

# Exploring Family Medicine Residents' Experiences Teaching Medical Students

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## Abstract

**Introduction:** Near-peer teaching offered by residents is common in a medical students' educational career, so preparation of residents for their role as teachers is essential. Understanding resident perspectives on interactions with medical students may provide insight into this near-peer relationship and allow stakeholders to emphasize concepts that add value to this relationship when preparing residents to teach. This study presents the results from an inquiry focusing on a cohort of family medicine residents' experiences with medical students in their role as teachers.

**Methods:** Family medicine residents at a Southeastern US academic medical center participated in one of three focus groups to assess resident perceptions of their role in teaching students and approaches employed. We coded focus group transcripts for themes.

**Results:** Themes identified from questions on residents' perceptions of teaching role and employed teaching approaches focused on teaching interactions and methods. Six categories of major themes were derived from this qualitative analysis: (1) the learning environment, (2) stimulating learning, (3) supervising, (4) role modeling, (5) collaborating, and (6) transferring knowledge. Trends within these categories include creating a safe environment for clinical reasoning and inquiry, setting expectations, developing clinical reasoning skills through practical application of knowledge, providing appropriate student supervision and autonomy, and including students as part of the team.

**Conclusions:** Residents adopted a variety of teaching approaches that assist medical students in their transition into and ability to function within a clinical environment. Findings from this study have implications for program directors and educators when preparing residents as teachers.

## Introduction

Resident teachers contribute a substantial amount to the educational experience for medical students. Multiple stakeholders, including residency programs,<sup>1-3</sup> the Liaison Committee on Medical Education,<sup>4</sup> and the Accreditation Counsel for Graduate Medical Education,<sup>3</sup> have increasingly emphasized the preparation of residents to teach.<sup>1,2,5</sup> Although there are core pedagogical concepts that should be incorporated into curricula to prepare residents teachers,<sup>3</sup> these programs may require different foci than programs designed for faculty.<sup>6</sup>

Qualitative studies on student perspectives of quality resident teachers indicate creating a safe learning environment, team inclusivity, coaching, and feedback are qualities valued by medical students in resident teachers.<sup>7</sup> Residents recognize their role as teachers and need for preparation to teach,<sup>8-11</sup> however there is little in the literature about residents' perspectives on their experiences teaching students.

As near-peer learners, the interactions between medical students and residents differ from those between medical students and faculty. Near-peer teaching offers multiple benefits,<sup>5,12,13</sup> including cognitive congruence, and the ability to foster a safe learning environment, because teachers better understand learner challenges, and learners feel comfortable with sharing knowledge deficits.<sup>12</sup>

Understanding residents' current perspectives about teaching medical students can provide insight into the near-peer relationship between residents and students and allow stakeholders to tailor training programs by emphasizing concepts that add value to this relationship. This study presents the results from an inquiry focusing on exploring a cohort of family medicine residents' experiences with medical students in their role as teachers.

## Methods

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The Augusta University Institutional Review Board approved the study. We developed this phenomenology study<sup>17</sup> using focus groups in consultation with faculty appointed to Augusta University's Educational Innovation Institute with expertise in qualitative research. We utilized focus groups to allow the use open-ended questions to individual and shared perspectives on resident experiences.

The predetermined set of questions with associated themes relevant to the objective of this study are included in Table 1. A practice focus group session ensured question clarity.

We invited all residents (N=31) from a family medicine residency program affiliated with a Southeastern US medical school to participate. The principle investigator (PI) introduced the study to the residents face to face during protected educational time. This convenience sampling of invited participants attended one of three focus group sessions offered during nonclinical time in the regular workday and voluntarily consented to participate. The fourth author (D.S.) was the focus group facilitator, and although known to the participants, she had no role in resident evaluation in her role as the departmental medical student program manager.

The audio recorded focus group sessions were held privately at the residency site with only the participants and facilitator over approximately 1 hour. The PI transcribed the audio, which was cross checked by the facilitator. We destroyed audio files to protect confidentiality.

Six study team members individually coded the deidentified transcripts from all three sessions for themes. Prior to group coding through an iterative process, the study team agreed on criteria to determine final themes: (1) multiple reviewers must agree, (2) theme could not be better accounted for by another theme, and (3) theme had supporting quotes from more than one resident. We held team meetings if at least three members of group were present. Second-cycle coding was done by PI to summarize study team's derived themes. The study team reviewed and voted, all in the affirmative, on the second-cycle coding of final themes, definitions, (Table 2) and supporting quotes identified by resident postgraduate (PG) level.

We shared derived themes with resident participants. Although response rate low, they agreed on content. We invited two additional faculty who did not participate in the initial coding process to peer review finalized themes, definitions, and supporting quotes, and they agreed on the relationship between themes and supporting quotes.

## Results

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Eighteen residents (six PGY1, nine PGY2, and three PGY3) participated in the study. Emerging themes of residents' experience with students in their role as teachers centered on teaching methods. These themes and their definitions (Table 2) fell into six categories: (1) the learning environment, (2) stimulating learning, (3) role modeling, (4) collaborating, (5) supervising, and (6) transferring knowledge (Table 2). Table 3 presents supporting quotes for themes.

## Conclusions

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Residents identified their role as teachers in the setting of their interactions and employed teaching approaches as opposed to internal motivations, or their contribution to undergraduate medical education. Residents perceived that experiences teaching medical students focus on the medical students' transition into and ability to function within a clinical environment. Teaching medical knowledge was a minor part of their teaching methods.

