic that depicts the administration, policy, faculty members' everyday work, and the needs of the rural student as points of disjuncture. Finally, the focus group participants mapped their feelings of connectedness with the students at the center of their work while describing their students as unique based on the rural locations they inhabited.

Students at the Center of Faculty Work

RSCC faculty members focused on student outcomes; they wanted their students to ask good questions, achieve their goals, and have the motivation, preparation, and skills to apply what they have learned. In addition, they wanted their students to gain grit, a growth mindset, and be able to solve problems. Faculty also hoped students would expand beyond their discipline and engage in extracurriculars. Their desires for students included the very pragmatic hope that they would be productive members of society, manage their time, have housing, a job, and the capacity to support their families. One microbiology faculty member spoke of her dreams for her students, stating:

...their education will lead to jobs that they will have long term; they will be able to support their families...Mostly my students are nursing, dental hygiene, and surgical tech with just actually a pretty small percent that is STEM in the STEM majors...

In addition, RSCC faculty also addressed the more profound hope that students would come to look at the world in a new way, have a passion for the discipline, and see the beauty in STEM. One biology faculty member spoke about how seeing the beauty in STEM can liberate the learner.

...I want my biology students to appreciate the beauty of the discipline...Of course, I am a little biased, but I am looking at biology as the philosophy of the universe. I want my students to live and breathe biology because, in so doing, I believe that they can put shoes on...; I think that we really take them anywhere...

Faculty had many ways to say that they want their students to gain science literacy and identity. For example, one faculty member spoke about wanting students to apply science literacy even when consuming social media.

I want [my students] to be well-prepared...I don't want them to go [to the university] or wherever they are going next, surprised or like they are not confident. So some of the biggest things [are] trying to build confidence...so they could go off and succeed; however, whatever they want, you know, I don't want all [to be] medical doctors, whatever they want to do...This is what I'm hoping...to better prepare them. So they can understand why [some] Facebook articles are wrong...

Gaps and Barriers to STEM Transfer

Faculty expressed the desire for their students to transfer. However, when speaking about barriers to the 2-year to 4-year transition, RSCC faculty referred to the long physical distances between the community colleges and the university. They saw relocation as a very pragmatic hurdle to overcome. They noted that it could be challenging for students to be away from home. One faculty member noted that the geographic separation was not only a constraint due to travel but

also due to cultural identity. He noted a strong link to the land: “We are a long way from [the university]. Not just geographically, but in the winter, it is almost impossible some years to get back and forth. And, we’re in a different bio-region.”

Regionally, participants also noted that STEM and biotechnology jobs and career opportunities might not be present, which may prevent students from heading toward those majors and engaging in course learning. The faculty discussed the deficit of direct opportunities within the discipline as barriers to student learning. For example, a chemistry faculty member showcased how his identity tied to STEM opportunities contrasted with his students' identities and location in the quote below.

Part of this issue is that in [our rural state], compared to other states where we had pharmaceutical companies, biotechnology companies, and medical schools within a 10-minute drive. Places where students can go and do an internship; they could work in the summer. We don’t have that here. Why should a student be interested in biotechnology when there is no company in [our state] within 100 miles? Why? We have not done a good job in attracting that kind of business; I don’t want to encourage students to major in chemistry; there are no companies for them to work at. I mean, where I was before, if a student graduated with a bachelor’s degree within two years, they would make more than a full professor at [our community college]. There is no such opportunity here. We are just like the prerequisite course for energy and engineering majors, and those who have graduated go into allied health fields; they go into... I don’t know where they go because we don’t see them.

These *not-around-here* discourses were shared across the statewide focus groups and seemed representative of the rural perspective of a resource deficit. Faculty expressed isolation in a landscape without industry or external support networks. This isolation was a deficit contributing to students' lack of interest in pursuing further STEM transfer.

Faculty also noted that students might be non-traditional or first-generation students. In addition, faculty identified other possible transfer barriers, including struggles with balancing priorities, not knowing how to fail, lack of confidence, and even mental health. Finally, faculty expressed that students may not have the needed prerequisites and may struggle in math or with upper-division courses that they may experience at the 4-year institution.

