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Radiography Clinical Instructors' Perceptions of the Transition from Technologist to Educator

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ABSTRACT

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Radiologic technologists who transition into the role of clinical instructor are usually expert practitioners but may lack knowledge of best practices regarding student instruction and evaluation. The purpose of this phenomenological qualitative study was to investigate how CIs experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position. This study consisted of interviews with radiography CIs from one associate degree radiography program in the southeastern part of the United States. While some CIs felt prepared to transition into the CI role, none of them had previously had education regarding instruction. They were provided support as they transitioned, but little formal orientation or training. The results of this study should challenge radiography programs to implement or strengthen current orientation programs for new CIs who are critical to student success.

DEDICATION AND MEMORIAM

I dedicate this entire endeavor to two very special people whose lives and legacies have shaped my life in so many ways.

Sandy Burchell, my sweet mother, I miss you every day. Although you did not get to see me finish this degree, I know you would be proud of this accomplishment. Thank you for teaching me that education is priceless, and that I can do anything.

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I love you both!

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CHAPTER 1

INTRODUCTION

When allied health students complete an educational program, a vital component of that education occurs in a clinical setting. "A clinical component of education is essential for students pursuing careers as health care providers… Clinical education provides an integral experience for students to apply, develop, and extend their knowledge and skills from their classroom and lab experiences" (Fortsch, 2007, p. 1).

In the clinical setting, the students put theory into practice. Students get an opportunity to practice didactic theories and concepts using scenarios in supervised lab settings or on real patients in real clinical settings (Fortsch, 2007; Giordano, 2008; Giordano & Harris, 2012; Hart, 2009). The clinical setting supplements the classroom educational experience (Giordano & Harris, 2012).

All Joint Review Committee on Education in Radiologic Technology (JRCERT) accredited radiologic technology programs must provide a clinical component in the educational curriculum and follow the curriculum guidelines as set forth by the American Society of Radiologic Technologists (ASRT) (JRCERT, 2010). The ASRT curriculum requires that students are instructed in "…the essential clinical skills that employers expect of graduates…" (American Society of Radiologic Technologists, 2012, p. 3). ASRT (2012) states the design of the clinical experiences of radiography students should:

> …sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Through structured, sequential, competency-based clinical assignments, concepts of team practice, patient-

centered clinical practice and professional development are discussed, examined and evaluated. (p.6)

Graduates of a JRCERT accredited program are encouraged to take the licensing examination as administered by the American Registry of Radiologic Technologists (ARRT). Before graduates can take the ARRT examination in Radiography, they must fulfill certain didactic educational requirements, clinical competencies, and patient care tasks and must adhere to the ARRT standards of ethics (ARRT, 2014d). The educational requirements include completing a JRCERT accredited program and studying topics of radiation protection, equipment operation and quality control, imaging procedures, patient care and education, and image acquisition and evaluation (ARRT, 2010a). The clinical competencies include a list of six specific patient care tasks, 46 total imaging procedures as a combination of 31 mandatory examinations and 15 electives from a list of 35, one elective head procedure, and two elective fluoroscopy procedures (ARRT, 2010b).

As the students enter the clinical educational portion of their curriculum, they will work with and learn from various members of the imaging team in the respective clinical facility (Campos, 2013). Campos (2013) described students working with clinical instructors (CIs) as well as clinical staff (CS) in the clinical setting. The program's clinical coordinator (CC) will coordinate and evaluate the clinical materials as well as connect the clinical materials to didactic competencies (JRCERT, 2010). The program director (PD) oversees the entire process (JRCERT, 2010). The program director must also safeguard that the CIs are educating and assessing the students' clinical performance effectively (Giordano, 2008).

The CI is a vital component of the clinical education process (Campos, 2013; Fortsch, 2007; Giordano & Harris, 2012; Ingrassia, 2011). The CI is usually an expert practitioner in his

or her field (Campos, 2013; McLeod et al., 2009). Although CIs display competence in the practice of their craft, that competence does not automatically transfer to the area of clinical instruction. "A unique aspect of teaching radiologic sciences is the need to be didactically *and* clinically proficient" (Giordano, 2004, p. 471). McLeod et al. (2009) described clinical instructors as having practical "how to do it' knowledge of teaching but few understand the basic principles, theories and concepts of the teaching and learning process or the 'why' of pedagogic behaviours" (p. 117). Giordano (2008) described how oftentimes clinical instructors mold their own teaching style and activities after their experiences as students because most CIs obtain little formal preparation on effective instruction which could explain why Giordano and Harris (2012) found variations that exist in clinical instructors' effectiveness from facility to facility. McLeod et al. (2009) indicated that CIs believe that gaining an understanding of pedagogical principles would enhance instructional effectiveness.

Fortsch (2007) recommended future research using a qualitative study of technologists and clinical instructors' educational preparation and professional experience related to instructing radiography students in the clinical setting. "Do they have the necessary skills and knowledge to facilitate student supervision, instruction, and evaluation while balancing patient care and negotiating interpersonal relationships? ... Knowing more about students, faculty, clinical instructors, and technologists will help identify potential barriers to the learning process" (Fortsch, 2007, p. 227).

Statement of the Problem

Radiologic technologists who transition into the role of clinical instructors are usually expert practitioners but may lack knowledge of best practices regarding student instruction and evaluation.

Purpose of the Study

The purpose of this study was to investigate how CIs experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position.

Research Questions

1. How are CIs prepared for their role as a radiography clinical instructor?
2. What experiences or education has provided CIs with the necessary skills, expertise, and knowledge of best practices to instruct and evaluate students?
3. What do the CIs perceive would adequately prepare someone to transition from registered radiologic technologist to radiography clinical instructor?

Significance of the Study

The information obtained from this study will improve orientation and training programs for CIs, thereby better preparing new CIs in the areas of student instruction and evaluation.

Limitations and Delimitations

This study is limited by the following:

1. Participants of this study were a sample of convenience and only represent clinical instruction in one community college radiography program in the southeast.
2. Results of this particular study may not be transferrable to other geographic regions.
3. The responses were collected during one interview session per participant and only represent participants' perceptions at that snapshot in time.

This study was delimited to clinical instructors practicing at affiliated clinical facilities in one community college associate degree radiography program. To be included in the study, the participants must be registered radiologic technologists by the American Registry of Radiologic Technologists (ARRT) and recognized as a current clinical instructor by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

The researcher assumed that all participants understood the significance of the study and the interview questions. The researcher also assumed that the participants answered openly and honestly to all questions presented.

Definitions of Terms

For the purpose of this study, the following terms are defined as follows:

Accreditation: assures students and graduates that an accredited educational program will "…provide them with the requisite knowledge, skills, and values to competently perform the range of professional responsibilities expected by potential employers nationwide… requires programs to teach the entire curriculum developed by the … American Society of Radiologic Technologists" (JRCERT, 2014a, para. 1)

American Registry of Radiologic Technology (ARRT): "…the world's largest credentialing organization that seeks to ensure high quality patient care in medical imaging…. We test and certify technologists and administer continuing education and ethics requirements for their annual registration" (American Registry of Radiologic Technologists, 2014a, para. 1).

American Society of Radiologic Technologists (ASRT): "…the premier professional association of people working in medical imaging and radiation therapy" (American Society of Radiologic Technologists, 2013b, para. 1).

Clinical Coordinator (CC): Someone who "correlates clinical education with didactic education, evaluates students, participates in didactic and/or clinical instruction, supports the program director to help assure effective program operation, coordinates clinical education and evaluates its effectiveness" (JRCERT, 2010, p. 43).

Clinical Facility (also referred to as Clinical Setting): A JRCERT approved clinical educational site for an accredited Radiography program. For this study, the facilities were all hospital settings.

Clinical Instructor (CI): An ARRT registered radiologic technologist with at least two years of experience and recognized by the JRCERT as an instructor in the clinical setting for student radiographers currently enrolled in an accredited educational program in Radiography or Radiologic Technology.

Clinical Staff (CS): Any ARRT registered radiologic technologist employed by a JRCERT approved clinical facility affiliate with an accredited radiography or radiologic technology program who works directly with the students of that educational program within the clinical educational experience to perform some instruction and complete competency evaluations of students as they perform the day-to-day patient care and radiographic procedure requirements of their employment.

Joint Review Committee on Education in Radiologic Technology (JRCERT): "The JRCERT is the only agency recognized by the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA), for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry" (Joint Review Committee on Education in Radiologic Technology, 2014b, para. 1).

Program Director (PD): "Assures effective program operations, oversees ongoing program assessment, participates in budget planning, maintains current knowledge of the professional discipline and educational methodologies through continuing professional development, and assumes the leadership role in the continued development of the program" (JRCERT, 2010, p. 43).

Registered Technologist (Radiography) (RT(R)): A "…designation of individuals who have completed the prescribed classroom and clinical education, passed the appropriate exam, and met the ethics requirements" for Radiographers (American Registry of Radiologic Technologists, 2014b, "And ARRT-registered R.T.s," para. 2).

