# Understanding Resident Teaching Perspectives

Qualitative Research, Fall 2014

Jennifer Di Rocco, DO

## Introduction:

The following is my account of a qualitative study with pediatric residents in which I tried to better understand upper level residents' perspectives on teaching. This academic year, I have helped to launch a new upper level teaching rotation that affords each PGY-3 pediatric resident an individualized opportunity to practice and reflect upon many aspects of teaching, including lecturing/facilitation skills, curriculum development and mentorship of junior learners. This experience is shaped to include the subject matter and modes of the PGY-3's preferences with the goal of creating a portfolio each resident can utilize after graduation in whichever career path he or she chooses. In developing and modifying this rotation, it quickly became clear that understanding more about how upper level residents perceive teaching and learning, and specifically understanding the factors that contribute to their self-confidence and success as educators, is a very important baseline for helping to ensure a more meaningful rotational experience. This small study utilized focus groups and an anonymous online environment to gather resident teaching perspectives.

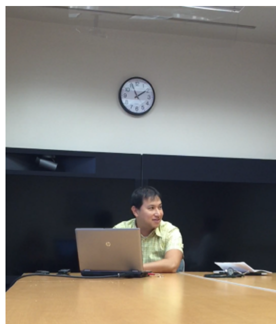

Figure 1. *Dr. Raphael Buencamino, leading a practical and interactive educational session in Conference Room A with junior medical students on how to use Pubmed to maximize their literature searches.*

## Research Questions:

My research questions center around two areas that I believe affect a resident's teaching ability and confidence. With this small study, I wanted to better understand the specific queries of "What attributes do residents perceive as contributing to being a good clinical teacher?" and "What are the perceived barriers that interfere with residents' ability to succeed as a clinical teacher?" As the study progressed, I was able to gather much more data through discussion on the first question, from which the majority of the themes I noted were generated.

## Background and Literature Review:

As new residents work on finding their clinical footing in the hospitals and clinics, they must meet many performance expectations. After many years of being "professional students," medical school graduation marks the beginning of the young physicians' hybrid role as simultaneous learners and teachers. Interns are suddenly expected not only to take meticulous care of their patients and constantly strive to learn the best new diagnostic and therapeutic options, but also to function as educators of younger learners. In fact, pediatric residents need to demonstrate competence in teaching as outlined in the Practice Based Learning & Improvement section of the Pediatric Milestones created by the American Council of Graduate Medical Education and the American Board of Pediatrics (Carraccio et al., 2013).

Having had the experience of interacting with many teachers along the path towards becoming a physician was initially the only "training" that residents had in this role. Formal instruction for residents to learn the skills of being a good teacher was encouraged by a "Residents as Teachers" curriculum, such as the example

workshop provided on MedEdPORTAL (Palamara & Ray, 2014), but the most popular resources for this were largely based on faculty performance and needs (Karani et al., 2014). In a mixed methods study utilizing focus groups of medical students and residents, the resounding themes of good resident educators were those who demonstrated respect, created a safe learning environment, were able to balance necessary supervision of the students with experiences of autonomy, and those who taught relevant topics and delivered appropriate feedback. Residents noted the difficulties in maintaining their dual roles as students and teachers (Butani, Paterniti, Tancredi, & Li, 2013). This study also found that the quality of resident teaching had a large impact on the medical student experience during that clerkship and more importantly, the future career choices of those students.

In exploring the ways that students learn to be teachers, Henry et al administered a survey to 3rd year medical students and 1st year residents to probe this question (2006). They found that the three areas rated the highest in contributing to one's experiential learning towards becoming a teacher of others in the clinical arena included observing effective educators in practice, reviewing teaching curricula and learning through directly teaching other students (Henry, 2006). Other studies have demonstrated a way of supporting residents in the teaching role is to offer them the responsibility and title of the "teaching resident," and they rise to the challenge (Jamshidi, 2008). In this study, surgical residents were given this title and time to focus on their teaching skills for junior learners, which resulted in their demonstrating increased interest and effort in being effective educators. Residents showed initiative to develop their own curriculum

and reflection on their own teaching styles. Other positive effects of this teaching experience included increased team leadership and better experiences for students on the surgery clerkship (Jamshidi, 2008). Offering residents teaching opportunities in leading mock codes was also successful in improving their confidence in curriculum development, facilitator and feedback skills, as shown in a study at Duke Children's Hospital (Sweeney, Stephany, Whicker, Bookman, & Turner, 2011).

Karani et al explored the attributes of the most effective resident teaching in a qualitative study with focus groups of medical students. They found seven domains in which students appreciated resident aptitude when functioning as an educator: role-modeling, keeping a focus on teaching, maintaining a safe learning environment, offering students experiential learning opportunities, giving continued and relevant feedback, setting expectations early and creating an environment of inquiry (2014). Residents valued their role as a teacher to medical students, estimating ¼ of their total time was spent on this activity. This paper discussed the limitations that duty hour restrictions have on resident education, noting that professional development activities geared towards teaching need to be efficient and high yield. The paper concludes with a charge for programs to create Residents as Teachers curricula that are based on actual needs and expectations of residents by students rather than trying to fit teaching behaviors of faculty to residents (Karani et al., 2014).

A group at UC Irvine was able to complete a study that was compelling in both participant size and longitudinal data input, included a 5-year span of information from 73 residents. Each resident participated in a month long teaching

rotation in the PGY-2 year, and the experience was wholly positive in creating better resident educators. Participants noted four main areas of improvement following this teaching rotation, including feeling prepared to teach, having a healthy level of anxiety regarding teaching, confidence in their teaching ability, and being aware of their learners' expectations of them as educators (Le-Bucklin, Hicks, & Wong, 2011). The residents in this study were noted to have a high level of enthusiasm before the rotation ensued; no difference was found in this sustained enthusiasm by the rotation conclusion.