Administration and Policy Impact

The administration had a clear impact on the everyday work of RSCC faculty. In some cases, supportive administration and policies were noted. These included good communication channels and overt recognition by the administration of the work done by faculty. Additionally, few faculty noted that accreditation bodies provide favorable policies; they require that best practices focusing on students are implemented. For example, one exercise science faculty noted how these external bodies support faculty work. In the quote below, she is explaining how accreditors allow faculty to know their role in training students, but that the guidelines provided by external bodies may not be understood by supervisors within the college.

We don’t have external accreditors outside of HLC [The Higher Learning Commission]. I think that in and of itself is a unique challenge because we understand what we do, but the

person above me, my director, doesn't, and that's not a knock against her...I wouldn't understand her program either.

The administration was often perceived as a barrier to student-centered work. One faculty member expressed this in a way that showed a sincere disjuncture between her centering on students and her feelings about the administration's priorities.

I don't think our administration, I mean, to be honest, I don't think they put students first, and that's what we do 110% of the time. I mean, when I go, and I get my claws up, and I do, I will go slay dragons, and it's always on the part of something that is not right for the students, it just that can make me madder than anything, and I will go to the mat for students. Other things...[throws hands in the air], whatever...

Challenges faculty expressed in their interactions with administration included a breakdown in communication that signaled feelings of lack of recognition and insecurity about the work faculty do and their impact on students. In addition, as noted by one faculty member, administrator apathy in work done by faculty members was discouraging.

Our administrators, I think, over the years have progressively gotten a little more, I don't know if out of touch is too strong, but they communicate in ways that I think they miss out a lot on what it is we are really doing. And I think there's a lack sometimes of connectedness, and sometimes even appreciation for what we're doing. So it's hard for them to recognize what we do, even when we communicate to them, there seems to be a lack of real authentic interest on their part to really encourage us to try to do more and to do the best possible jobs that we may undertake that may be tied to the community or may be tied to other assignments.

Faculty perceived the administration as reactive, bad at follow-through, and lacking transparency. In contrast, some faculty had experience working in some form of administration and recognized the challenge embedded in the work. Other faculty expressed dissatisfaction with what appeared to them as the administration not pulling their weight, being reluctant to embrace change, being disconnected from faculty, and being fraught with turnover. In the below quote, the faculty member relates how administrative turnover and indifference required faculty to do work that is perceived as not being faculty work.

I've been through a gazillion administrators since I've been here, but I don't think our current administrators pull their weight. We used to have administrators who worked hard to ensure they understood the catalogs, programs, and scheduling...The major issues that faculty deal with, and we didn't have to do that. We're suddenly doing it, we're rewriting the catalog. I mean, it's not our job; it's way above my pay grade. I'm just going to tell you, way above my pay grade already.

For those faculty members with institutional knowledge, tenure, and a long history of *how it has been done*, frustration seemed more acute. In addition, in spaces of high-turnover change, the ambiguity toward different policy stances poses a problem to those who have served in the community. Many faculty felt that the administration was not empathized with our respected. They

yearned for more committee or consultative feedback from faculty to administration and for implementing data-driven policies rather than the perceived politically- or liability-driven decisions.

Emotionally-Heavy and Invisible Work

RSCC faculty expressed that they do a great deal of unpaid and emotionally-heavy work. Therefore, we employ the term *invisible work* to describe the aspects of emotionally-heavy work that are unpaid and not enunciated in the formal job description (Daniels, 1987). For faculty, emotionally-heavy work often included learning new pedagogies, implementing active learning, and designing online courses and syllabi. Advising was expressed as a significant form of invisible work. For example, faculty connect students with internships, co-curriculars, and help with post-grad applications. In addition, they write letters of recommendation, build student relationships, often through extensive out-of-class interaction, and supervise student research. They teach students self-efficacy and how to learn, study, and be in a profession. They articulate across colleges and with student services, complete procurement procedures, and are involved in student recruitment and retention. They related that time spent emailing could drain morale. They not only work with the administration but also take on administrative responsibilities. Overall, RSCC faculty play many critically important roles.