CHAPTER 2

REVIEW OF THE LITERATURE

For this literature review, I used the following databases: ProQuest, CINAHL, PubMed, Google Scholar, as well as the East Tennessee State University (ETSU) Charles C. Sherrod Library. The keywords used included: clinical instructors, clinical instruction, clinical education, allied health, pedagogy, clinical instruction pedagogy, assessment, clinical transition, radiography, radiography instruction, radiography history, radiography faculty, radiography clinical instructor, health care educators, and education.

History

After experimenting with the effects of voltage traveling through glass tubes, Wilhelm Conrad Roentgen is credited with the discovery of x-rays in 1895 (Assmus, 1995). Within three decades, x-ray machine installations in physician offices began, and those physicians also served as the x-ray machine operators (ASRT, 2013a). This dual role took significant time away from direct patient care; therefore, the physicians employed office workers or nurses as the machine operators, at that time known as technicians (ASRT, 2013a).

In 1920, technicians within the first professional organization for radiographers, the American Association of Radiological Technicians, formed a network to discuss techniques and learn from each other (ASRT, 2013a). In 1922, Sister M. Beatrice Merrigan was the first technician in the United States to pass the registry certification examination administered by the organization later known as the American Registry of X-ray Technicians (ARRT, 2014c). By the mid-1930s, the professional organization changed its name to the American Society of X-ray Technicians (ASRT, 2013a).

The American Society of X-ray Technicians presented formal didactic, or classroom, and clinical education standards and the first standardized curriculum recommendations in the early 1950s (ASRT, 2013a). "The 1952 curriculum was the first of many that the society would publish over the years as it consistently pushed for uniform educational standards for radiologic technologists" (ASRT, 2013a, para. 16). In the early 1960s, the society changed its name again to the American Society of Radiologic Technologists (ASRT) due in part to members' beliefs that the term technologist placed more emphasis on education and professionalism (ASRT, 2013a). Around the same time, the organization that administered the Registry examination became the American Registry of Radiologic Technologists (ARRT, 2014c). The ASRT communicated those recommendations with the ARRT in order to coordinate the registry examination questions with the ASRT recommended curriculum.

The ASRT collaborated with the American College of Radiology (ACR), an organization whose mission includes advancing radiological science, improving patient care, providing continuing education, and radiology research to develop the Joint Review Committee on Education in Radiologic Technology (JRCERT) in 1969 (ACR, n.d. & JRCERT, 2014c). The JRCERT conducted evaluations and site visits for radiography educational programs and provided standards for assessing student outcomes (JRCERT, 2014c).

Clinical Instruction

Health related educational programs include didactic as well as clinical skills portions within the curriculums. The didactic classes provide theory and facts for the student's knowledge, while the clinical portions of the curriculum provide students with the practical hands on skills necessary to perform the job duties required of health workers. While

educational programs are different in their expertise, they are similar in their overall educational framework.

In regard to the clinical portions of radiography curriculums, O'Conner (2015) explained that clinical education

> enables students to move from theoretical learning… based on textbook and classroom explanations…to practical learning in making the observations and performing the interventions necessary to manage those responses in real-life situations. Theory becomes reality as students begin to make connections between the generic 'usual' case presented in the classroom and the specific 'actual' case with which they are involved. (p. 2)

Other allied health program educators could present the same explanation for their respective clinical training programs.

In all allied health curriculums, a clinical instructor (CI) is essential to clinical education (Campos, 2013; Fortsch, 2007; Giordano & Harris, 2012, Ingrassia, 2011). A CI is generally a skillful practitioner who has the additional duties of educating students (Campos, 2013). A CI also should be someone who "is proficient in supervision, instruction, and evaluation" (JRCERT, 2010, p. 68). In addition, a CI

> is knowledgeable of program goals, understands the clinical objectives and clinical evaluation system, understands the sequencing of didactic instruction and clinical education, provides students with clinical instruction and supervision, evaluates students' clinical competence, maintains competency in the professional discipline and instructional and evaluative techniques through continuing professional development, and

maintains current knowledge of program policies, procedures, and student progress. (JRCERT, 2010, p. 44)

Clinical expertise alone is not satisfactory criteria for becoming a clinical teacher. The transition into the clinical educator role involves new skill development. Effective CI skills include evaluation and teaching, amending to the clinical environment as a teacher, acquaintance with the academic environment, and becoming a liaison between the academic institution and the clinical setting (O'Conner, 2015).

Clinical instructor (CI) job performance expectations include facilitation of the course objectives while preparing clinical students to move ahead in the allied health program. The CI must evaluate student performance "that contributes to the student's success or failure in the clinical course" (O'Conner, 2015, p. 41). These evaluations require feedback for the student as well as possible conferencing with program faculty (O'Conner, 2015). In addition, a CI is expected to maintain a positive image of the program and follow program policies and procedures. In order for a new CI to accomplish this, "the clinical instructor needs a good deal of information" (O'Conner, 2015 p. 41) as he or she transitions into the CI role.

Transitioning Into the New Role

Preparations

As one transitions from healthcare practitioner to CI, oftentimes the practitioner is considered an expert in his or her field. The practitioner may feel prepared to embark on the new journey of educating students; however, it may be a journey for which they are not prepared. Hart (2009) indicated novice CIs perceive they "feel prepared to be effective clinical instructors for ATSs [athletic training students] but may not be competent in this position" (p. 16). The

knowledge, skills, and abilities of instruction are quite different from those necessary while performing clinical requirements of the profession itself.

Unfortunately, those practitioners may be unaware of the requirements of the new position or the transition. Oftentimes, the CIs will continue to perform the requirements of their professional job while adding on the responsibilities of clinical instruction. Clinical instruction is challenging and can test the CI's determination while completing a "dual role as professional and teacher" (Campos, 2013, p. 140). It takes determination to successfully complete that transition and gain the skills necessary for expert instruction.

Buccieri, Pivko, and Olzenak (2011) investigated what experiences prepared physical therapy professionals to become expert CIs. The CIs indicated they acquired CI skills by integrating feedback from others, drawing from their own student experiences, reading, researching, attending conferences and seminars, as well as engaging in instinctual instructional strategies (Buccieri et al., 2011). Each of these strategies, experiences, and challenges can help the CI prepare for an effective transition from practitioner to instructor.

Experiences and Challenges

Each healthcare professional who transitions into education will have experiences and challenges as they acclimate to their new role. Each CI experiences similar challenges during the transition, however; there is no concrete plan of action to address these challenges. Siler and Kleiner (2001) investigated the experiences of new nursing faculty and found that "much of the practice of these new teachers was based on doing what they thought was best and learning from the consequences of those actions" (p. 402) and supported some type of formal education to prepare faculty to teach. Oftentimes, new strategies for preparing for the CI role transition can include "talking to other educators, reading, researching, asking questions, taking notes,

attending meetings, being flexible, engaging with the students, staying organized, and continuing to learn" (Chapman, 2013, p. 57), which are often undertaken by the CIs themselves as they experience their own learning curves.

New CIs may not anticipate having such a steep learning curve. In Chapman's (2013) study of new nurse clinical faculty, participants described the transition into instruction as "intimidating, stressful, and frustrating" (p.50). Chapman's (2013) participants revealed a separate outlook from their expectancy of the transition and their actual experience during the transition. The expert practitioners did not anticipate needing different skills for instruction in the clinical setting from those they used to practice their craft in the clinical setting.

In a similar study, Bailey (2012) reported that 100% of the nurses in the study perceived their advanced clinical knowledge would transition into instruction. Unfortunately, "they are often novices with the setting of academia" (Bailey, 2012, p. 107) because over half of the participants felt unprepared to be a CI in the first year. The nurses listed insufficient orientation, absence of mentorship, and difficulty harmonizing time in clinical and teaching as contributing to their lack of preparation (Bailey, 2012).

Perceptions of the Skills, Expertise, and Knowledge of Best Practices

Once technologists choose or agree to become a CI, they may perceive certain experiences and challenges will be forthcoming. They also may perceive their clinical skills and expertise will be sufficient for effective clinical instruction. The instructors' perceptions of the skills required of CIs can be different from the reality of the necessary expertise. McLeod et al. (2009) explored "specialist clinicians' perceptions of which basic principles and concepts might have particular importance to their instructional endeavors, and [compared] their perceptions to those of the education experts" (p. e118) and found that CIs perceived that their instructional

success and effectiveness required knowledge of pedagogical principles. Interestingly, the CIs and didactic faculty differed in the specific ratings of various pedagogical principles that would enhance instructional effectiveness (McLeod et al., 2009). Clinical teachers ranked clinically necessary skills such as communication, student supervision, and role modeling higher than the education experts did (McLeod et al., 2009). The education experts ranked various aspects of assessments, pedagogical implications, and transfer of learning among the most important principles, all of which the clinical teachers ranked lower (McLeod et al., 2009). This suggests that clinical and didactic instructors differ in their perceptions of what skills are needed to help their students learn.