The perspectives of residents on teaching often differ from those of faculty. In a recent study, when both parties were separately queried in semi-structured interviews for their opinions on characteristics of good medical educators, they had overlap in areas of openness, adaptability and role modeling, but differing answers in the practical application of these attributes, with some trouble communicating their varied perspectives (van Roermund, Mokkink, Bottema, van Weel, & Scherpbier, 2014). Residents disclosed the greatest barriers to creating a successful professional relationship with faculty and maintaining a learner-centered environment was the poor communication surrounding expectations (van Roermund et al., 2014). These findings have greater implications for the resident as teacher, having recently been in the shoes of the medical students and understanding their unique needs.

In summary, learners in medical training may initially struggle with the role of also being an educator, but as they are professional students with a myriad of experiences, they are able to define those attributes associated with good teachers.

Some of these attributes are noted to be consistent between studies. Given appropriate support and structure, residents are able to make progress towards becoming confident and successful educators. Faculty and residents do not always share a mental model of what characteristics are desirable in effective teachers, and further investigation may shed light on bridging the gaps in this area. Understanding the characteristics that our residents desire in an excellent teacher is the main purpose of this study, so that we may start to bridge that gap and best support our residents towards their ideal roles as educators.

## Data Collection & Analysis

Building on the existing literature, this study was designed to explore local senior residents' perspectives on the learner-teacher continuum through small group and online discussions. The main purpose of this study is to better understand the factors that have contributed to this group's perceptions of what it means to be a great teacher and how they see themselves along the path towards successfully achieving this goal.

### *Informant Selection*

All second and third year residents (n=14) in the University of Hawai'i Pediatrics Residency Program were recruited through email for voluntary participation (Appendix A). As the aim was to understand the upper level residents' experience and perceptions, the first year residents were excluded from participating. My institution granted Internal Review Board exemption status for this project; all participants were given a written informed consent prior to participating (see Appendix B). Those who participated in one of the two focus

groups were provided lunch from a local favorite restaurant. In total, five residents responded and participated (~35%). Three participants were female, one was male, and one was an online participant and therefore gender was unknown. Two of the four identifiable participants were second year residents and two were third year residents. Two of the four identifiable participants had experience during formative training in educational systems outside the United States. Two of the identifiable informants were Caucasian, one was Asian and one was native Hawaiian (Table 1).

*Table 1. Informant Demographics*

| PGY year | Gender | Higher Education Locale* | Ethnicity | Discussion Date<br>Time spent |
|---|---|---|---|---|
| **Second** | Male | Canada, Ireland | Caucasian | 11.21.14<br>60 minute focus group |
| **Third** | Female | Hawaii | Asian | 11.21.14<br>60 minute focus group |
| **Second** | Female | Hawaii, Germany | Caucasian | 12.3.14<br>27 minute focus group |
| **Third** | Female | Hawaii | Hawaiian | 12.3.14<br>27 minute focus group |
| **?** | ? | ? | ? | 12.7.14<br>5 minutes of asynchronous online anonymous chat |

**Locations of higher education including both college and medical school*

*Focus Groups*

Two separate focus group sessions were held with small groups, each containing 2 residents, in Carter conference room. This location was easily accessible and familiar to participants, as it is the place in the hospital where most of their didactic educational sessions occur. The door for the conference room can be

shut to allow for private meetings, although the doorknob has a number punching access code, and so even if shut, the door may be easily opened by any of the other residents or students on the wards. However, even as they were held in a relatively common area, the focus group discussions were not interrupted until the very end as lectures were about to begin and other residents were starting to populate their seats and obtain lunch. I as the study leader facilitated the focus groups alone. I reiterated (to mirror the prior email communication to the upper level resident body as seen in Appendix A) at the beginning of each group that although my position as the study leader was complicated by also being their Associate Program Director and a Pediatric Hospitalist Attending Physician, the purpose and nature of the discussion was as an exercise to develop the study leader's learning/practical understanding of how to perform qualitative research as well as to gather information that would help the new teaching rotation that I am co-directing. It was again stressed that the participant's answers would in no way affect their status or performance in the residency program and that their answers would be de-identified for purposes of written publication or oral presentation in the future. Participants were given the informed consent that was signed by all at this time; no one had any questions on the nature of the study and all said they felt comfortable proceeding with the focus group.

The small group discussions were initiated by asking the following open-ended questions:

- Think about your past experiences as a learner. Who is a teacher you had who stands out? What do you think made them a memorable teacher?
- How did you learn to be a teacher?

- What are the best qualities you see in yourself as an educator? What are qualities that you want to work on incorporating?
- How do physician and teacher intersect? Diverge? What are your thoughts about this relationship?
- How would you describe your self-confidence as a teacher?

These questions were crafted by the study leader, inspired by the areas that were thought to be the most important in understanding the residents' experiences, perceptions of teaching and learning, and self-assessment in order to maximize understanding of their educational baseline. The end goal was to provide desirable structure and content of their new teaching rotation, shaped by a better understanding of their backgrounds. Once these initial open-ended questions were posed, I tried to stay quiet, but would occasionally need to make a comment or give an additional prompt to enhance the flow of the discussion, i.e., "How have you changed as a teacher since starting residency training?" if participants had trouble articulating the established questions. Continuous notes were typed as verbatim as possible into a word document onto my laptop during the focus group session. Audio recording was not performed.

*Online Environment*

Potential participants were given an anonymous login/password access to a forum on our program's Moodle website (each participant was provided with the same generic login). A chatroom discussion in this environment was created with intention to probe the areas of barriers to becoming the ideal resident educator and barriers to having self-confidence as a resident educator. All of the above questions were posed as well as the additional question of:

- What are some barriers to becoming a good teacher? What are some enabling factors?