The work of the community college faculty member in engaging with students for supporting transfer was described primarily within the informal and casual conversations outside of class or on the edges of the class. The faculty member helps mentor students through interactions by suggesting internship opportunities, transfer schools, and advising. In addition, RSCC faculty work facilitates knowledge transfer to settings outside of the rural community. For example, in the below quote, a faculty member speaks to the lack of opportunity awareness and the complexity of decision-making facing students. Also evident in this quote is the care that the faculty member takes to center the student within the community while at the same time offering long-term, STEM-based options.

There used to be internships in the summer. In the past, we had several students come down to NASA for a summer internship, but sometimes they walk in and still don't know what the possibilities are. [They would say] I am going to work at Walmart in the summer. And I say, "you could if you want to, or you can go work in the chem lab." So, part of the challenge is getting information, feeding it to them, and giving them the motivation.

An example of the invisible work can be found when faculty describe their navigating the shift from a distributed advising system with faculty advisors to a centralized one with professional advisors. When the administration moved the college toward centralized advising, the role that faculty play as advisors was removed from their job descriptions, and thus they were not compensated for it. However, they still do the job because they can offer things that professional advisors cannot. For example, a faculty member describes the new system:

It's like if you made a connection with a student in a way where they feel comfortable coming to you with their questions about classes. But I believe that the kind of feeling initially was like—that's not your domain. So now it shifted to be it can be, and faculty are potentially an important part. However, there aren't any formal processes, policies, procedures to have faculty be in an advisory capacity.

The RSCC focus groups highlighted the challenges of having no transparency or shifting job requirements. Because RSCC faculty work is primarily teaching and engagement, changing relations in what is counted and what is not creates disjuncture and appears to the faculty to be pulling them away from essential student work. For example, some faculty addressed the want to document service hours to indicate how the faculty member's work extends beyond a typical 9-to-5 job. For example, faculty participated in informal advising and out-of-class work with researchers and students, as well as community and statewide leadership and engagement. Again, this work fell under service to the community with limited policy governance and compensation.

Discord stemming from work requirements not governed by policy texts or connected to ambiguity from the administration created additional faculty stress characteristic of a broader distrust of the institution. RSCC faculty members balance the challenge of the lack of clarity in policy and procedures in different ways subject to their standpoint.

Depending on how frequently those check-the-boxes requests with no explanation or rationale like I, I think it can kind of crush morale and that, may unintentionally be obvious to the student...It's sucking focus and energy from our why, which is our learners in our classrooms that we are building that rapport with and that connection. And I think it can; it can be like an energy vampire.

Participants expressed mixed responses about whether this discord between administration and faculty relations would trickle into the classroom and impact their relations with students. Many faculty expressed that they worked hard to protect their student work from the discord in the institution. However, the analogy of the "energy vampire" signals that some faculty acknowledge and make concessions that some work not directly related to faculty-student relations does impact the student.

By listening to participants describe their intentions to engage with the policy-making apparatus of the community college, we see their increased desire to sanction their work through texts. Our focus group discourses further highlighted the faculty's desire for policies and processes that better supported their faculty-student work relationship. Though RSCC faculty are engaged in the administrative work in the community college through serving on committees inside and outside the college, this work is less connected to their work with the student and less transparent. Faculty morale is impacted when faculty-student relationships are left out of this work and policy decisions affecting the work with the student are made without a clear rationale. As exemplified by the quote below, morale is again affected when additional policy and organizational function area changes are made because of decreasing funding or increasing resource constraints rather than students' best interests.

I know it's policy, but it's money. It's all about money. When we were doing embedded tutoring, having students go to class, and then students would be comfortable using [tutors] afterward. [We wanted] to give some release time to faculty, then they will come up and do some tutoring, and that's all gone away.