In a similar study, Paulis (2011) compared student and CIs' opinions of preparation for dental hygiene clinical instruction, and reported students perceived CIs needed more teaching methodology preparation while instructors stated a need for direction in educational techniques. Both students and CIs perceived a need for CIs to be educated in instruction, they just differed in the specifics. Both could agree that "before clinical instructors are placed in a situation of teaching students, training should occur to increase teaching effectiveness" (Paulis, 2011, p. 304).

Similarly, registered nurses who transition into clinical instruction have two categories of perceived needs: "instrumental information that all new employees require, and those that are more complex, such as teaching/learning theory" (Davidson & Rourke, 2012, p. 7). These nurses expressed a need for an orientation program as well as some directed education in the educational role. With orientations and educational or training programs in place, the clinical learning experience could conceivably improve.

Students desire a worthy clinical learning experience. Mason (2006) found students reported helpfulness, knowledge, desire to instruct, and encouragement among the most desirable qualities for CIs; on the other hand, Ingrassia (2011) found that radiography students as well as CIs ranked demonstrating fairness and objectivity when performing student performance evaluations as the most important teaching ability.

Both expert clinicians and expert educators are vital in healthcare education. As the expert clinicians transition to clinical instruction, they will gain experience as educators. Over time, with guidance, they can continue to transition into expert clinical teachers as well.

> Expert clinical teachers … can be regarded as performing at the top tiers of the clinical teaching pyramid since they have developed into competent educators who are performing at a high level while the education experts possess the critically important pedagogical knowledge base supporting the pyramid…. Both groups are fundamental to the structural integrity of the 'clinical teacher competence pyramid' and the education enterprise and each can benefit from a dialogue designed to exploit the strengths of the other. (McLeod et al., 2009, p. e120)

Instruction and Evaluation

Pedagogy

Teaching in a clinical setting is unlike teaching a didactic course (Mlyniec, 2012). Healthcare professionals are experts at their craft, but oftentimes have little or no education or experience with pedagogy, especially as part of their respective healthcare field initial training. According to Zakari, Hamadi, and Salem (2014), pedagogy includes the activities instructors use in the teaching environment, the supplemental materials used, and the attitudes communicated. Pedagogy encompasses actions and schools of thought in education, and pedagogical methods

regularly merge knowledge and application (Zakari et al., 2014). New CIs may need information regarding teaching pedagogy, as this is an entirely new endeavor. Mlyniec (2012) suggested that new CIs need to learn a history of clinical education and instruction; supervisory and reflection methods; significance of values and ethics relating to clinical instruction; pedagogical methods; and the interrelation of feedback, assessment, and grading in clinical courses. McDonald (2013) echoed this statement indicating that new clinical educators need clinical expertise as well as knowledge of how to teach and evaluate students in a clinical setting. Education in teaching methods, curriculum, evaluation, and the faculty's role is vital for successful healthcare clinical instruction (McDonald, 2010).

Many new healthcare instructors have taken on this new role without "fully understanding how to effectively meet the educational needs" of the student (Chapman, 2013, p. 83) and must learn how to adapt their educational approaches in the clinical setting in order to meet the various learning requirements of their learners (Chapman, 2013). Clinical instruction requires "instructors who can properly evaluate student performance, provide constructive criticism, and encourage student questioning" (Giordano & Harris, 2012, p. 223).

Learning Styles

Because students have different clinical learning styles, "[a]n awareness of the learning styles used during clinical practice, on the part of students and clinical faculty, can enhance student success and teacher efficacy" (Ward, 2009, pp. 102 & 107). Giordano (2004) suggested that the ability to teach a single concept to students with a variety of learning styles "can only be developed through experience" (p. 471) and cannot be learned through education.

In addition, "heightened awareness of learning style differences and relevance to clinical practice education may broaden the understanding of learning style differences by clinical

instructors" (Ward & Makela, 2010, p. 534) and can serve as a catalyst for enhancement of learning opportunities as well as improving teaching effectiveness (Ward & Makela, 2010). This echoed Fortsch's (2007) argument that "it was a challenge for instructors to bring the artistry and science of teaching together for optimal learning" (pp. 218-219) and that "students need diverse, intricate, and irregular examples to be prepared for novel problems and solutions" (Fortsch, 2007, p. 221).

Assessments

CIs must have a way to measure all students' learning progression through their respective clinical educational programs, no matter what their learning style. Assessments provide instructors with a quantifiable tool to measure student learning. Burns (2012) examined the attitudes of radiography CIs regarding "their experiential learning on the dimensions of clinical teaching and learning and clinical competence" (p. 19) and found that CIs should have a working knowledge of assessment. "Assessment is also a key part of the pedagogical process, with teachers needing to think about how they link and sequence learning activities and how and what they assess" (Office of Learning and Teaching, n.d., p. 8).

Evaluation and Feedback

Assessments are only one portion of the measurement of learning progression. CIs must evaluate the students throughout the clinical experience then provide feedback to the students. Evaluating students in the clinical setting is an indispensable portion of the overall learning progression (Hsu, Hsieh, Chiu, & Chen, 2014) as those evaluations provide the students with objective updates on their progression. For evaluations to be suitable and effective, the CIs must set aside any personal feelings and perceptions of the students in order to evaluate the students objectively (Giberson, Black, & Pinkerton, 2008). Suitable means for evaluating students'

clinical abilities are critical in affirming entry-level employment capability (Walker, Weidner, & Armstrong, 2008).

In order to convey the evaluation results to students, feedback from the evaluator to the student is critical in the learning process, as the students can use this feedback from the evaluations to understand areas in which they need to improve and to master skills performance (Plakht, Shiyovich, Nusbaum, & Raizer, 2013). Feedback in the clinical arena can be described as data about the comparison between the student's actual performance and a predetermined performance standard, and presented to the student with the intention to advance the student's abilities (van de Ridder, J., Stokking, K., McGaghie, W., & ten Cate, O., 2008). As students are effectively evaluated, and understand the feedback provided, their habits change and knowledge develops into action.

Preparations for the Transition

Orientations, Workshops, Trainings, and Mentorships

Just as students need to understand the differences between their didactic and clinical experiences, new CIs need an orientation or training for their transition from clinical practitioner to clinical instructor. Unfortunately, that is not the normal practice for many allied health programs as Cederbaum and Klusaritz (2009) suggested:

> Clinical instructors develop a teaching style that is based on practice wisdom, their experience and comfort level, and their own training. These individual teaching styles may or may not include a skill repertoire that lends itself to dealing with challenging teacher-student relationships. Effective practitioners are continually growing and acquiring new skills to best meet the needs of their client population. The same holds true for effective clinical instructors: openness to new styles of teaching to best meet the

needs of students is critical for encouraging effective knowledge transmission and establishing an open learning environment. (p. 427)

Some type of "formal education and professional trainings are necessary to have a smooth flow of transition" (Bailey, 2012, p. 121) from practitioner to educator, as the different role is stressful for the new CI (Starnes-Ott & Kremer, 2007). Chapman (2013) suggested that "knowledge-based education modules and interactive learning activities may be beneficial for preparing qualified nurses to function as clinical nursing educators" (p. 98) which echoed Burns's (2012) recommendation for annual workshops in clinical instruction, learning, and competency as well as the implementation of a clinical instructional residency program for new technologists.

Constant mentoring is also necessary to support new instructors as they transition into education (Foulds, 2004; McDonald, 2010). Workshops and constant mentorship could groom beginning clinical teachers for new responsibilities with students (Foulds, 2004). This preceded Bailey's (2012) suggestion of "support and mentoring from experienced nurse educators [would help] prepare APNs [advanced practice nurses] for the roles and responsibilities of teaching" (p. 120). Kelly (2007) also supported mentorships, which includes "creating and maintaining an open, collegial relationship; adapting the experience to the student; facilitating clinical reasoning; making time for the student; and environmental support" (p. 68) all of which would be beneficial for any new CIs. Mentor relationships would not only assist new CIs with the transition, but it would also create a bond in which the mentors could support the CIs as they continue to evolve as instructors.

Credentialing

Not all allied health professions have a credentialing program for new clinical educators, but credentialing programs can be beneficial for the ones that do. Morren, Gordon, and Sawyer (2008) found that CI credentialing might have improved four instructional skills of physical therapy CIs, including timely feedback, explanations of student responsibility, incorporation of student learning styles, and constructive evaluation.

Housel and Gandy (2008) compared credentialed to non-credentialed physical therapy CIs by investigating their students' clinical performance outcomes and found no significant difference in final ratings of select clinical performance criteria; however, the students who trained under credentialed CIs showed more progression throughout the semester. In a similar study, Housel, Gandy, and Edmondson (2010) compared physical therapy student assessment of credentialed CIs to non-credentialed CIs and reported that students rated credentialed CIs as more effective instructors. Other allied health professions may see similar results with CI credentialing programs, if initiated and investigated.

