

Developing a Theory of Clinical Instructor Identity Using the Experiences of Medical Laboratory Science Practitioners

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ABSTRACT

This study investigated medical laboratory science clinical instructors' beliefs about teaching and how they viewed themselves as teachers. The first phase of the study included an integrative literature review, which suggested that the development of teacher identity in school-based educators, and to a lesser extent higher education faculty, is dependent on four dimensions: personal factors, training factors, contextual factors, and reflective practice. The second phase of this study began qualitative inquiry into the ways that these participants described their teaching and professional identity. Interviews were conducted with medical laboratory science clinical instructors in order to gain an understanding of their perceptions of themselves as teachers. The data collected in this study indicate that this group of clinical instructors saw themselves as teachers who were responsible for providing students with technical skills needed to become competent practitioners and the theoretical foundation necessary to pass the national certification exam. The study participants also saw themselves as mentors who were responsible for passing along professional knowledge to the next generation of laboratory practitioners. During data analysis three themes emerged that represent aspects of teacher identity in clinical instructors: belief in one's teaching ability, desire to expand one's professional responsibilities, and reflection on one's teaching. The findings from this study may provide a foundation for future research designed to measure teacher identity in clinical instructors.

ABBREVIATIONS: MLS - medical laboratory science, MLT - medical laboratory technician, NAACLS – National Accrediting Agency for Clinical Laboratory Sciences,

INDEX TERMS: Faculty, trainer of trainers, techniques, educational, mentors, preceptorship.

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Limited research has been conducted which focuses on clinical instructors in laboratory settings. Yet these individuals facilitate training that accounts for a large percentage of the curriculum in medical laboratory science programs. This qualitative study was conducted to investigate clinical instructors' beliefs about teaching and how they view themselves as teachers. From the data collected, three major themes representing aspects of clinical instructor identity emerged. Throughout this research study it was noted that the degree to which this sense of identity was evident varied from participant to participant.

BACKGROUND

Identity defines how we view ourselves and shapes our values; it also serves as a lens through which others recognize us. Identity is a construct that influences what we do and with whom we affiliate. Erik Erikson conceptualized identity as a search for continuity and sameness in one's life.¹ Identity ultimately becomes the stabilizing force around which all aspects of an individual's existence are organized. In many instances the self is actually comprised of a collection of identities, each associated with a particular setting or role.² "Through shifting participation and transformation of roles within a particular community, individuals craft new identities, and these identities in turn influence the acquisition of knowledge and skills."³

The statement above is true of the academic community. K-12 educators begin to develop their own sense of identity as teachers as they learn to navigate teacher education courses, pre-service teaching assignments, and initial job placements. For many faculty members in higher education, however, their sense of teacher identity develops in considerably different ways from K-12 educators. Faculty members in higher education typically display a loyalty to their discipline first, and over time may form an institutional affiliation through training and socialization.⁴ As educators, they are expected to participate in two broad communities of practice,⁵ the professional community where they draw their knowledge base and experience, as well as the academic community in which they learn to teach.

Clinical instructors who teach in settings outside traditional university or college classrooms represent another population of educators. Similar to faculty members in higher education these individuals have teaching responsibilities, yet lack formal teacher preparation. Clinical instructors also associate with more than one community of practice. Generally, their primary identification is with their professional discipline not their educational role,⁶ and whether they develop a sense of identity as teachers depends on a number of factors.

To date little research has been conducted that focuses on the identity of instructors in the clinical setting or examines how laboratory practitioners integrate teaching into their work. One study, however, which focused on K-12 educators found that a strong sense of identity is important in maintaining a commitment to and a passion for teaching.⁷ Additionally, it has been suggested that teachers who identify most closely with the communities in which they practice, in this case K-12, are effective in influencing student achievement.^{8,9}

Medical laboratory science education programs rely on laboratory practitioners with little or no teaching experience to function as instructors in the clinical setting and facilitate training that accounts for approximately half of the professional coursework. When selecting individuals for these teaching positions longevity as practitioners is often the criterion used, and the assumption is made that teaching skills have developed along with technical skills.¹⁰ The clinical

instructor role is rigorous and includes such functions as teaching, supervising, evaluating students, and role modeling.¹¹ This unique position requires practitioners who are able to provide quality healthcare and simultaneously support student instruction. Not all laboratory practitioners are willing to accept this challenge. Furthermore, the satisfaction levels of individuals who do agree to serve in instructional capacities may be impacted by their identification with the teaching role.^{7,12} Because clinical instruction is a vital piece in maintaining the quality of the medical laboratory science workforce, ideally individuals who provide this instruction should be committed to the profession and have an interest in teaching.