Furthermore, looking at the documents that mediate the work and the relationship between the faculty and the student makes the distinction between the document and the actuality more apparent (Smith, 1987). One example of a document representing invisible faculty work is letters of recommendation. Letters of recommendation stand in for the care and the time spent by the

faculty with the student. They require a relationship built through repeated interactions. Furthermore, the faculty in writing the letter uses her or his reputation to vouch for the student. Faculty find writing letters of recommendation an essential and emotional aspects of their student work, as noted in the below quote.

So, when I was teaching calculus, I worked a lot with many students who came to me asking for things like letters of recommendation for scholarships or different summer programs they were trying to get into, and so that was something I cared about; I wanted to help them with that and did.

Faculty identify the varied texts that guide their work in writing letters for recruiting, creating program plans for advising, and writing letters for students who aspire to transfer. These texts document the care and relationship building that are formative aspects of faculty work for student transfer. RSCC social capital and networks are used to advance the student through texts. Student success and achievements along established faculty networks are emblematic of their influence and place them on the front lines of student work in transfer. Faculty in our focus groups said that they liked it that way because it draws them closer to student success. For example, in the quote below, a faculty explains how the same connections were made for them and were instrumental to their success.

I keep all my documents from when I was an undergrad. I have all my transcripts from high school, college, and grad school. I have all my internship letters from the various labs I've worked at. I have all my acceptance letters to graduate schools that I had gotten accepted into; I even have a stack of rejection letters, you know, and I just showed them here was my route of going here first and doing this, doing that. And this was, these were my grades. This was what people said about me. This is what I had to go through and all of the ups and downs and all the different crashes that go into being a professional.

These texts can decrease isolation and bridge the gap between regionally inaccessible STEM opportunities and the professions. Additionally, these texts negotiate the actuality of the out-of-class experiences and the unpaid invisible work of the faculty that form the relationships for which these texts stand.

Social Relations Organized Around Technology

In a landscape of increasing resource constraints, RSCC faculty members expressed their disdain for efficiency measures used to consolidate work areas and decrease costs and how they impacted the student. These efforts to specialize through functional areas impacted faculty-student relationships. In addition, they relied on the increased adoption of technology and information management systems.

At all participant colleges, faculty focus group participants expressed the drive to greater online instruction as a point of tension between what faculty saw as good for the student and what the administration was telling them. Participants acknowledged how online learning could allow for greater outreach of courses to more remote areas and older age demographics and how their administration sees it as having the potential to increase enrollment. However, participants also

expressed concern that their work to connect with the student would be lost in favor of a more standardized curriculum. One faculty member described this paradox of online learning this way.

So we almost have a paradigm shift. I mean, we just have different groups of people. So, to me personally, I prefer to [teach in person], but you're talking about partnerships and connectedness... But I think that connectedness...I don't think every student can handle an online class, and I don't think it's the best delivery method, but sometimes, just for some groups, it's the only delivery method.

A biology faculty member from another college recounted their administration's approach to shifting online, stating:

Now they do try and force like online, you know, completely online labs, there's pressure, (but we are fighting it). So there is a little pressure from the administration to do things that are not in the student's best interests [and] are somewhat dishonest, you know, trying to make online labs...But, you know, I understand there's a need for more students, more money. So they're not saying this out of spite. But no, otherwise I think they're relatively supportive, though they don't provide a lot of equipment for biology labs.

Some RSCC faculty participants expressed dislike when their everyday work became more specialized and limited only to their disciplinary expertise. These faculty members wanted to be recognized for their contributions to excellent teaching over their expertise in the STEM field.

I mean, yeah, people want to say we're experts in our field, and I don't want to poo poo what we're doing, but, speaking for myself, I'm a community college educator, cause I want to teach...And if there's a disconnect, if there's an isolation that I sometimes feel from the faculty stance versus the administrator stance, is it just that they see us as experts in our field.

An additional way that another former faculty and now faculty developer stated this concern about being marginalized due to technology was found in the relations of his position as a faculty developer, being moved from academic affairs to technology support. He expressed the attitude of the administration not recognizing the faculty-development work being done to help solve student concerns, being one based on technological support and not relationship building as one pushing him away. This feeling that a dualism conceptualized in this work was continually draining was exemplified in this comment.