Summary

Despite the differences in allied health disciplines, their educational programs are similar. Regardless of the type of program, clinical instruction is challenging and can test the CI's determination while completing a "dual role as professional and teacher" (Campos, 2013, p. 140). Legg (2012) made a compelling argument for more formal training for clinical instructors after conducting a study of strategies for effective transition from healthcare practitioner to educator and summarized:

> it seemed that the healthcare educators wanted more structured, formal mentoring programs with seasoned faculty members who were interested in supporting new faculty.

> They implied that orientation sessions for new faculty should also be well-structured and contain pertinent information regarding the institution's operational policies. In addition, introductory information should be included for those new to the academic setting. Basic educational theory should be presented to help prepare new educators for the pursuit of leading students toward success. The topics for college in-service sessions for new faculty should further guide them through the transitional process by providing them the education knowledge base they need to progress and grow in their new positions as educators. (pp. 96-97)

New healthcare educators deserve "adequate orientation, structured mentoring, and exposure to educational theories" (Legg, 2012, p. 105) especially if CIs "are chosen based on clinical skills rather than teaching abilities" (Hart, 2009, p. 44).

After reviewing the literature, the necessity for more studies into the subject of allied health clinical instructor transition from practitioner into education is evident. Campos (2013) suggested inquiring if CIs "felt they could benefit from additional training to work with students" (p. 136) and asking CIs "what they feel makes for a quality teacher or teaching experience; and then survey them asking them if they possess or perform at that level" (p. 140). Likewise, Buccieri et al. (2011) suggested interviews because "an understanding of how CIs develop expert teaching skills may inform training programs to enhance clinical instruction" (p. 23). Similarly, Kelly (2007) suggested additional usage of qualitative methodology for exploration into clinical instruction and education.

Fortsch's (2007) question "Do they have the necessary skills and knowledge to facilitate student supervision, instruction, and evaluation while balancing patient care and negotiating interpersonal relationships?" (p. 227) summarizes the sentiments of researchers before and since.

If “graduates often learn how to be clinical instructors by modeling the instructors who interacted with them as students” (Eatmon & Aaron, 2012, p. 198), then it behooves training programs to ensure that “students receive a solid didactic and clinical education, [so] they graduate to become true professionals of whom we can all be proud” (Eatmon & Aaron, 2012, p. 198).

CHAPTER 3

METHODS

Overview

As outlined in the literature review, a radiography clinical instructor (CI) is typically an expert at his or her profession but may lack knowledge of the basic principles and best practices of instruction and evaluation (Campos, 2013; McLeod et al., 2009). The purpose of this study was to investigate how CIs experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position. In order to ascertain what the CIs experienced during their transition, I conducted a qualitative study with a phenomenological design. I conducted personal interviews by means of a newly developed interview guide. Using the literature review as a basis, this research study was designed to add to the body of knowledge on the topic of radiography clinical instructor experiences as they transition from practitioner to instructor as well as their knowledge and prior education regarding best practices of student instruction and evaluation.

Research Design

A phenomenological study "…tries to understand a small, selected group of people's perceptions, understanding, and beliefs concerning a particular situation or event" (Cottrell & McKenzie, 2011, p. 10) and defines the quintessence of someone's lived events (Moustakas, 1994). Creswell (2007) described a phenomenological study as one where "…it is important to understand several individuals' common or shared experiences of a phenomenon…in order to develop practices or policies, or to develop a deeper understanding about the features of the phenomenon" (p. 60). I interviewed each clinical instructor individually then conducted a

content analysis of the interview transcripts to code the data "…to form descriptions and broad themes in the data" (Creswell, 2011, p. 243).

Interview Guide Development

A personal interview design can be used "…to uncover feelings and attitudes an individual has regarding a specific experience" (Cottrell & McKenzie, 2011, p. 236) and allows for complex and detailed questions and answers (Cottrell & McKenzie, 2011). The interview guide contained questions addressing CIs' experiences as they transition from technologist to CI as well as what knowledge or training regarding best practices of instruction and evaluation they possessed as they went through that transition. The demographic data collected allowed evaluation of similarities and differences of participant experiences.

I developed an interview guide [Appendix A] that provided data to answer the research questions. Interview questions address situations regarding student instruction and evaluation CIs experienced as they made that transition. Questions also addressed prior preparation for technologists to become successful CIs including any formal training, education, or prior knowledge regarding best practices of instruction and evaluation. Demographic questions included years of technologist experience (total as well as before the transition into education), type of work experience, highest level of formal education, specific types of degrees earned, types of ARRT registries held, any other educational experience before their current CI position, and years of experience as a CI.

I presented the interview guide to the East Tennessee State University (ETSU) Institutional Review Board (IRB) for approval before use. I received approval on IRB number c0415.2s on April 9, 2015.

Instrument Validity

I used the following validation strategies:

- Peer review "…provides an external check of the research process" (Creswell, 2007, p. 208). After IRB approval, I conducted a pilot interview. The pilot interview involved one clinical coordinator who previously held a clinical instructor position. The pilot interview participant also read the Informed Consent Document (ICD) [Appendix B] and the Interview Cover Letter [Appendix C] and made no suggestions to improve clarity. After the interview concluded, the pilot participant conducted a peer review of the interview guide instrument. The pilot participant and I discussed any suggested revisions, additions, or deletions of questions. The pilot participant and I also discussed any questions that might need reworded for clarification. Based on the discussion with the pilot participant, the interview guide required no modifications.
- Clarifying researcher bias can be accomplished when "…the researcher comments on past experiences, biases, prejudices, and orientations that have likely shaped the interpretation and approach to this study" (Creswell, 2007, p. 208). I have seven years of experience as radiography didactic faculty but no experience solely as a CI. I have no experiences with which to compare the transition from technologist to instructor solely in the clinical setting. I used the prepared interview guide as a script during the interviews thereby not allowing researcher bias into the interviews.

- Member checking includes presenting the written transcript to the participants allowing them to "…judge the accuracy and credibility of the account" (Creswell, 2007, p. 208). At the conclusion of each interview, each participant reviewed my notes to ensure I captured the nature of the participant's response and to clarify any confusing answer.
- An auditor spot checked the interview audio recordings and compared them to the transcriptions, as well as to the information presented in Chapter 4 of this thesis. This will assure accuracy of transcription, which will enhance the validity of the study (Creswell, 2014).

Strengths and Limitations of Design

One strength of a phenomenological design involves providing an understanding of an experience shared by participants (Creswell, 20007). This study's participants all have transitioned from an RT(R) role into a radiography CI role. Although the participants may differ in their past experiences and preparations for the CI role, they all currently serve as a CI for the same radiography program.

Creswell (2014) discussed several advantages of qualitative data collection using interviews. Interviews are useful when direct observations cannot occur (Creswell, 2014). The participants provide data related to the interview questions (Creswell, 2014). The researcher has control over the data collection during interviews.

The study's sample population included CIs from only one community college radiography program. The study included only one interview per participant, which represents the participants' perceptions at that snapshot in time. The results of this study may not be transferrable to other geographical regions.

Challenges to interviews can include the participants' choice whether or not to fully answer questions related to their previous experiences (Creswell, 2007). Face to face interviews may also be limited by the participants' willingness or hesitation to fully answer the interview questions as well as differences in their perceptions and expressions (Creswell, 2014). Another challenge to interviews may include finding a setting conducive to an uninterrupted interview time (Creswell, 2007). Interviews are also limited by the participant providing their filtered view of information in in a designated place instead of the researcher being able to directly observe the phenomenon occur (Creswell, 2014).

Population

The population for this study was a sample of criterion as well as convenience. All participants were recognized by the JRCERT as CIs in an accredited radiography program. The sample of convenience included only CIs in one radiography program in the southeastern part of the United States. There was a maximum number of 21 possible participants.

The sample of convenience included CIs who instruct within the radiography program for which I am also didactic faculty. I have no supervisory role over those CIs nor do I provide any CI orientation, education, or evaluation. I teach first year radiography classes to radiography students, while the CIs instruct second year radiography students within this program's curriculum structure.

I sent each potential participant an interview cover letter [Appendix C] describing the purpose of the study, research questions, and general information about the study. I then contacted potential participants by e-mail and phone for the purpose of confirming participation and scheduling an interview appointment.

Informed Consent Consideration

Each participant was given two copies of an informed consent document (ICD) [Appendix B] to read. The ICD informed the participants of:

- The purpose of the study
- The expected duration of the interview
- The procedures of the interview, recording, transcription, and record keeping
- Alternative procedures, treatments, possible risks, benefits, costs, payments, or compensations for participation
- Voluntary participation
- The contact information for questions
- The confidentiality statement.