REVIEW OF LITERATURE

The first phase of the study focused on the conceptual development of a theory of teacher identity based on a literature review.¹³ This theory is depicted in a concept map (Figure 1) which includes the four dimensions of personal factors, training factors, contextual factors, and reflective practice.



Figure 1. Teacher Identity Concept Map based on the Literature

The “personal factors” dimension of teacher identity consists of the innate qualities that individuals bring to the teaching role. The “training factors” dimension develops during teacher training and also throughout pre-service teaching practice. The third dimension, “contextual factors”, is influenced by social encounters with peers in the educational setting. Lastly, the “reflective practice” dimension emerges as educators begin to critically analyze their assumptions regarding the teaching and learning process and the effectiveness

of their own teaching practices. Development of teacher identity may be thought of as a cyclical process. Individuals may experience these dimensions over and over with each new teaching opportunity.

METHODOLOGY

The second phase of this study involved qualitative research using a volunteer group of medical laboratory science clinical instructors as the study population. A qualitative research design was selected for this study as a means to generate theory from understandings culled through data collection. A basic qualitative approach can be used to gain a better understanding of how individuals make sense of their lives and experiences,¹⁴ in this particular study the participants' perceptions of themselves as teachers was the focus.

Purposeful Sampling

The population sampled in this study was clinical instructors teaching in healthcare facilities affiliated with eight medical laboratory science (MLS) and six medical laboratory technician (MLT) training programs. These 14 programs represented all of the NAACLS accredited medical laboratory science education programs in Illinois, with the exception of one MLT program in which the researcher served as the former program director thus it was excluded. The program directors at each of the medical laboratory science education programs were contacted by e-mail and asked for their help in soliciting participants for the study. The program directors were also sent an invitation to distribute to their clinical instructors electronically. Fourteen medical laboratory science clinical instructors volunteered to participate in the study.

Participant Demographics

Due to scheduling challenges only 13 medical laboratory science clinical instructors were interviewed representing seven different clinical facilities ranging in size from small clinics to large medical centers. Twelve of 13 participants were female, and all were certified medical laboratory scientists. Overall, the study population had worked in the medical laboratory science field for an extensive period of time; only one individual had less than five years of laboratory work experience, the rest ranged from 15 to 35 years of experience.

Similarly, their experience as clinical instructors was also quite substantial. The youngest medical laboratory scientist had three years of work experience and one year of clinical instructor experience. The remaining participants ranged from four years to 34 years of teaching experience in the clinical setting. Six of the participants volunteered to assume the clinical instructor duties in their laboratories while seven participants had been recruited by their supervisors.

Interview Process

The purpose of the second phase was to gather data through semi-structured interviews that illuminate how clinical instructors describe their teaching and professional identity. A semi-structured interview contains a mix of highly structured questions where specific information is collected from all participants (i.e. demographic data) as well as general questions or topics to be explored.¹⁴ The interviews were conducted at the clinical affiliate sites, typically in a laboratory conference room or office. One week prior to each interview, demographic questions were emailed to the participant along with one sample question. This process provided participants time to reflect upon the topic.

On the day of the interview, participants were asked a series of open-ended questions in order to gather their thoughts regarding how they viewed themselves as clinical instructors (Figure 2). Follow up questions were posed as needed during the interviews which typically lasted 30-45 minutes. The interviews were audiotaped with the permission of the participants. The audiotapes were transcribed by the researcher and a typist within a week of the interview and data analysis began shortly thereafter. Participants interviewed in this study were each assigned a pseudonym for the purpose of maintaining anonymity.

After all the interviews had been conducted, participants were sent a copy of their transcript along with a letter asking them to review the document for accuracy. This process of ensuring accurate data is known as a member check. Sections of the transcript were highlighted and follow up questions were written in the margins. Participants were given the option of responding to the follow up questions by e-mail, writing their answers and sending them back to the researcher in a postage paid envelope, or providing a phone

number where they could be reached and the best time to call. Twelve follow up responses were received.

Demographic Questions

1. How long have you been a medical laboratory scientist?
2. How long have you been a clinical instructor?
3. Did you volunteer to be a clinical instructor or were you recruited for this position?
4. Please describe how you first got started as a clinical instructor.
5. Approximately how many students do you train per year?
6. Do you anticipate training students next year?

Opening Question

7. Describe your responsibilities as a clinical instructor (include the length of the clinical rotation, days/week, hours/day).