You know that in just the 20 years, I said multiple factors, and I think maybe I'm starting to wear now. So yeah, I think I'm being worn down, just normal wear and tear. This is the attitude that is pushing me away.

Feelings of Connection and Isolation

Some RSCC faculty expressed isolation in the void left when colleagues depart. They expressed the feeling of vacancy, feeling that "no one is here anymore." Those working off campus expressed distance as a form of isolation. Likewise, department siloing or perceptions of STEM as a "boys club" were noted as isolating. Some faculty felt that isolation stemmed from being in a

landscape without industry or external support networks. When communication was perceived as dysfunctional, morale was low, or feelings of being devalued were present, this further contributed to isolation. Others noted that they felt isolated when doing work that did not directly benefit students or faculty.

Connection stemmed from having a close department, collegiality, and colleagues who felt like family and advice givers. At all of our participating community colleges, faculty spoke about the support provided by fellow faculty. While different faculty members expressed variable relationships to the network, they spoke about these connections as lessening isolation. The below quote speaks to the importance of colleagues as advice-givers.

I think having that support with your colleagues and those who [you] go to get feedback. And that is such an important part of what we do. You know, I think we have a great department and integrated goals. So, we have a really good working relationship, and I know that if there is anything I need, any of those people will be there.

Additionally, one faculty member explicitly related the importance of physical proximity to their colleagues.

So I feel like I can go to anyone, you know, so one of our faculty members not here right now, the other bio professor, like we are physically close. So, it's very easy to go to him, but I feel like I can reach out to anyone else...I could reach out and get advice, help people, you know, struggling [with] things, student issues...

Faculty noted that the small college network and small class size nurtured feelings of connection. The connection is also derived from cross-college networks and academic and professional networks. Some participants related that statewide networks could build connections across the disciplines and even interdisciplinarily support and re-engage them and their students. In the quote below, a faculty member speaks about the impact of a grant-funded university program called INBRE (the IDEA Networks for Biomedical Research Excellence Program). The program aims to enhance research capacity statewide and fund biomedical research opportunities for undergraduate students.

It was very lonely, intellectually, until I became involved in INBRE, and INBRE, to me, the statewide network, and also our local [community college] network, is the most fulfilling thing because I have intellectual colleagues, and some of the colleagues are students.

RSCC educators also noted that students nurture feelings of connection. Active learning course development was identified as a contributor to these connections because of team collaboration and more communication between student-student and student-faculty. For example, in the quote below, a chemistry faculty member relates how this shift enabled him to better connect with his students' needs.

The students are really the key, and now in active learning, you know, it's good because I could see more frustrations on students before they sit there on their phones or doing whatever.

Through relationship building within active and team-based learning, faculty gained more connection with their students. Additionally, some faculty members used surveys to learn about their students' aspirations and how they oriented the STEM course within their goals. Finally, aligning the course content to career trajectories and the completion of degrees, even if the course content is part of general education, helped the teacher build connections with the students and have the empathy to address students' hardships on the journey.

Connecting with the students through capstone courses and extracurricular research in these labs bridged the community college faculty across the state and provided additional financial and academic support for students. Connecting the students to research practices was supportive, securing the experiences that made students competitive for transfer to bachelor's, graduate, and professional degree programs. Additionally, when the RSCC faculty member saw the student as an intellectual colleague, the opportunities within the student's reach seemed to expand. However, these expanded research opportunities were not openly available to all students due to resource availability and other space or institutional constraints. The faculty were primarily the ones who determined which students were advised to pursue additional research opportunities.