I gave the participants sufficient time to read the ICD and ask any questions. I answered all questions presented by the participants. Once discussions were completed, the participants granted consent by initialing each page of both ICDs and signing the last page of both copies. I also signed the ICDs. One copy was the property of the researcher while the other remained with the participant.

Data Collection Procedures

Once participants granted consent, I collected data via face-to-face, one-on-one interviews. Each participant heard the same introduction, purpose, procedure instructions, as well as interview questions. I read from the designed interview guide script [Appendix A]. This approach reduced the likelihood of researcher-introduced bias.

I recorded the interview on audio tape and then had the recording transcribed. An auditor checked the transcripts to assure accuracy in transcription. Once the study was completed, the

audio was stored in a locked cabinet in the researcher's home to be held for a period of five years. The transcript includes neither names nor identifying information of participants, which allows for participant confidentiality.

Research Questions

The research questions addressed with this study were:

1. How are CIs prepared for their role as a radiography clinical instructor?
2. What experiences or education has provided CIs with the necessary skills, expertise, and knowledge of best practices to instruct and evaluate students?
3. What do the CIs perceive would adequately prepare someone to transition from registered radiologic technologist to radiography clinical instructor?

Data Analysis Procedures

Once I collected the data , I categorized the comments relating to the CIs' experiences regarding transitioning into the CI role as well as their perceptions of adequate preparation into significant statements that provided "an understanding of how the participants experienced" (Creswell, 2007, p. 61) their transition. I then developed clusters of meanings, or themes, from the categorized significant statements.

Because of the phenomenological design, I intentionally bracketed out my experiences and notions. "To be open to the phenomenon, researchers need to set aside all preconceived notions, personal beliefs, feelings, and perceptions (a process known as bracketing)" (Cottrell & McKenzie, 2011, p. 234). Although I have not specifically experienced the transition from technologist to CI for any radiography program, I have witnessed others making that transition. In order for this research study to be successful, I had to bracket out all prior beliefs regarding the change.

Once the transcript audits were completed, I read through all the data and began coding. "Coding is the process of organizing the data by bracketing chunks…and writing a word representing a category…and labeling those categories with a term…based in the actual language of the participant" (Creswell, 2014, p. 197-198). Coding will generate themes which may be interconnected and "…shaped into a general description (as in phenomenology)" (Creswell, 2014, p. 200).

Creswell (2014) discussed eight steps to the coding process, which include:

- Obtaining a sense of all of the data
- Picking one transcript and while studying, thinking about the "underlying meaning" (p. 198)
- Repeating this for several participants then list all topics, making clusters of similar subjects
- Abbreviating the topics into codes, then returning to the transcripts and writing the codes next to relative text
- Using descriptive wording for the topics and creating categories, grouping related topics
- Finalizing the abbreviations
- Assembling the data within each category
- Recoding the data if necessary.

I only used codes that "…emerge[d] during the data analysis" (Creswell, 2014, p. 199). To assure that the codes were reliable, I continued to compare the codes with the transcripts and wrote "memos about the codes and their definitions" (Creswell, 2014, p. 203).

Summary

This chapter has described a phenomenological qualitative study to identify CIs' experiences as they transition from radiologic technologist to CI in one radiography program in the southeastern part of the United States.

CHAPTER 4

RESULTS

Participants

I collected information by completing one on one interviews with six CIs from the radiography program in which I teach. All participants were ARRT registered radiologic technologists as well as recognized by JRCERT as CIs. Four participants held an ARRT Radiography registry alone, while one had additional certifications in both cardiovascular and computed tomography, and one participant had an additional computed tomography certification. One participant was male, and the remaining participants were female. All participants were CIs in a hospital setting.

Their experience as technologists ranged from 10 to 26 years, and included hospitals, trauma centers, a children's hospital, pediatric clinic, and a mobile imaging company. The participants have worked in diagnostic radiography, surgery, fluoroscopy, computed tomography, magnetic resonance imaging, special procedures, and radiology information technology.

Their experience as CIs ranged from two to 10 years, with a range of one and one half years to 10 years of experience as a technologist before transitioning into the CI position. The participants' education included: one radiography certificate, three Associates of Applied Science degrees, majoring in radiography and a combination of radiography and science, two Bachelor of Science degrees majoring in business administration and radiography, and one Master of Science in Allied Health degree. The certificate holder and associate degreed participants as well as the radiography undergraduate completed their programs before transitioning into the CI position, while the remaining CIs earned their undergraduate and graduate degrees after their transition.

Only one participant had education regarding student evaluation; however, this education was after the participant transitioned into the CI position. One participant had limited prior work experience as a substitute teacher in a public school before transitioning into a CI position. One participant taught radiography positioning and radiologic science labs before becoming a CI. One participant had prior student training and supervision experience in a military situation training other soldiers before transitioning into a CI position.

I selected the participants using a sample of convenience. All potential participants were JRCERT recognized CIs for one Associate Degree Radiography program. I recruited the participants through repetitive emails and phone calls. I explained the nature of the study, the interview process including anticipated time involved, audio recording and transcription, and measures to protect the participant's privacy. The names used in this study are pseudonyms. Out of 21 potential participants, six agreed to the interview, two declined to participate, while the remaining 13 failed to respond to emails and phone call voice mails.

Data Collection

After a CI agreed to participate, I scheduled the interview at a time and location convenient for the participant outside of their hospital work environment. Prior to the interview, the participant read the informed consent document. I answered any questions and we both signed the consent document. Then I discussed the interview procedure including audio recording, transcription, and note taking. I explained that I would go over his or her answers after the interview in order to make certain that I had the general idea and purpose captured in my notes. Once I finished that process, I began recording the interview. After the participant finished answering the last question, I stopped recording and began going over my notes with the participant.

A transcriptionist took each interview recording and provided a verbatim transcript of the interview using the pseudonyms I provided. Next, I sent all transcripts and interview audio recordings to an auditor to ensure the transcripts were accurate. Appendix D is the auditor's certification for the transcripts. I coded each interview by categorizing the comments into significant statements. I then clustered similar subjects and developed themes from the significant statements. I abbreviated these themes into codes, created categories, and assembled data within each category. I also provided my auditor with a copy of this chapter for her review and confirmation that what I reported is accurate information from the interviews. Appendix E is the auditor's certification for Chapter 4.

The research questions for this study were: 1) How are CIs prepared for their role as a radiography clinical instructor? 2) What experiences or education has provided CIs with the necessary skills, expertise, and knowledge of best practices to instruct and evaluate students? 3) What do the CIs perceive would adequately prepare someone to transition from registered radiologic technologist to radiography clinical instructor?

Findings

How are CIs Prepared for Their Role as a Radiography Clinical Instructor?

As the technologists entered into the CI role, most felt prepared to make that transition even though they were chosen for the job by their department manager or by the radiography program director. Only one said that she also desired to perform the CI duties. Lisa, Lynn, and Sue all expressed a feeling of preparedness due to their experience as competent technologists. Lisa explained, "I felt like I knew enough about the field to pass knowledge on to my students." Lynn described having to remember "everything that I was taught" as a student but felt prepared to teach. Chris explained transitioning twice, with the first time feeling prepared but the second

time not feeling prepared. Lynn and Chris both described working at hospitals as technologists prior to transitioning into a CI role at their respective hospitals as having aided in their preparation. Chris's second transition was not at a facility where she was employed, and she had been working in a specialty modality without CI duties. Chris explained, "It's definitely beneficial to work at the hospital that you do clinicals at, or have experience with them beforehand." Sue had prior teaching experience by teaching radiographic procedures labs and radiographic science labs, therefore felt prepared to teach students in a clinical setting.

Some did express a lack of preparedness. Gwen initially experienced "a lot of trial and error, and it's still a lot of trial and error. We just basically took what we remembered as students when we went through a program and tried to apply that to" students. Edward's experience was similar to Gwen's. Edward stated, "I felt that there was no formal training. I would have appreciated that;" however, he felt confident enough with his skills and knowledge of the curriculum that he could perform CI duties. He also expressed that he drew from his experiences as a student and modeled CIs from his alma mater.

The participants described things that were easy about their transition. Chris said her first transition was easy because she worked at the facility and knew the protocols, which was similar to Lynn's experience. Chris credited past experience as helping her second transition. Lynn added that her transition into the CI position was only three years after she became a technologist, so she easily recalled the textbook information. Edward and Gwen described supportive faculty. Lisa stated, "I had eager students [who were] willing to learn." Gwen added that the fellow technologists at her facility offered great support and explained, "We've been through different programs, [and] people threw out different ideas based on their experiences."

The participants then described things that would have helped them transition more easily. Chris explained that having more privileges at the hospital would be beneficial, as did Sue. Both described the need for having freedom to approve and send student images as well as having more hospital computer privileges. Gwen suggested shadowing time under a seasoned CI at a different, or larger, facility would give them ideas on different things to do with students. This was similar to Lynn's suggestion of more educational materials, specifically more information about learning styles. Edward stated "I would like to have had some orientation…I feel like an orientation would get us [the two CIs at the same facility] on the same page." Edward also suggested a management class for new CIs to learn the legal aspects of teaching, to learn how to address students, and how to be supportive.