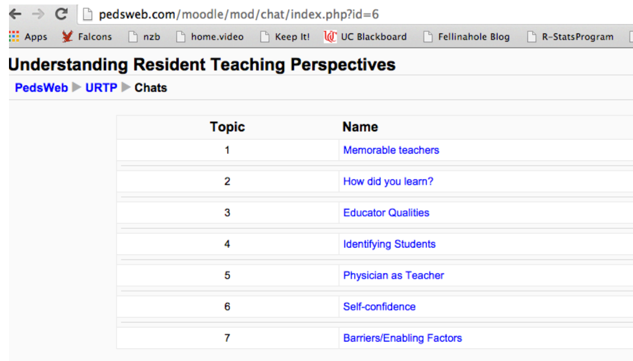


Figure 2: *Screen shot of main screen visible to participants with Moodle chat topics*

All data was stored on the study leader's private laptop. The Moodle discussion was stored online and viewable by history but remained privy only to the study leader and the participants.

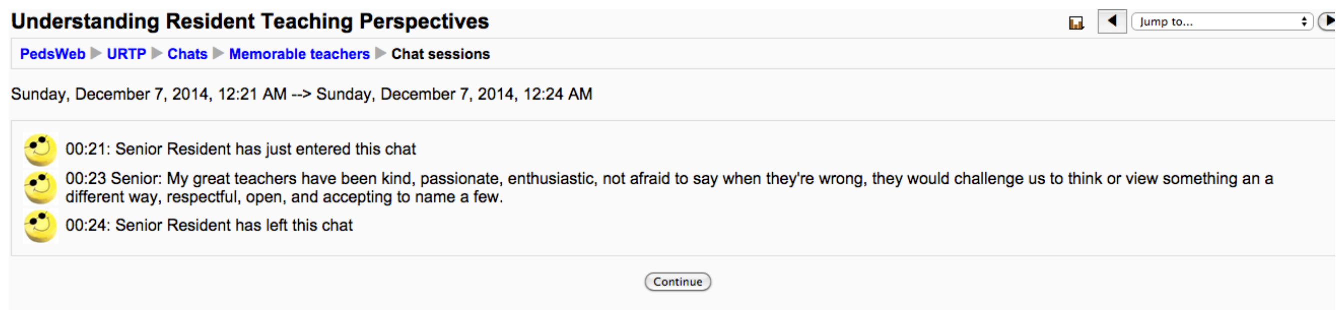


Figure 3: *Screen shot of an online comment entered by a participant*

The data was analyzed by printing all typed notes from both 2-participant focus groups as well as the input from the online chat forum (which was presumed to have been generated by one participant only as upon retrieval, the time stamp was within the same five minutes for multiple chat entries, and no other entries existed).

This data was considered and manually coded using codes that initially arose from the data itself, becoming evident upon multiple reviews (see Appendix C for an excerpt of the initial coding process). Some of the major codes identified included "safe" which was assigned any time the participant had identified something about the way their teachers made them feel comfortable learning, "passionate," indicating an attribute of teaching that reflects an intrinsic drive and inspiration to share knowledge about a certain topic area, "whimsical," referring to multiple comments about how a great teacher often has a sense of humor and adventure, and "respect," including comments about a collegial appreciation for students and allowing their opinions to be heard. Codes were organized into categories based on grouping the data: "passionate" was placed under the umbrella category of "Dedication", "respect" placed under the category of "Environment." Next, items gleaned from the most relevant papers reviewed in the literature were compared against these initial codes. Seven codes were taken directly from Karani, et al (2014) including role modeling, focus on teaching, safe learning environment, experiential learning, continued/relevant feedback, setting expectations early and creating an environment of inquiry. Five codes were taken from Butani, et al (2013) including respect, safe learning environment, supervision balanced with autonomy, relevance of teaching topics and providing appropriate feedback. There was some welcome overlap noted between the data-generated codes and the literature inspired codes; the data was then coded a second time incorporating these additions. Codes from the literature were then assimilated and organized under existing categories (see Appendix D for a full list of codes and categories). The categories

were further assessed and the organized codes more globally considered through the inductive approach (Shank, 2006) until greater themes and subthemes emerged through recognizing overall patterns (see Appendix E for an illustration of theme recognition). Photos taken by me of senior residents teaching were included with their permission; some were known participants of this qualitative study. I thought it was important to include these photos as they depict important qualities of the residents' teaching in action with a glimpse of both the psychological environments they seek to create and physical teaching environments in which they perform. Of note, I happened to be sitting in a similar seat in Carter conference room each time I was taking a photo; the room itself has 45 fixed seats in a U-shaped, three-tiered configuration which faces the main projector screen. I also included images that were described by participants as relating to teaching and learning as a pictorial data display.

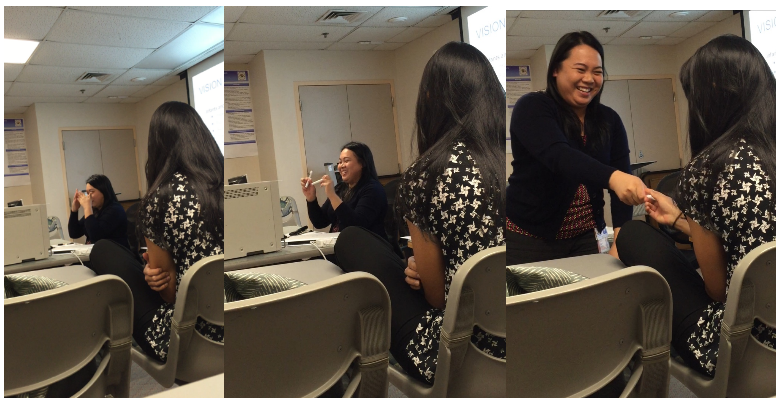

Figure 4. *Dr. Kristine Layugan, creating a positive, fun and interactive learning environment during her lecture on vision screening: illustrating the cover-uncover test, the light reflex, and passing out equipment to participants for a hands-on activity with the medical students and residents in Carter conference room.*

## Themes Identified

I identified the following themes in different areas and will share these grouped by open-ended question.