Personal Dimension Questions

8. What do you like best about being a clinical instructor?
9. Can you give me an example of a time when you felt you were really effective as a clinical instructor? Why did you feel this way?
10. Can you give me an example of a time when you felt you were not effective as a clinical instructor? Why did you feel this way?
11. How does teaching fit into your professional role here in the lab?
12. Would you miss teaching if you stopped being a clinical instructor?

Developmental and Training Dimension Questions

13. Describe experiences you have had that helped shape how you think about teaching and the clinical instructor role.
14. Describe any training or mentoring you've received for your teaching role.
15. Tell me about any professional development you've had recently that was related to teaching. How was it helpful to you?
16. Tell me about any new teaching techniques you've tried recently. What were the outcomes?
17. When you think about your overall career progression, what impact has being a clinical instructor had on your professional development?

Contextual Dimension Questions

18. In what ways does this laboratory support the efforts of the clinical instructors?
19. Do you receive any special compensation, recognition, or rewards for being a clinical instructor? If so, what are they?
20. Do you ever spend time talking with colleagues about your teaching experiences? If so, please describe one of them.

Reflective Practice Dimension Questions

21. How do you prepare for your teaching responsibilities?
22. Have you become more comfortable in your role as a clinical instructor over time? Can you tell me why?
23. What have you gained from your role as a clinical instructor? What have your students gained?

Ending Question

24. Is there anything else you would like to add regarding your role as a clinical instructor and how you think about teaching?

Figure 2. Interview Protocol

Data Analysis

Data were inductively analyzed using a constant comparative technique to identify recurring themes.^{14,15} In constant comparative analysis, data are related to ideas which are labeled using a process referred to as open coding. In this process each idea is given a name or code that represents a concept.¹⁴ Open coding continued until all conceptual elements or categories were recognized. The categories were then organized into themes using descriptors from the study participants own voices. Memos written immediately after each interview, which captured the essence of each conversation, were also examined and used in interpreting the rich data. In the end, three themes emerged that represent aspects of clinical instructor identity and include: belief in one's teaching ability (*Nature vs. Nurture: We Have the Ability to Teach*), desire to expand one's professional responsibilities (*Professional Identity: Doing Something Extra*), and reflection on one's teaching (*Thinking about Teaching Made Me a Better Teacher*).

Data Validation

In addition to the member check described earlier, credibility is another criterion used to judge the value of a qualitative investigation. Credibility refers to the causal relationship between two variables.¹⁶ In this study credibility was determined through triangulation, a technique used to validate the accuracy of the data and establish rigor in the study.¹⁴ Information from interviews, the literature, and the researcher's own personal experience with clinical instructors was compared. Biases were exposed and managed during a peer review process in which the coding was checked by expert reviewers.

Limitations

Despite efforts to design and carryout a comprehensive study, this project was not without certain limitations. The effects of sampling bias were taken into consideration. Practitioners who identified with the clinical instructor role may have been more likely to volunteer to be participants in this study. Individuals who did not view themselves as teachers, on the other hand, may have passed up this opportunity. Self-presentation bias was also considered as participants may have tried to provide data that they believed would present themselves positively as teachers. A third limitation was the researcher bias introduced as a result

of having initially developed four dimensions of teacher identity based on a literature review. These dimensions may have impacted the interpretation of data collected during interviews.

RESULTS

The study participants fell along a continuum in the ways that they viewed their teaching responsibilities. At one end were the participants who were highly dedicated to their instructional roles and viewed themselves as teachers whose job was to provide technical knowledge and practical skills to future laboratory professionals. These clinical instructors could not easily separate their teaching roles from their practitioner roles. Jen commented, "I consider myself both a teacher and a med tech because I am doing both most of the time." Data suggest that these individuals had settled into their teaching roles and incorporated a sense of teacher identity into their professional identities as medical laboratory scientists. These instructors seemed to form ties to two communities of practice, the clinical community as well as the teaching community.

At the other end of the continuum were the participants who considered themselves medical laboratory scientists who happened to have teaching responsibilities as part of their clinical duties. They saw their role as mentoring students into the medical laboratory science profession, but did not think of themselves as teachers. Suzanne remarked, "I love the science and what I do for patients. Even if I became full-time faculty, I think I would still consider myself a med tech." She felt a strong allegiance to her profession and though she believed that she was a good instructor, she saw teaching as a secondary responsibility to patient care.