All participants said they received support as they transitioned. Edward, Gwen, Lisa, and Lynn received support from the college faculty; Chris, Lynn, and Sue received support from the clinical coordinator, and Lynn received support from the program director. Edward and Lynn said they were supported by their department manager at the hospital. Lynn listed other facility CIs within the same program as support. Gwen discussed the clinical semester packets, which included the objectives, syllabi, and evaluations as support because they were very straight forward and detailed, and guided her through the semester.

What Experiences or Education Has Provided CIs with the Necessary Skills, Expertise, and Knowledge of Best Practices to Instruct and Evaluate Students?

As the technologists made the transition into CI, they had ideas about what was necessary to teach. All described that CIs need to be proficient as technologists. Gwen and Lisa described experience as technologists as important. Edward and Lynn both specified knowledge of radiographic positioning or procedures as important, while Chris and Lynn described the need for

more technical skills which include technique, processing, digital, equipment, and picture archival communications systems.

The participants also mentioned skills or qualities not specific to technologists. Edward and Gwen described social skills and being a "people person" as important skills for CIs. Edward added that not being intimidating, commanding respect, and comradery with the students were essential. Gwen stated CIs need to exhibit "grace under fire" and Sue suggested that flexibility, leadership, and parenting skills were necessary for instructing and evaluating radiography clinical students.

Chris, Lisa, and Sue stated that their perceptions of the skills and expertise necessary to effectively instruct and evaluate radiography clinical students had not changed since they first started. Edward learned that people management skills and balance are also necessary, maintaining that CIs cannot be pushovers nor can they be too strict. Gwen reiterated that the CIs needed to know their jobs as technologists, stating, "If we had the time to go through and refresh ourselves sometimes on the harder stuff…There is so much I have forgotten and we consult those books [program adopted textbooks] quite a bit." Lynn said that every student is different, takes different initiatives, has different fears, and it is important for CIs to recognize this. "They learn [at] different capacities and different speeds, and I've had to adjust that technique with the students so that each one of them gets a good education."

Once the participants compared their teaching style to their style when they first began, all exhibited an evolution. Chris described the need to be stricter. Edward and Gwen both described having more comfort, less nervousness, more confidence, and more competence in the position. Lisa and Lynn said more technologist as well as more CI experience had changed their teaching by giving them more ways to teach things to students. Lisa described having "more

techniques on how to do things that I can explain to them", and Lynn said that experience had taught her "little tricks with the students." Sue said because she can better foresee problems with the students and better read the students' emotions she is able to intervene before problems surface. Lynn described that early in her CI career, she "kind of stood back a little bit because you… were a tech before there and now you're… a clinical instructor, so that role is changing", but that as she has grown as a CI, she balances pleasing the technologists at the facilities with pleasing the students. She maintains that the students are her first priority.

I asked the participants to discuss the best practices of instructing radiography students based on their experiences. Chris, Lisa, and Lynn stated that "hands on" was among the best practices of instructing clinical radiography students, which was similar to Gwen's answer of "one on one" and Lynn's description of "lots of practice." Chris described being there and participating as her best practices. Edward listed remaining calm, treating the students like people, reassuring the students, and being cognizant of how you speak to them as his best practices. Lisa added that using scenarios worked well for her. Gwen recommended taking baby steps when beginning their instruction in the clinical setting and suggested getting "them used to the people interaction before they actually get used to the actual doing the procedure interaction." Sue stated, "Make sure that you are grooming them to be professionals."

Regarding best practices for evaluations, Chris explained the need to really watch the students, which was similar to Gwen's response to "really look at their skills" and to look at their work ethic. Gwen also stated to put aside any personal differences and to be fair. Lisa brought up indirect supervision and stressed "not standing directly beside of them or not being in direct view of them because it makes them nervous." She also stated the need to be available to them for questions.

Edward and Lynn both spoke specifically about the evaluation documents and requirements with regard to best practices. They discussed the need for those documents to be very detailed, with specific information and competencies on which to grade the students. Lynn also stated the evaluations are good tools for giving the students feedback. Sue discussed the staff evaluations specifically, which are the evaluations the fellow technologists at the facility complete on the students (not the CIs' evaluations), being the CI's "eyes and ears" when she was not available.

All CIs stated experiences, as opposed to education, have provided them with the expertise and knowledge of best practices of instruction. Chris and Lisa specifically drew from their experience as radiography students. Chris also drew from technologist experience working with strict radiologists. Edward cited "cumulative knowledge of working in a hospital, working as a CI" as what provided him with knowledge of instructional best practices. Gwen talked about working with the students, saying,

> Each one of them is different, so you get your experience by dealing with each student, and you take what you learned from this one, you can try and apply it to this one down the road. Or take bits, maybe you do with this one and apply it to the one coming next.

Lynn and Sue named experiences outside of radiography that provided them knowledge of best practices of instruction. Lynn has managed people outside of radiography and stated, "I've just had enough experience working with people over the years to be comfortable doing that." Sue mentioned that working as a house parent in a children's home gave her the hands on experience needed to deal with students in her role as a CI.

Sue was the only CI who named specific education as providing her with the expertise and knowledge of best practices of evaluation, citing a master's level clinical teaching strategies

class. Chris cited personal experience as a radiography student, various hospital experiences, and a "see what works and what doesn't" philosophy as what provided her with knowledge of evaluation best practices. Lynn mentioned cumulative experience and stated, "You gain experience as you go, and you know how to become better at evaluating them, and going over and making sure that their images are done properly." Lisa's response was similar, citing repetition as her experience, and emphasizing the importance of knowing the objectives and the specifics of what the students need to be evaluated on.

Gwen stated that one on one evaluation and being upfront with the student was important. Edward agreed saying that, "Evaluation is tough. You have to be firm but fair…be willing to give bad grades when they deserve it, and good grades, praise, when they deserve it".

What do the CIs Perceive Would Adequately Prepare Someone to Transition from Registered Radiologic Technologist to Radiography Clinical Instructor?

Edward described the transition as a big step and said that new CIs need an orientation while Gwen suggested a shadowing program where new CIs would shadow under and observe seasoned CIs, specifically at large facilities, to get to see how the seasoned CIs do things. Lisa described teaching skills, knowledge of the field, and technologist experience as preparation for becoming a CI. Chris and Lynn both identified technologist experience, but specified technologists who have worked in a facility with radiography students would be better prepared. Edward further expressed being comfortable as a technologist would be helpful to someone who is making the transition from tech to CI. Chris also mentioned having people skills and being able to work independently. Sue summed it up differently saying,

I don't know if there is anything that really prepares you from going from a tech to [a CI], because it's two completely different things and two completely different ways to think about things… You have to get in there and do it and, and learn from your own mistakes.

I asked the participants what advice they would give someone who is transitioning from technologist into a CI position. Gwen declared, "You're there to help them learn [so] take your time." Sue said, "Pay attention to students," and added to help them but not to do the work for them.

Chris explained, "Well, I think one of the main things is to never forget what it was like when you were a student and treat them the way you would have wanted to have been treated as a student." Edward's advice was similar, "Be patient. Be understanding. Remember that you were a student too, and try to remember how you felt then."

Lisa and Lynn both had comparable suggestions with "Know your stuff. Be able to answer all their questions, or know how to get the answer to their questions" and "brush up on anatomy and positioning."

Lisa and Sue had like ideas. Lisa stated, "Everybody has different attitudes, different ways of doing things…does things at their own speed…Everybody accepts criticism differently." Similarly, Sue indicated, "Every student develops at their own rate, and if they need more help, jump in there and do it, but don't do everything for them." Gwen also discussed the notion that every student was different, and noted, "You have to put [aside] all of those annoying habits that one or two of them may have and just focus on what they need to learn."

Lynn reiterated that CIs need to balance the students' needs with the techs' needs. Gwen advised, "That student is going to teach you as much as you are going to, in turn, help them."

Additional Comments

I asked the CIs if they had any additional comments regarding their experiences and preparedness of their transition from technologist to CI or their perceptions of what would adequately prepare someone to make that transition. The CIs reiterated a few things from previous questions, but also stated some new ideas and suggestions.

Gwen reiterated that shadowing under another CI would be helpful. Similarly, Edward restated the need for an orientation,

> I feel like an orientation process would be…beneficial…and just give us that nudge into, Hey your role is going to change and this is how best we think to change it. Always good to have classes, always.

Lynn restated the need for information on learning styles and personalities, and suggested a list of things to expect from students or things the CIs might encounter when dealing with students. Lisa specified, "You've got to learn as they do."

Gwen added the CIs, as well as the staff technologists in the facilities, really need to focus on the students.