### Themes Related to Memorable Teachers

This was the easiest topic for participants to discuss, and therefore generated the most data and themes.

#### ***Creating an appropriate teaching environment is critical***

The theme of nurturing a positive and welcoming learning environment was not only the most resounding commonality between participants' responses, but was one of the first self-generated replies by everyone to the open ended question of "Who was one of your most memorable teachers?" Participants felt very strongly that teachers who allowed them to be themselves were the most memorable and respected, and shared specific examples of this feeling. Comments included descriptions of the design of the physical learning environment, "A very open space…with ping pong tables, marshmallow guns…" as well as the psychological environment, "Orchestra was a place where all of us nerds could hang out and 'nerd out'." "He made you feel like whatever your thoughts were, it was fine." "I don't have the word for it…[it was] open in the sense that you could have any opinion or answer and not be embarrassed." The appropriate teaching environment was directly described as "safe" by many participants, and of note, this was the only code that was also present in both papers cited from the literature, giving it tremendous

weight as an important characteristic of a space for successful learning. Many also discussed that teachers who made learning "fun" were contributing in important ways to their ability to grown and learn.

***"Impart[ing] their wisdom without making you feel like you are in their way"***

Many comments fell under the theme as illustrated by the spirit of this quote from a participant, which intersects one's intelligence, method of instructional delivery and learning environment. Demonstration of trust and respect by a teacher was noted to be paramount in the way students were made to feel and how they learned. Participants recognized that many educators had years of experience and possessed tomes of knowledge/had achieved higher degrees, yet would make them feel like colleagues, teaching very relevant information at the student level. Particularly related to medical educators, those with a clear focus on teaching and an ability to maintain transparency in their thought processes by taking the time to explain to a learner the clinical reasoning behind a decision were the most revered. Teachers who had a broad knowledge base that expanded past their specific field or subject and who valued teaching in general were also appreciated.

***Students desire passionate humanity***

Passion for teaching was noted both directly and indirectly as an admirable vital element that radiates from successful teachers. Words such as "inspired," "infectious," "proud," "enthusiastic" and "engaging" were used to describe the palpable passion shown by the most memorable educators. "They challenge us to think, and to view something in a different way." Teachers are desired who

passionately embrace lifelong learning and accept that we are all teachers and students alike—lending to a "reciprocal relationship" between the two parties. Teachers are desired who are not afraid to admit when they are wrong, and "don't BS you, but say 'I don't know, let's find out'." Students seek educators who show appropriate emotion and empathy and who practice a "horizontal," or a team valued, inclusive and collegial approach instead of demonstrating "vertical" or hierarchical teaching.

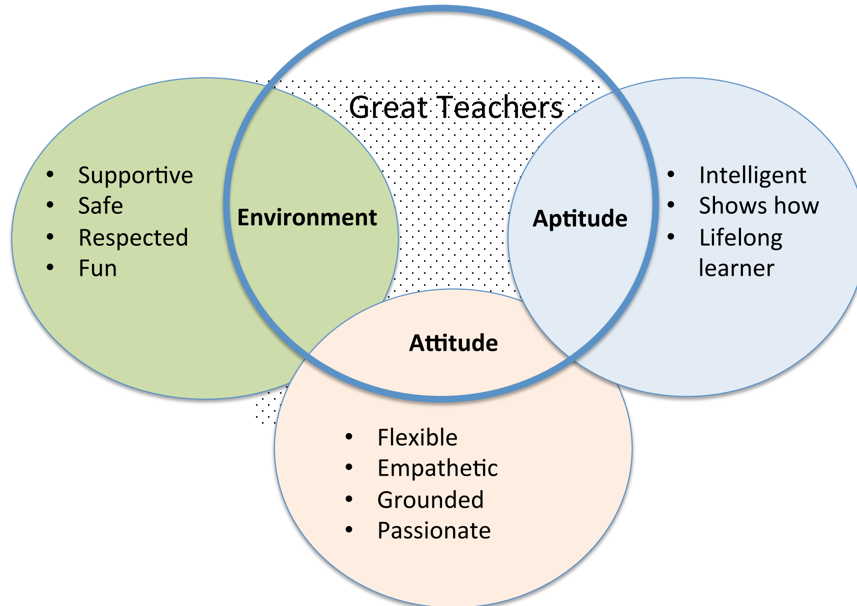


Figure 6. *Three intersecting themes of great teachers: Environment, Attitude and Aptitude*

***Going with the flow, and adjusting as needed***

The best teaching and learning experiences are sometimes those that occur on a whim, hot on the trail of a question that needs answering. Flexibility in teaching was key, from the ability to understand the learners' needs and adjust teaching styles and modalities appropriately to having the knowledge base to travel

with learners where they need to go that day, using a method that “is more organic” and “takes the form of what is important at that time.” In terms of the medical educator (faculty educating residents and students) and the physician educator (doctors educating patients), the ability to talk at the educational level of the learners/patients, to understand cultural contributions to learning and to interpret their understanding are all necessary elements of an effective teacher. One participant shared, “You can talk to someone until you are blue but need to really know your audience to convey the right message.”