Nature versus Nurture: We Have the Ability to Teach

The first theme that was evident in this study, which represented one aspect of clinical instructor identity, was titled *Nature versus Nurture: We Have the Ability to Teach* and included the personal qualities that participants naturally brought to their teaching roles such as patience, enthusiasm, passion, and organization. This theme was supported by several descriptive elements that were prevalent in the data including: 1) personal traits, 2) teaching strategies, and 3) sense of self as a teacher. Many of the clinical instructors acknowledged that they had accepted teaching positions simply because no one else in their department was

willing to assume these instructional roles, and consequently they may be referred to as accidental academics.¹⁷ Nonetheless, the participants in this study believed that they had the ability to be effective teachers and mentors and enjoyed their interactions with students. Edith looked forward to teaching her unit every year and expressed a desire to become more involved with the clinical instruction in her laboratory if the opportunity ever arose:

It just makes me feel good, makes me feel like I have contributed something...and I don't find it to be a big deal. I don't find it to be a chore. I think it is a good thing...I wouldn't mind having more of it. I think that my method of communication stimulates the students, so I think I could be good at it and I wouldn't mind pursuing more [teaching].

The clinical instructors understood that students have different learning styles and were able to adjust their teaching strategies accordingly. Andrea felt it was important to be flexible with each student because some are better in one area than another, and she wanted to make sure that each student could achieve the clinical objectives:

As soon as I have identified a particular learning need, I try to make adjustments in the presentation of information. I will usually limit the depth of the information and focus on the basics (fulfilling their checklist requirements). Sometimes case presentations will help clarify details for a particular student, but overwhelm another. I always tell students during their introduction to the department that our job is to show them the application of what they have learned at the university. For some, sky's the limit and they soak up all kinds of details, others concentrate just on basic organism identification.

In school-based contexts, teacher identity is formed through a dynamic process whereby one's sense of identity changes with each new teaching opportunity.¹⁸ This was also true of the clinical instructors, as they gained more teaching experience their sense of themselves as educators seemed to grow stronger. Barb mentioned that as a student she had excellent clinical

instructors who piqued her interest in teaching and now she uses her own experience as a student to inform her teaching style:

[My clinical instructors] were very enthusiastic about their work and eager to share their knowledge, so I think that really made me a better teacher or even got interested in [teaching].... I wasn't like the top student ever in my life, so I think that gives you a little bit of an edge when you're teaching because you know how it is to maybe struggle a little bit or not see things right off the bat, so I think that helped me.

Though many of the participants received support from colleagues and laboratory administration in the environments where they worked, they expressed a desire for more recognition for their teaching efforts as it was becoming increasingly difficult to manage both clinical and instructional responsibilities. Michele expressed the following:

If I had one wish for teaching, it would be that teachers in general would get more support, more recognition, because if you think about it where would any of us be today if there wasn't a bevy of good teachers in our background?.... I just wish that, not necessarily monetary rewards, because I don't think that's necessarily what motivates a lot of us who teach, just in general more support and more recognition for a job well done.

Professional Identity: Doing Something Extra

The second theme titled *Professional Identity: Doing Something Extra* focused on the participants' desire to grow as professionals. The descriptive elements related to this theme included: 1) teaching adds variety and 2) keeping current. The participants in this study enjoyed teaching because it added variety to their work as medical laboratory scientists. According to Nanette, teaching took her out of the daily routine of performing testing, "It gives me something [else] to do...I kind of like that." Carol agreed that teaching gave her something extra to focus on:

I think our job has become just trying to get through the day and [teaching] gives you that

little bit of satisfaction that you accomplished a little something extra. Besides getting someone their blood, which you are supposed to do anyway, I did a little something extra that day. As we get older we like to know we had a little bit of an impact on life.

The clinical instructors were proud of the fact that teaching also helped them stay current with new developments in the laboratory profession. Michele shared her thoughts:

As a hematology supervisor there is no better way for me to keep my own knowledge sharp than to teach, to have somebody ask me a question that I can't answer right off the bat, that I have to go and research myself. It keeps me from getting a little too complacent.

The study participants believed that their peers considered them a source of information and this recognition also contributed to their sense of professional identity.

At times, however, they did express feelings of conflict in trying to balance clinical responsibilities with their teaching role. In this study, the clinical instructors felt a strong affinity with the other medical laboratory scientists in their departments and were concerned that they might disappoint their colleagues if they could not complete their share of the workload due to teaching commitments. Carol summed up the tension that she faced when deciding between getting the work done and providing a good learning environment for her students:

When I'm really stressed, when the phone is ringing, and I might have a heart [patient] going bad.... I really feel like I'm ignoring [the students].... I feel very ineffective as a teacher or instructor at that time, but there's really not a lot [I can do]. I mean the work has to get done because that comes first and then the teaching follows.