Lisa summarized, "It refreshes you on things that you may have forgotten from your school experience…It's a good way to stay mindful and knowledgeable from the book perspective of radiology and not just the hands on portion of it."

Edward stated that he has "grown significantly from the experience."

Summary

This chapter began with demographic information about six radiography CIs. Some of the CIs felt prepared as they transitioned from technologist into the CI role, while others did not. Only one CI listed education as providing her with expertise of best practices of evaluation,

although that came after she transitioned. All others noted experience as their basis for that expertise. The CIs differ in their perceptions of what would adequately prepare someone to make that transition. Some of the perceptions noted included: knowledge of the field, technologist experience, people skills, independent worker, orientation, and a shadowing program. The next chapter describes my conclusions of their responses.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Radiologic technologists who transition into the role of clinical instructor are usually expert practitioners but may lack knowledge of best practices regarding student instruction and evaluation. Practitioners may perceive they are prepared for successful transition but may not be competent once they begin CI duties (Hart, 2009). The purpose of this study was to investigate how CIs experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position. To collect information, I interviewed six radiography CIs who instruct within one associate degree radiography program in the southeastern part of the United States.

This study was significant because radiography programs continue to allow experienced technologists to instruct students although those technologists may have little or no training or experience in student instruction and evaluation. Through this study, CIs expressed ideas for others' transitions which could help programs improve training and orientation programs for future CIs, particularly in the areas of instruction and evaluation.

When I began this study, I had no prior experience in transitioning from technologist to CI, but I had witnessed others make that transition. In order to remove any researcher bias, I followed the interview script and refrained from inserting any personal opinions when asking for clarification.

Only six CIs agreed to participate in the study and they were all from one associate degree program, therefore I cannot assume that the responses of these participants would reflect experiences and perceptions of all radiography CIs. CIs from other geographic locations or from

other types of educational programs could have different experiences and perceptions of their transition.

Research Questions

The following research questions guided this study:

1. How are CIs prepared for their role as a radiography clinical instructor?
2. What experiences or education has provided CIs with the necessary skills, expertise, and knowledge of best practices to instruct and evaluate students?
3. What do the CIs perceive would adequately prepare someone to transition from registered radiologic technologist to radiography clinical instructor?

Conclusions

Preparations

Campos (2013) stated that CIs are frequently skilled technologists who have the added obligations of educating students. In this study, most of the CIs were appointed to the position rather than themselves seeking the position because it was something that they wanted to do which supports Hart's (2009) statement that the CIs are selected because of their clinical expertise rather than teaching skills. Only one technologist stated that she wanted the CI position when it came her way.

It would be interesting to know how much time elapsed between the technologists knowing their duties were going to change and the date of the actual first day being a CI to investigate how much time they had to prepare for the transition; however, that was not the focus of this study. Nevertheless, four of the six CIs interviewed felt prepared to teach students in the clinical setting. Even though they might not have wanted the position, the CIs perceived that

they could effectively teach radiography students. Interestingly, none of the CIs had previous formal education in teaching pedagogy or learning styles before their transition. This corroborates Hart's (2009) study results that practitioners may feel prepared to teach but may not be competent in the position. Some of the participants had previous experience supervising or in a small educational role which helped them with portions of transition; but I inferred that these experiences gave them little insight into instructional best practice techniques.

Some of the CIs reported modeling their style after the CIs they studied under as radiography students and learning from mistakes. This supports Giordano's (2008) statement that CIs model their own teaching style after events they experienced as a student because they receive little formal training in effective instruction. This also endorses Chapman's (2013) suggestion that CIs transition without understanding exactly what the new role will be and must learn to adapt. Bailey (2012) reported similar findings with nursing CIs who perceived they were prepared for the new endeavor, but over half of the participants felt unprepared within the first year. Trial and error was another way participants became accustomed to their new role, which supports Siler and Kleiner's (2001) findings that the practitioners performed how they thought was best and learned from the consequences of those actions.

Giordano (2004) stated that radiography CIs should be proficient clinically as well as didactically, which was supported by the CIs interviewed for this study who indicated they were chosen as CIs, most likely, because they were proficient clinically. They have risen to the challenge of becoming CIs to the best of their ability, although they might not have sought out a CI position on their own. Even though they were provided support as they transitioned, they were given little formal orientation, training, or mentoring. They believe they are doing what is

best for their students based on their previous experiences, but what is the evidence or verification that they are actually proficient didactically?

All the CIs said that receiving support during their transition to CI made the transition easier. The participants credited college program faculty, clinical coordinators, and program directors for their support which confirms Bailey's (2012) suggestion that experienced educators mentor new educators to help prepare them for the shift into teaching. Radiography program faculty and staff want their students to succeed, therefore, a mentoring program for new faculty, especially new instructors in the clinical setting, a method supported by the results of this study that echoes Foulds's (2004) position on mentorship programs grooming beginning clinical teachers, would promote student success.

Even though the majority of the CIs felt prepared to instruct, some of the participants felt unprepared. These participants realized the CI role is different from the practitioner role. They wished for orientation programs, mentoring, shadowing, classes on education, and learning style information. All of these participants' responses echo Paulis's (2011) report that CIs should have training before they begin teaching in order to increase teaching effectiveness.

Even with the limited number of participants in this study, their responses support the published literature. While technologists feel prepared to transition into the CI setting, they may not realize exactly how their roles will change (Hart, 2009). Support from program faculty and administration is helpful for new CIs.

Knowledge of best practices of instruction and evaluation

When asked about their initial perceptions of the necessary skills and expertise to effectively instruct and evaluate radiography clinical students, all of the participants noted technologist skills as important. The other skills mentioned were different for each participant

and included knowing the curriculum, being a people person, flexibility, and the ability to be graceful in stressful situations. O'Conner (2015) stated that effective CI skills included more than just teaching and evaluation; it also included adjusting to the environment, acquaintance with academia, and becoming a liaison between the program and the clinical facility. These are skills that none of the participants thought were necessary when they first became CIs. It is not surprising that when they first became CIs, they relied heavily on their people skills and their knowledge and skills as radiographers to instruct and evaluate students. However, were they instructing the students in a manner consistent with pedagogical best practices?

When asked about their current perceptions of the necessary skills and expertise to effectively instruct and evaluate students, half of the participants stated that there was no change in what they perceived as the skills necessary to instruct and evaluate students from the time they became a CI. The remaining participants discussed technologist skills, people skills, and simply learning to adjust. Only two participants stated their teaching styles had changed since they began and that they had picked up some tips and tricks along the way though they did not provide specific examples. Again, none of the participants mentioned the skills O'Conner (2015) stated were important parts of being a CI. They still thought in terms of practitioner skills, not necessarily in terms of best practices of instruction and evaluation or various learning style differences.

The CIs agreed that the best practices of instruction involved letting the students actually do the work and learning by repetition. I can only assume this is because the CIs watch as the students get better with each patient, have fewer image repeats, and become more confident in their skills as they complete exams on various patients; however, they have no way

of knowing if the repetition itself is key to the student's education or whether it might be feedback given as the student goes along.

Evaluation tools can certainly be valuable items in a CI's toolbox as was evidenced by CIs naming particular tools provided by the programs. Other best practices in evaluation mentioned by the CIs were watching the students, being fair in assessments and evaluations, and being available to answer questions. While these are pieces of assessment and evaluation, it is possible that the CIs will have better ideas for evaluating the students that could be used in conjunction with the program's current assessment instrument. This was not the focus of this study, but it bears a mention that while the programs can do more to help train new CIs, there should be a reciprocal expectation that CIs will share ideas for instruction and evaluation with the program.

Experience is instrumental in any field, and clinical education is no different. All of the CIs in this study responded that experience was what gave them knowledge about best practices of instruction, although the described experience varied somewhat. None of the participants mentioned having or receiving any education on instruction, teaching, or learning styles. Only one participant named having specific education in student evaluation. While it is certainly possible that, through experience, the CIs have learned what works to instruct radiography students, however without education in instruction, the CIs may miss valuable methods simply because they never thought about those things.

Some CIs indicated that they teach the way they were taught or that they use methods they have learned through their own trial and error. While this sounds positive, in the absence of any evaluation of the CIs, there is no way to know if the way they were taught was effective or positive, nor is there a way to know from this study whether the results of their trial and error

were beneficial for the student. CIs who are left with nothing but their own assumptions about how they are doing may actually need more training or even supervision. Their reported lack of training or education in best practices of instruction would be an indication that programs should put more focus on the instruction of CIs to better the eventual instruction of students.

It would also be difficult to measure directly any CI's teaching effectiveness. Radiography programs are team efforts, with didactic and clinical components. While quantitative measures such as the ARRT registry exam or job placement rates may be useful for total program effectiveness, there is no similar standardized measure for evaluating CIs. If programs want to improve individual components, such as the preparation of CIs, the clinical coordinators should evaluate the CI's performance. They could use tools such as direct observation, comparisons of the student evaluations performed by non-CI staff technologists to the evaluations completed by CIs to determine if the CIs are evaluating the students in line with what other staff technologists are seeing from the students. Students could also evaluate the CIs and give the CIs feedback into their performance.