***Students are deeply affected by negative learning experiences***

This theme became evident when reviewing the codes generated from the data with tone in mind, and the realization that many of the attributes shared about great and memorable teachers were in the form of negative statements, identifying what they are NOT. A learning environment in which the student “doesn’t feel stupid” and is “not embarrassing” was described as being safe and desirable. When describing a teacher’s passion, one participant noted, “She wasn’t there to get paid” in terms of her motivation for teaching and love for her subject. Another comment about a great teacher was, “he was someone who could have been intimidating,” as he was a hulking man with a large moustache, yet made students feel welcome and comfortable. As noted above, teachers who “impart wisdom without making you feel like you are in the way,” indicates the learner has not appreciated feeling “in the way” in the past. Most teachers were described as delivering material in a “vertical,” or teacher above student kind of way, sometimes with a pompous air, with a participant noting “I hate seeing those who are belittled, as it is completely

counterproductive" to teaching and learning. Later, the same participant noted, "I never belittle someone that brings me an idea." Understanding the powerful reality of this theme and helping students reflect upon this as they consider their own roles as teachers may be one of the most important realizations of this study.

Figure 5. *Dr. Donna Deng, teaching in Carter conference room, providing a comfortable and positive learning environment while gently redirecting a medical student who answered incorrectly during her Prezi presentation on eczema.*

**Themes related to participant self-assessment as a teacher**

These themes arose from many of the other open-ended questions posed, including those about learning to be a teacher, qualities in self as a teacher, physician as teacher and self-confidence in teaching.

***Confidence in teaching is gained through trial and error***

Many participants indicated that their confidence has improved through the years as they have gained experience, both with building their knowledge base to inform the content matter as well as reflecting on different methods of delivery they have trialed in the past. They recognize that the flexible quality they desire in a great educator, such as the ability to teach in the moment to answer questions that arise, is not an easy feat. One participant noted her confidence is linked to the stress of wondering, "Am I engaging them enough? Is this interesting and useful to them?"

Another participant noted he was most comfortable and confident with informal, discussion-based learning, catering to "what learners actually want to know," which he has realized over time as his preferred method. Another participant reflected, "the more I can simplify something, the more I realize I know the subject," indicating her confidence rises after teaching families about medical issues and recognizing they understand her explanations in layperson's terms. "The more you are enjoying what you are doing, the better you are able to teach." Another participant noted that she has learned over time "they (students) are going to ask me questions that I don't know, but I will have resources and know where to find the information."

***Physician and teacher: "In many ways, they are the exact same thing"***

"In order to be a good doctor, you need to be a good teacher." One participant's representation of teaching the river of information that is never ending in medicine is like "a work train, passing buckets of water to a fire. There is always more information (always another full bucket) coming…the ability to take as well as pass out information makes a good teacher." Role modeling and the use of metaphors or analogies were mentioned as strengths in learning how to become an effective physician teacher. Participants discussed the importance of asking patients and families first "what are you thinking about?" to best address their concerns and lay the foundation for teaching about the illness at hand. Both groups talked about the difficulties as a physician-teacher of translating medical terms back to words and phrases the patients and families understand, and that this takes skill and effort, but improves with experience. Teaching as a physician not only needs to

be translated in this way, but also needs to be tailored to a family's level of education and savvy. "I was in nephrology clinic today, all the patients and parents are experts: they can all list off 10 medications they are on and why they are on each one." Sometimes, patients teach physicians.

**Themes involving barriers to teaching well**

The final themes identified were in regards to barriers that participants identified as hurdles to overcome when striving to be good teachers.

***Cultural factors play a role in teaching and learning***

This theme addresses culture in the widest definition possible. The impact of caring for and teaching families and patients of differing ethnic cultures, family composition and ages can add to one's confidence and ability to communicate and teach effectively. One participant discussed her cultural upbringing in Hawaii and how anyone older than she is referred to as "auntie" or "uncle"; this makes it difficult for her to view herself as an important teacher when her "students" are older and presumably wiser than her. "I feel like I have no idea what I'm talking about compared to them." Another participant noted, referring to the barrier of the age differential, "the further you are away from being the student, the more confident I become in being a teacher." Older students were noted to be "sometimes really great as they have more life experience and can contribute, but sometimes intimidating to have more life experience as they feel more comfortable challenging or confronting me as the teacher." All groups discussed cultural responses to health and how those vary widely; one teaching strategy that may be effective in one

culture may not be accepted in another. Another cultural barrier is the body language that differs between those who truly understand the teaching versus those who want to nod and be polite regardless of their comprehension. Language constraints can also be clear barriers to effective teaching; participants noted they do not feel they educate the patients and families as well through a translator. The deep roots of the family tree are also intimidating for some; "Sometimes in clinic people ask me, 'do you have children? Well I have seven kids' and then my confidence is affected."

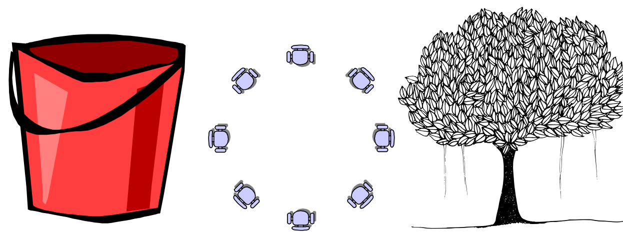

Figure 7. *Metaphorical representations of factors affecting teaching and learning: a bucket of never-ending knowledge; an open space inviting freedom of speech and support/acceptance; a deeply rooted tree of experience and culture.*

***There could always be more time and more knowledge***

Many participants noted the lack of time for preparation to teach as a barrier, feeling confident only when able to thoroughly research a topic ahead of time, which is often not possible on a busy clinical day when teaching the medical students "on the fly." The more junior participants also noted their growing knowledge base as a barrier that was slowly improving over time, but feeling they have not yet had enough life experiences to round out a discussion, as many senior physician teachers would be able to do.