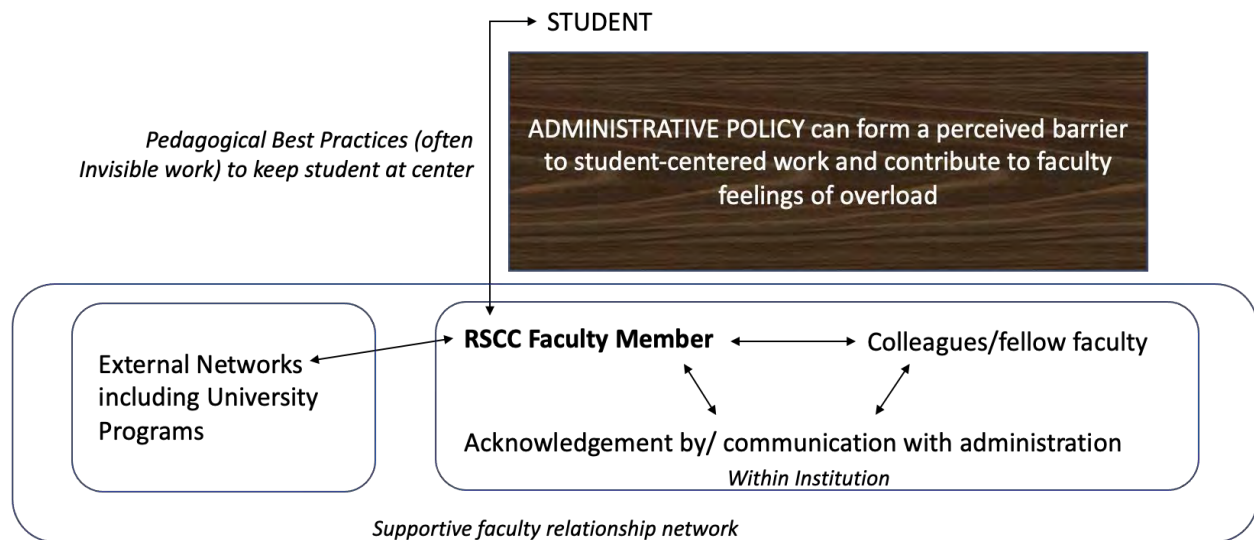
Discussion

Our study focus groups took the stance of and provided space for RSCC faculty in Wyoming to authenticate their knowing. Faculty members' embodied knowing was shared in words and through emotions sometimes visible through tears. We looked at the texts and the absence of texts and how this portrays and impacts faculty work. Overall, we were able to explicate the ruling relations wherein the RSCC administrators' roles and actions depicted that the student was not always at the center of decision-making for administrators as opposed to students being the guiding light for RSCC faculty work. Overall, the thematic areas that emerged from our IE are discussed below, illuminating questions such as: Whose interests are being served in rural institutions? Moreover, how do politics and power play into this everyday work at each college?

Our findings agree with other studies in that they showcase how RSCC faculty and staff coordinate their actions and organize their daily lives around critical notions of the value of labor, access, and institutional mission (LaFrance & Nicolas, 2012, p. 133). For example, the themes of our work, when considered through an IE lens, elucidate a research problematic.

Herein, we describe the understanding that faculty have about best practices in teacher-student relationship building and how that grinds with administrative policies and overwork that create barriers to building those relationships. There is an implicit tension in this paradox. The faculty want to maintain students at the center of their work despite the ever-encroaching barriers caused by ruling relations. They perceive themselves as continuing to do the student-centered and community-serving work that they know to be important despite the barriers that are present in the administrative policy. This work becomes invisible work in addition to being heavy and exhausting. However, faculty express that the positive relationship networks maintained with fellow faculty colleagues, supportive administrators, and external support networks support them in doing the heavy work. We aim to depict this complex problem in Figure 1(next page).

Figure 1: *Problematic of RSCC Faculty Members Supporting Students Despite Administrative Barriers*



Note. This model shows that the RSCC faculty member relies on a supportive relationship network to overcome the barriers of administrative policy. Practices part of the RSCC toolkit to bridge these barriers include pedagogical work and caring to keep students at the center of the community college's mission.