Thinking about Teaching Made Me a Better Teacher

The third theme, *Thinking about Teaching Made Me a Better Teacher*, included the ways that clinical instructors reflect on their teaching. The descriptive

elements for this theme included: 1) training the next generation and 2) learning the role. The participants believed that they fulfilled an important role in training the next generation of practitioners. Suzanne commented that training the next generation of laboratory professionals was her obligation:

Giving back to the community, contributing to the profession, making sure there are future medical lab technicians and technologists out there. I'll be old and sick someday, and I want to make sure somebody is there to do my lab work.

The participants were committed to maintaining the integrity of the medical laboratory science workforce and felt an obligation to pass along their professional knowledge. Anthony had extensive experience as a medical laboratory scientist and enjoyed passing along what he knew:

Because I've been a tech for 25 years, I've accumulated a lot of the practical side of being a tech, and I like to be able to pass that on to new people because I think it's valuable. I think there's more to being a tech than just coming in and throwing something on a machine.... [Students] don't get to see a lot of the little things that make the difference between being an okay tech and a good tech. I like to be able to pass on at least something that I've picked up over the years.

Anthony was proud of his technical skills and believed it was important to be a role model for students.

The clinical instructors derived a tremendous sense of personal satisfaction knowing their students were able to pass the certification exam and considered the students' success as validation of their own teaching abilities. Elizabeth summed up the feeling of accomplishment that many clinical instructors get when they pass along their professional knowledge:

I think I feel effective as a clinical instructor when we've had a student who when they are finished [with the rotation] we want to hire. That they have been a success, they've really learned well. They have the characteristics of

what a good employee is. You feel like you have been a success when you can take them from really not knowing anything to... running an instrument or reading a culture. That's very gratifying that you've gotten them that far.

The data from this study also revealed that clinical instructors rarely had formal teacher training. A few of the participants had a background in education to draw from, but most learned the role of the clinical instructor through their own experiences as students and continued to teach in the same manner that they had been taught. They relied on suggestions from colleagues and on the job teaching experience to improve their teaching practices.

CONCLUSIONS

Overall, the professional identity that the medical laboratory science clinical instructors attributed to themselves included a teaching component. The degree to which this teaching component was evident seemed to vary from participant to participant depending on several factors including: whether they had volunteered for their teaching role, whether they had received any educational training, and whether they were supported in the clinical environment by administration and colleagues.

Knowing which laboratory practitioners have an inherent sense of teacher identity might be helpful to managers and program directors when selecting the most motivated and committed individuals for instructional roles.¹⁹ However, laboratory practitioners are generally given teaching responsibilities based on their seniority as professionals. Many health professions' education programs rely on laboratory practitioners with little or no teaching experience to function as instructors in the clinical setting. When selecting individuals for these teaching positions longevity as practitioners is one criterion that is used, and the assumption is made that teaching skills have developed along with technical skills.¹⁰ Rarely do these individuals have any formalized teacher preparation, and therefore, they may not be fully aware of what is considered appropriate pedagogy.^{20,21} In this study only five of thirteen clinical instructors had any formal training for their teaching roles. This lack of training may become problematic when instructing health professions'

students whose educational needs are typically diverse.

The findings from this study also revealed that laboratory practitioners rarely received any guidance or mentoring as they assumed instructional roles. Instead they relied on intuition, how they were taught as students, and on the job teaching experience to develop their teaching practices. In addition, laboratory practitioners who are assigned to instructional roles may not be given sufficient opportunities to develop or enhance their sense of identity as teachers. Many clinical instructors work in busy healthcare environments where there is little time to share their questions or concerns about teaching with colleagues.²² Furthermore, teaching was not required as part of the written job description for most participants. These individuals taught because they enjoyed the opportunity to interact with students, and teaching added variety to their work day above and beyond their usual clinical responsibilities. In many cases, the clinical instructors received no extra compensation for their teaching efforts. A few of the participants were given a title that reflected their instructional role (technical specialist or clinical coordinator), but by and large most clinical instructors assumed their teaching assignments without special recognition.

Throughout the research it became apparent that some of the participants in this study had a stronger sense of their role as teachers than others. The contribution from this study is to lay the groundwork for future research to identify elements that can be used to measure teacher identity and the strength at which it is present in laboratory practitioners. To date, however, the problem with measuring identity remains the inability to find observable indicators that monitor internal processes.²³

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