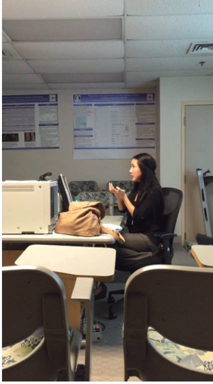

Figure 8. *Dr. Ann Kang, facilitating an engaging question and answer session in Carter conference room with medical students and residents on toxins and exposures.*

## Limitations

Limitations to this study were my role as the study leader conflicting with my roles with the residents as a supervising hospitalist, an associate program director and as the co-director of the senior teaching rotation. Recruitment was not as successful as I had hoped, with few residents to participate in focus groups given the low number of volunteers and the short time course. I also had very low participation online, and could have designed the web portion of the data collection better as a running blog rather than individual chat rooms (I did not realize the chats would not save on the screen for all to see as a running discussion). Most of the photos I shared of residents teaching don't include learners, losing that visual relationship.

## Reflections and Conclusions

My design of small focus groups was an effective way of gleaning this sort of information, with each group's tone and focus slightly different. It was interesting to consider the direction of discussion, to know when to add to its trajectory, and to analyze the data after the fact, recognizing each participant influenced the other's answers and perspective in tiny but significant ways. For example, one group was

focused on talking about many physical characteristics of a learning environment, whereas the other was focused on the psychological characteristics. It was also very interesting to witness those areas of discussion that were nearly verbatim between the two groups.

Residents are very astute learners with deep reflections into the constructs of great teachers, which they have clearly voiced in this study as those who create safe and enjoyable learning environments, have positive attitude characteristics including passion and a strong aptitude for their field. Participants were able to articulate well the areas they are striving for and areas they have already achieved as young clinical teachers, careful to avoid those negative aspects of teaching and learning they have experienced in the past. Barriers to becoming a good clinical educator in pediatrics include cultural differences, age differences and parents' experiential differences with children.

## Future Research

It would be helpful to repeat this study as a pre- and post- before and after residents have completed the teaching rotation, perhaps with the addition of a facilitator being the educational Ph.D. at the hospital for an additional, non-medical perspective on the data. Additional discussion and development of ways to address the barriers to becoming good clinical teachers as identified in this study may have implications for enhanced resident experience in the future. Observing residents in teaching roles at my institution using the codes that were developed through this

study may be an interesting way to provide feedback, as these desired characteristics arose from them, and were supported by the literature.

# Appendix A

*Email recruitment communication*

On Mon, Nov 17, 2014 at 12:12 AM, Jennifer Di Rocco <jdirocco@hawaii.edu> wrote:
Dear PGY-2 and PGY-3 residents,

You have probably heard me talk about my medical education masters program that I am pursuing at the University of Cincinnati/Cincinnati Children's Hospital. This semester, I am learning about how to perform qualitative research. I have designed a small project that will focus on gaining a better understanding of your perspectives on teaching and learning. I am also hoping to use this qualitative data to improve the R3E rotational experience for all of you!

I would like to ask for volunteers to participate in 30 minute focus groups at lunchtime for the next two Fridays. I made a doodle poll to seek out your availability on these days.
Also, I would love to buy you fantastic lunches for your time, and welcome requests on the establishment of choice for ordering said lunches.

If you are unable to make the Friday lunch focus groups, but still want to participate, I plan to create an online blog discussion as well.

I would genuinely appreciate your participation!! But I really want to reassure you that your participation is completely voluntary; your choice will not affect your residency career and I will not pass any kind of judgment if you choose to participate or not. For this request, try to think of my approaching you as outside of my roles as your APD and your sometimes attending on the wards and instead as a person interested in how to help residents build the skills and confidence to become better teachers. And I will think of you all as possible participants in my focused area of interest. :) [my teacher this semester was really trying to get me to study strangers, i.e. moms at the coffee shop or day care, but as I don't frequent either of those, and really wanted this project to help the R3E rotation, here I am!]

Also, I do have IRB approval (the project, which I am calling "Understanding Resident Teaching Perspectives," was deemed to be exempt).

Thank you for your consideration! I will let you know by this Wednesday if Friday will work.

Jen Di Rocco

**Jennifer Di Rocco** **jdirocco@hawaii.edu** **12/5/14**

to peds-r2, peds-r3-5

Dear PGY-2 and PGY-3 residents,

Cliff notes:

- Long email below
- Want a prize?
- Login to my website and answer a few questions :)
- And send me a picture!
- Reminder: none of this has anything to do with this residency in particular as I have noted in my disclaimer original email below--even if no one is able to participate further I completely understand and will still love you all the same :)

The deets:

This is a follow-up email to the first one I sent below about my masters' qualitative research project for my current class this semester. To those of you who were able to participate in one of my Friday focus groups, THANK YOU!!! My teacher told me I have gathered a lot of good qualitative data. Now I need to figure out how to "code" it and analyze it. :)

I have created a series of short online "chat rooms" in which I was hoping some of you wouldn't mind (anonymously) participating. I have attached my informed consent (no need to sign this for those who already did during a focus group). If you want to participate and have not yet signed it, please do so and leave in either my 2nd floor or 7th floor mailbox (and please let me know if you have questions as I am "informing" you only through email...I am collecting informed consents for formality purposes but this project has been granted IRB exemption).

Some of the questions are the same that we discussed in the focus groups, and some are a little different. For those of you who haven't participated yet would like to participate in the online portion, that would be great. And if those who have already done a focus group want to answer the online questions we did not discuss in person, that would also be great!! I tried to log in from multiple browsers at the same time with this one login/password and it worked ok, so hopefully will for you, too.