Academic isolation has been shown to decrease job satisfaction and contribute to struggles with mental health (Belkhir et al., 2019; Ponjuan et al., 2011; Sullivan & Baruch, 2009). Relationships between educators are vital to enabling positive change (Daly et al., 2010). RSCC faculty members spoke about their feelings of connection as they derived from colleagues in their daily work landscape. Within the framework of IE, these relationship networks are essential to creating the daily world experienced by educators. IE recognizes relationships as the “connections that hold the thing together” (DeVault, 1999, p. 50). The relationships fluctuate but are material and physically tangible (DeVault, 1999). We find it particularly striking that educators spoke descriptively about the materiality of the relationships, one noting, “like we were close like we’re physically close. So, you know, it’s very easy to go to him...” The importance of this physically accessible source of connection seemed particularly palpable in the post-COVID testaments. Through RSCC faculty members’ discourses around isolation and connectedness, we could also see where holes exist in the network. Faculty spoke emotionally about losing key network members and clarified how this decreased their ability to support rural students’ learning and higher education attainment.

RSCC faculty related a heavy and unpaid workload outside their job description. This type of work has long been referred to as *invisible work*—a term coined by Arlene Kaplan Daniels in 1987. Many scholars have since used it to refer to many types of labor, including but not limited to emotional labor (Hatton, 2017). The latter is particularly applicable to our focus group participants as they spoke about the invisible work of writing letters of recommendation and supporting students through unpaid advising, advice-giving, and mentoring. This heavy invisible work manifests in ruling relations as policies such as centralized advising that give the facade of removing the load from faculty members. However, functionally the faculty continue to be the students’ nearest advice givers, so advising becomes invisible work. Invisible work economically devalues certain types of work, and in so doing, it marginalizes that type of work (Hatton, 2017). This work

is often essential to minority and marginalized students, and thus the overt devaluing of it only serves to disadvantage these students further.

However, despite feelings of overload, faculty often overtly stated that their overwork did not affect their students despite what is known about how students are highly impacted by instructors (Rokach, 2016). Thompson (2001) studied community college students and showed that informal student-faculty interaction directly influenced the effort community college students exerted in science courses. Moreover, teacher-student relationships have an affective dimension, including honesty (Hagenauer & Volet, 2014). It seems unlikely that overloaded instructors can spend as much informal time with students or honestly relate happiness when they feel overloaded. We believe the paradox in these two themes to be significant and bring it to the forefront here to enable our readers to consider the dissonance. From our standpoint, we recognize that this paradox lies in the lack of control faculty feel in affecting the ruling relations over them, but they maintain that they can control how they rule over students.

Located knowing was also seen in our focus groups in which faculty expressed place-based impacts on their own and their student's experiences. Feelings ranged from expressions of the strong connection to the natural lands to impacts of isolation in rural spaces. However, RSCCs varied and were directly impacted by regional industries and resource bases. Gaining this knowledge about each community college context enables us to utilize an ecological perspective when designing curricula for our planned learning communities at each institution (Gibbons et al., 2019). We will aim to knit in each institution's cultural and land-based uniquenesses to maximize our work's effect on opening inclusive pathways to continued STEM education.

Practice Implications

Through the conversations that emerged from the focus groups, we agree with Finnegan (2019) that RSCC faculty serve many roles to support their students' learning success. However, RSCC faculty also described characteristics of the space that impacted the roles and work completed with their students. For example, isolation and the lack of connection to STEM industries were points of struggle but finding networks to reconnect across the state through research or teaching networks was supportive. In addition, the faculty offered the following points as ways to address the unique challenges and opportunities found in this space:

- Eliminate and transform discourses about students' "deficits," regarding the spatial processes of transfer as one where students attempt to move to a new and different environment but may return due to a lack of confidence and insecurity in those environments.
- Be mindful of the impacts of high turnover and short tenure. Faculty networks support morale, allow educators to do multidimensional student work, and utilize all function areas to support the student.
- Utilize transparency in administrative policy-making and consultative feedback mechanisms to hook RSCC faculty into the practices that impact work with supporting students.
- Support intra and inter-institutional and interdisciplinary research that adds network ties across the state and supporting student-faculty work. Recognize this work as supporting community engagement and student success and transfer.

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