Emerging themes that support residents' perceived experiences about medical student transition into the clinical environment are giving students a safe place to reason away from the attending physician, providing expectations of what to do so students can participate in clinical care, and including students as part of the health care team. Emerging themes that support residents' perceived experiences regarding medical students functioning in the clinical environment include modeling patient care and assisting students in their development of clinical reasoning and application. They supervise students, but give students autonomy to practice patient care skills.

These emerging themes add to the limited literature on residents' perception of their experiences with students in their role as teachers. The similarities between the emerging themes and some of the behaviors students value in resident teachers<sup>7</sup> further support existing studies on resident teaching behaviors valued by medical students. A potential broad application of these findings is to inform relevant stakeholders about concepts to emphasize in preparing residents to teach students so residents are given tools to effectively leverage existing interactions with students in the clinical environment.

The limitations of this study are that findings reflect the perspectives of a resident cohort at a single institution, and they were primarily PGY-1 and PGY-2 residents.

Future directions include a follow-up study on resident perspectives on their internal motivation for teaching, barriers and challenges to teaching, and how resident and student interactions differ based on level of training and trend over time in individual residents as they progress.

## Tables and Figures

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**Table 1: Select Focus Group Questions**

What is your role as a teacher?
Describe your approach to teaching medical students on the inpatient wards.
Describe your approach to teaching medical students in the clinic.

Additional prescribed focus group questions were asked, but only questions from the focus group that resulted in themes related to objective of the study are included in this table.

**Table 2: Definitions, and Coded Themes on Resident Experiences With Medical Students in Their Role as Teachers**

	Definition	Corresponding Coded Themes
Learning environment	Resident creates an environment of inquiry and safety for student, and helps student navigate patient care tasks and the health care system.	<ul style="list-style-type: none"> <li>• Creating a safe space for clinical reasoning and interpretation</li> <li>• Setting up expectations for the students</li> </ul>
Stimulating learning	Residents ask questions of students to understand clinical reasoning, and explain rationales for management decisions.	<ul style="list-style-type: none"> <li>• Asking the student questions</li> <li>• Helping students interpret values</li> <li>• Helping students develop clinical reasoning skills through practical application of medical knowledge</li> </ul>
Supervising	Resident provides supervision of clinical activity, and gives independence based on these observations over time.	<ul style="list-style-type: none"> <li>• Scaffolding approach</li> <li>• Supervising learner's initial independent patient interactions and oral presentations</li> </ul>
Role modeling	Resident demonstrates appropriate patient care and communication skills.	<ul style="list-style-type: none"> <li>• Role modeling patient care</li> </ul>
Collaborating	Resident includes students as part of the health care team.	<ul style="list-style-type: none"> <li>• Helping students to function as part of health care team</li> <li>• Including students in patient care</li> </ul>
Transferring knowledge	Resident shares and acquires medical knowledge.	<ul style="list-style-type: none"> <li>• Providing students' knowledge foundation</li> <li>• Teaching patient care skills</li> <li>• Structured opportunities for peer teaching</li> </ul>

**Table 3: Selected Quotes on Resident Experiences With Medical Students in Their Role as Teachers**

	Selected Quotes
Learning environment	<p>"I feel [that when] the attending asks the medical student [questions] they are going to freeze up and be unsure of themselves, but not talking to a resident. So, I ask them: What [are] the problems? What do you want to do? Then I converse with them about what I would do and [tell the student] I agree with you on this and disagree with you on that."(PGY-1 family medicine resident)</p> <p>"...I sit down with the medical students the first day ..., and tell them: this is your level, this is what I expect you to be able to do at this level, [and] if you have any questions at all please let me know. Then I set up a structure for them for their day so it [is] easier for them to be able to operate [on] the [rotation], and they don't feel they are floundering out in the wilderness for the first couple of days of the rotation" (PGY-2 family medicine resident)</p> <p>"I think it is also important to remember that the onus is on us to have the medical student feel comfortable." (PGY-3 family medicine resident)</p>
Simulated learning	<p>"With each patient I try to ask them prompt questions to help them understand what we are looking for." (PGY-2 family medicine resident)</p> <p>"How to make meaning of blood pressure, vitals, and physical exam. How [the visit is] structured, how [students] look at a patient and make their way through a clinical interaction rather than just take at face value what the patient tells them. How to go in with a plan on how they will interact and engage with the patient to cover all bases (PGY-2 family medicine resident)</p>
Supervising	<p>"... [I] let them start as a reporter, and then with each patient I increase the level of responsibility. Each time we see a patient for that first day, I slowly acclimate them to what we look for."(PGY-2 family medicine resident)</p> <p>"What I have noticed is that if you just send a student in the room to see the patient, after you get the patient's consent of course, let the student do the history and physical and then let them present to you one-on-one, you get a good feel for where they are at in their skills and then continue to work through and talk with them about differential diagnosis and plans." (PGY-2 family medicine residents)</p>
Role modeling	<p>"...All of us has something unique that we can offer as a teacher and as a physician. You can show the medical students the way you approach a patient, how you show empathy, or how you manage difficult situations, and how you just come in and introduce yourself, [and] shake hands."(PGY-3 family medicine resident)</p>
Collaborating	<p>"I definitely think the residents' teaching the medical students helps [students] to learn how to function in the hierarchal structure of residency..."(PGY1 family medicine resident)</p> <p>"Model collaboration with the many moving parts involved in patient care and how medicine works in general." (PGY2 family medicine resident)</p>
Transferring knowledge	<p>"My role is to fill in any gaps for the medical student and [teach] them to transfer textbook knowledge to the clinical setting." (PGY-2 family medicine resident)</p> <p>"Morning report was a time that felt like a very collegial time...when we were all here to learn. The medical students brought quite a bit to the morning report [discussions] and some of the students were presenting"(PGY-3 family medicine resident)</p>

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