Here's the website and general login info (I promise I won't stalk your IP addresses-->I don't know how to do that even!!, so this will be anonymous):

www.pedsweb.com/moodle
login: pedsresident
password: love2learn

Click on "understanding resident teaching perspectives" and then you should see 7 listed topics which are the "chat rooms" I have created. Answer as few or as many as you want. I'm interested in your answers, and in your discussion/response to others too.

Also, for those of you who are inspired and visually oriented, if you could send me a photo that captures the epitome of what you think makes a great teacher. You can describe in words, or let a picture speak for itself. This could be a collection of items, a photo of a great teacher themselves (with permission :) ), a representation of concepts, etc.

And less important to me right now but if you are interested, you could look at the website of the clinical teaching inventory I talk about in the informed consent. I think I am going to incorporate this into the R3E rotation orientation/introduction anyway, so many of you will see it again in the future :)

PRIZES!! I will put all names of all people who participate in any part of this project in a hat and draw out 2 names of lucky winners of a prize!!

Thank you so much for reading and considering!!!

JD

## Appendix B

*Written Informed Consent*

Informed Consent
Understanding Resident Teaching Perspectives
HPHRI Study Number 2014-069
Principle Investigator: Jennifer Di Rocco, DO

Thank you for agreeing to participate in this qualitative research study on senior resident's teaching perspectives!

Study Purpose and Background

A new upper level teaching rotation has been developed this academic year that affords each PGY-3 pediatric resident an individualized opportunity to practice and reflect upon many aspects of teaching, including lecturing/facilitation skills, curriculum development and mentorship of junior learners. This experience is shaped to include the subject matter and modes of the PGY-3's preferences with the goal of creating a portfolio each resident can utilize after graduation in whichever career path he or she chooses.

As each resident in our program will go through this rotation during the PGY-3 year, understanding more about how our upper level residents perceive teaching, and specifically their self-confidence as teachers is important; our residents have had quite diverse experiences in learning and teaching across the world. Probing this topic and knowing more about baseline perceptions of teaching and learning will help to ensure a more meaningful rotational experience for the residents.

Study Aim #1:
-To characterize residents' perceived qualities of a good clinical teacher
Objectives:
-Small group discussions of individual and group definitions
-Individual participants will be encouraged to illustrate his or her representation of the attributes of a good teacher in multimedia form (i.e. in an essay, a photo collage, a monologue)

Study Aim #2:
-To understand the barriers to achieving self-confidence and ideal performance as an educator in the upper level resident role
Objectives:
-Individual participants will take an online validated teaching inventory (optional)
-An online private discussion with the group will address specific perceived barriers

Methods:

1. Focus Groups: Focus group sessions with open-ended questions will be held with small groups of 2-4 residents within each PGY-2 or PGY-3 class. Notes will be taken in a word document on the study leader's laptop during the focus group session, without explicit participant identification. A meal will be provided to the participants during the focus group sessions.
2. Volunteers from the focus groups will be asked after the discussion to submit a multimedia representation of the characteristics of the individual's ideal clinical teacher, OR the individual's self-perception as a clinical teacher.
3. Participants will be given anonymous login/password access to a forum on our program's Moodle website (i.e. each participant will be given the same generic login, and therefore will not be identified online by name). A blog-style discussion in this environment will probe the areas of barriers to becoming the ideal resident educator and barriers to having self-confidence as a resident educator.
4. (Optional) Individual participants will also be asked to take the Clinical Teaching Perception Inventory, available free online through USC: http://residentteachers.usc.edu/intro.htm. They will be asked to share their "scores" on this inventory with the study leader, with their scores de-identified.
5. Two participants will be entered in a drawing for a prize, with a third party administrative assistant collecting names of those who have participated. The principle investigator will be blinded to this.

<u>Risk/Benefit Assessment</u>

The participants would have minimal risk in the focus groups as the subject for discussion is defining something positive; a good teacher. The risk for being identified to peers during the more sensitive online discussion of the barriers to becoming the teacher he/she wants to be should be minimized by the anonymous login, however individuals must protect themselves with the subject matter so as not to be identified by peers (if the resident wishes to remain anonymous).
The benefits to participating in this study would be improved camaraderie with classmates in discussing these topics, a free meal, and a chance at a prize. Also, residents who are scheduled for the teaching rotation in the future would benefit from thinking through these questions and doing these activities prior to starting the rotation.

I understand the study as described above and am willing to participate. I understand at any time that I may withdraw from the study. I have had the opportunity to ask questions.

____________________________ _______________

Participant Name Date

## Appendix C

*Initial Coding Process*

Excerpt from Focus Group #1 Notes:

*In response to: Who is a teacher you had who stands out? What do you think made them a memorable teacher?*

Participant 1: Lecturers in med school, effective in role—parental in some ways. We weren't afraid of making them mad or upset, but were afraid of disappointing them. You knew they wanted you to succeed, and you wanted to do so to make them proud. Weren't "lecturing down" at you at professorial level but practically speaking as a colleague instead of as professor. "horizontal vs vertical" teaching…most others were vertical teachers

Participant 2: have to know their subject, invested, enthusiastic, need to love sharing the information, have done years, 2st grade teacher, biology teacher—she loved her subject so much it just exuded from her, she wasn't there to get paid/have job but loved sharing that knowledge. Can't speak down to student, need to engage and relate to them. Cases or examples are most helpful. Stands out. Inspired me being engaging.

Sample of codes gleaned: passionate respect practical invested

**Appendix D**

*Codes and* ***Categories***

Green font indicates those codes from Karani et al (2014)
Red font indicates those codes from Butani et al (2013)

| **+ Personal Attributes** | **Environment** | **Dedication** |
|---|---|---|
| Friendly | Supportive | Invested/Focused on education |
| Quirky | Not embarrassing | Accepting |
| Whimsical | Safe/Safe/Safe | Proud |
| Wierdo | Open | Passionate |
| Fun | "Don't feel stupid" | Parental |
| Confident | Trusting | Gratified |
| Inspired | Respectful/Respect | Modeling/Role-model |
| Crazy | Environ of inquiry | "she wasn't there to get paid" |
| Excited | | **Intelligence** |
| "someone who could have been intimidating" | **Abilities** | Ability to simplify |
| | Adaptive | Knowledge base |
| **Barriers** | Flexible | Experience |
| Cultural | Approachable | Expert |
| Confidence | Good Listener | |
| Time | Humility | |
| "worst ones clearly do not care" | Making relevant | **Teacher as Learner** |
| Language | "Imparting wisdom without making you feel like you are in their way" | "not afraid to say when wrong" |
| Age | Patient | Accepting information |
| Experience | Empathetic | "Horizontal vs vertical" |
| "am I engaging them enough?" | Continued/relevant feedback/feedback | Lifelong learner |
| Family status | **Preparation** | "reciprocal relationship" |
| Belittling | Knowing students/ setting expectations early | transparency |
| | Learning styles | "what is the point of being uppity about it" |
| | Tailored approach/appropriate autonomy | |
| | Practical/Relevant | |
| | Experiential learning | |

## Appendix E

*Identifying a Theme through the Inductive Approach*

| + Personal Attributes | Environment | Dedication |
|---|---|---|
| Friendly | Supportive | Invested/Focused on education |
| Quirky | Not embarrassing | Accepting |
| Whimsical | Safe/Safe/Safe | Proud |
| Wierdo | Open | Passionate |
| Fun | "Don't feel stupid" | Parental |
| Confident | Trusting | Gratified |
| Inspired | Respectful/Respect | Modeling/Role-model |
| Crazy | Environ of inquiry | "she wasn't there to get paid" |
| Excited | | **Intelligence** |
| "someone who could have been intimidating" | **Abilities** | Ability to simplify |
| | Adaptive | Knowledge base |
| **Barriers** | Flexible | Experience |
| Cultural | Approachable | Expert |
| Confidence | Good Listener | |
| Time | Humility | |
| "worst ones clearly do not care" | Making relevant | **Teacher as Learner** |
| Language | "Imparting wisdom without making you feel like you are in their way" | "not afraid to say when wrong" |
| Age | Patient | Accepting information |
| Experience | Empathetic | "Horizontal vs vertical" |
| "am I engaging them enough?" | Continued/relevant feedback/feedback | Lifelong learner |
| Family status | **Preparation** | "reciprocal relationship" |
| Belittling | Knowing students/ setting expectations early | transparency |
| | Learning styles | "what is the point of being uppity about it" |
| | Tailored approach/appropriate autonomy | |
| | Practical/Relevant | |
| | Experiential learning | |

**The theme that was identified by the highlighted areas was that students are deeply affected by negative experiences [and often define an ideal teacher by describing the negative characteristics that they do not possess, i.e. what they are not].**

**Bibliography**

Butani, L., Paterniti, D. A., Tancredi, D. J., & Li, S.-T. T. (2013). Attributes of residents as teachers and role models - A mixed methods study of stakeholders. *Medical Teacher*, *35*(4), e1052–e1059. doi:10.3109/0142159X.2012.733457

Carraccio, C., Benson, B., Burke, A., Englander, R., Guralnick, S., Hicks, P., … Vasilias, J. (2013). Pediatrics Milestones. *Journal of Graduate Medical Education*, *5*(1s1), 59–73. doi:10.4300/JGME-05-01s1-06

Henry, B. W. (2006). Perceptions of medical school graduates and students regarding their academic preparation to teach. *Postgraduate Medical Journal*, *82*(971), 607–612. doi:10.1136/pgmj.2006.045393

Jamshidi, R. (2008). Formalizing teaching responsibilities for junior surgical housestaff encourages educator development. *Journal of Surgical Education*, *65*(6), 514–517. doi:10.1016/j.jsurg.2008.07.002

Palamara K, Ray A. Resident-as-Teacher Workshop. MedEdPORTAL Publications; 2014. Available from:https://www.mededportal.org/publication/9673

Karani, R., Fromme, H. B., Cayea, D., Muller, D., Schwartz, A., & Harris, I. B. (2014). How medical students learn from residents in the workplace: a qualitative study. *Academic Medicine: Journal of the Association of American Medical Colleges*, *89*(3), 490–496. doi:10.1097/ACM.0000000000000141

Le-Bucklin, K.-V. T., Hicks, R., & Wong, A. (2011). Impact of a Teaching Rotation on Residents' Attitudes Toward Teaching: A 5-Year Study. *Journal of Graduate Medical Education*, *3*(2), 253–255. doi:10.4300/JGME-D-10-00123.1

Shank, G., *Qualitative Research: A Personal Skills Approach,* Pearson Prentice Hall, New Jersey, 2006.

Sweeney, A., Stephany, A., Whicker, S., Bookman, J., & Turner, D. A. (2011). Senior pediatric residents as teachers for an innovative multidisciplinary mock code curriculum. *Journal of Graduate Medical Education*, *3*(2), 188–195. doi:10.4300/JGME-D-10-00212.1

Van Roermund, T. A. C. M., Mokkink, H. G., Bottema, B. J. A. M., van Weel, C., & Scherpbier, A. J. J. A. (2014). Comparison of expectations and beliefs about good teaching in an academic day release medical education program: a qualitative study. *BMC Medical Education*, *14*, 211. doi:10.1186/1472-6920-14-211