Perceptions of adequate preparations

The participants had different perceptions of what would adequately prepare someone to make the transition from technologist to CI. There was not real consensus from the interviews, possibly because of the low sample size; however, experience was the predominant theme that emerged. By having general technologist or CI experience, the CIs perceive they are adequately prepared to transition, which supports Hart's (2009) statement that CIs perceive they are prepared although they may not be competent educators. With no education or training in instruction and evaluation, there cannot be competence in those areas as the CIs begin in that role. As Sue noted in her interview, the CI role and technologist role were two completely

different things and ways of thinking, therefore the basis for competency in each role is completely different.

CIs who are already experienced or familiar with the equipment and protocols at the facility in which they will be performing CI duties may have an advantage because they are able to focus on teaching, or learning to teach, rather than on learning the inner workings of the department itself.

Having the freedom to approve student's work and complete the information system procedure would also help the CIs in their day-to-day operations. CIs who do not have those freedoms feel restricted in instruction. They feel like they cannot complete the educational process on any one patient because they cannot approve student images, or close out the patient in the radiology information system, which appears to devalue them as an instructor. They are the students' recognized instructors, but they cannot tell students that their image is acceptable to send to the radiologist for interpretation, nor do they have permission to log on to the radiology information system to assist students with completing patient documentation in the electronic medical record. This would be frustrating for all CIs, but especially new CIs who are also acclimating to the vastly different role.

The CIs had different advice for someone who is making the transition from technologist to CI, potentially because of their own different transitions. It was no surprise that they mentioned that new CIs need to refresh knowledge in specific radiography education topics, such as anatomy and radiographic positioning. Some CIs advised that the new CIs should remember that they were also once students.

The participants reiterated their wishes for orientations, shadowing programs, information on learning styles, and a list of things to expect from students. As programs have

appointed or accepted the facility's appointment of CIs who have had little or no education or training in instruction and evaluation, surely there have been common questions and initial difficulties presented along the way. It would be appropriate for programs to, at a minimum, create a frequently asked questions document for new CIs, if not a comprehensive orientation program.

Recommendations for Programs

Based on the responses from the CIs I interviewed, I would make the following recommendations. Radiography Program Directors and Clinical Coordinators should review their policies and procedures regarding orientation and training for new CIs. If there is a procedure for orientation and training for CIs, is it relevant and useful? I suggest revisiting those procedures and gain input from current literature as well as the CIs who transitioned using that program to determine if it was helpful or if revisions are necessary. If there is no current orientation and training procedure, then I suggest gathering information from current literature and input from current CIs to determine what needs their particular CIs had during transition and develop a new orientation and training program based on that information.

Helpful topics that emerged from this study include shadowing other CIs, orientation programs, information about teaching methods, management techniques, and information about various learning styles. It might also be helpful to create a list of frequently asked questions with explanations for new CIs.

Any current radiography student has the potential to become a radiography CI at some point in his or her career. Since the literature repeats that practitioners are chosen for CI roles because of their practitioner skills, and have little to no formal educational training, it would behoove programs to include an introduction to CI in radiography programs. Programs should

consider adding a small instruction and evaluation unit to the clinical component of the curriculum. One idea is for senior students to be assigned to instruct junior students in the clinical setting. The assignment could include the senior student instructing a specific exam, and evaluating the junior student's performance on a simulated patient. Another idea is for senior students to become mentors for junior students with the specific goal of instructing and evaluating performance. Of course, the CIs and program faculty should guide these assignments, but these types of assignments would give the students a glimpse into a CI role.

Recommendations for Improving Research

Based on this study, I would make the following suggestions should someone want to replicate this study. The response rate was lower than expected. I recruited participants by repetitive emails and phone calls only. I suggest obtaining IRB approval from all clinical facilities to be able to enter the clinical setting to discuss research and recruit potential participants face to face.

This study should be replicated using a larger number of CIs from a wider geographic area as well as from various associate and bachelor degreed radiography programs. This would give a better representative sample of CIs' experiences and perceptions, and allow the responses to reach the point of redundancy.

I also suggest clarifying the terms instruction and evaluation in the interview script because some of the responses did not directly relate to the specific topic of the question.

Recommendations for Future Research

As a result of this study, I have suggestions for future research in the area of radiography clinical instruction. I would suggest a comparison of CIs who had prior education in the areas of instruction and evaluation to those who had none. Do CIs who had prior knowledge of best

practices of instruction perceive they transition better or have fewer challenges in supervising and evaluating students than those who did not?

I would also suggest a study involving the CIs' perceptions of the best practices of instruction and evaluation, and compare that to the available literature. Do the CIs really learn best practices of instruction and evaluation as they gain experience as CIs, or do they simply do what they have seen, whether it is considered a best practice or not?

Additionally, I would suggest investigating whether CIs who go through orientation and training programs transition any easier than those who do not. I also suggest a quantitative study comparing student success rates of students who trained under a CI who had an orientation as they transitioned to students who trained under CIs who had no orientation. This would give more information to the body of knowledge regarding whether or not orientation and training programs for new Radiography CIs are beneficial for CIs as well as the students who train under their direction.

Siler and Kleiner (2001) described faculty instructing how they believed was best and learning from the consequences of those activities. Mlyniec (2012) listed specific things that CIs need to know to instruct which included clinical educational history, methods of supervision, reflection methods, instructional values, clinical instruction ethics, feedback, and assessment. Although it was not the focus of this particular study, an interesting study would be to investigate whether CIs who relied on experiences alone, such as those Siler and Kleiner (2001) described, actually learned the theories and concepts described by Mlyniec (2012).

Edward stated that he felt he had "grown significantly from the experience" as I am sure all CIs have done. The CIs seemed to have a genuine interest and concern for their students, which may reflect the care and concern they exhibited as technologists toward their patients.

These few CIs gave me their time, experiences, perceptions, and suggestions. I hope this study aids future technologists who make the transition into a CI position. I hope that radiography programs will heed the messages from this study and others like it, and implement or strengthen their training to provide support and information to the CIs who are so vital to the students' success.

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APPENDICES

APPENDIX A

Interview Guide

Radiography Clinical Instructors' Perceptions of the Transition from Technologist to Educator

Name: _____ Date: _____

Pseudonym: _____ (will be used to maintain confidentiality)

Interviewer: _____

Introduction

Good day! Thank you very much for agreeing to this interview! This interview will be informal. Please just think of the questions and talk to me as if we are having a conversation. Your time, assistance, and comments are valuable and appreciated!

Purpose

I am conducting this interview as part of the degree requirements for the Master of Science in Allied Health through East Tennessee State University. I am interested in your transition from radiologic technologist to clinical instructor (CI).

Procedure

This interview will last approximately one hour. I will ask a series of questions. Take as much time as you need to answer the questions. There are no right or wrong answers. I want to know your experiences and perceptions as you transitioned into the CI role. I will be audiotaping this interview and taking notes.

Your interview will remain confidential. You may stop this interview at any time.

Informed Consent Document

As previously indicated, I will need you to please read the informed consent document (ICD). If you have any questions, feel free to ask. We will discuss any questions or concerns that you have. After you finish reading and discussing the ICD, if you agree to participate (grant consent), please initial at the bottom of each page, then sign and date the last page. I will sign as well. There are two copies. We will need to sign both. One copy is yours to keep. The other copy will remain in my possession.

Demographic Questions

- How many years of experience do you have as a registered radiologic technologist?

  _____

- How many years of experience as an RT(R) did you have before you became a CI?

  _____

- What types of imaging work experience do you have? (examples may include but are not limited to: hospitals, clinics, trauma centers, and different imaging modalities)

  _____

  _____

- What ARRT registries do you hold? _____
- What is the highest degree you have completed? _____
- What was your major or curriculum of study in all education beyond high school?

  _____

- What education did you hold before you became a CI? (highest level and in what curriculum)

_____

_____

- Do you have any prior work experience in education? If so, what?

_____

_____

- Do you have any other prior training regarding education, student evaluation, or student supervision? If so, what?

_____

_____

- How long have you held a CI position? _____

Interview Questions

1. Based on your experiences as you first transitioned into the CI role, did you feel prepared for your role as a radiography CI? If so, what prior experiences and/or education prepared you? If not, how were you unprepared?

_____

_____

_____

2. Describe your transition into the CI position.

_____

_____

_____

    - What made the transition easy?

_____

_____

_____

- Were there things that would have helped you transition more easily?

_____

_____

_____

3. What support was provided to you during your transition into CI?

_____

_____

_____

4. When you first became a CI, what did you think were the necessary skills and expertise to effectively instruct and evaluate radiography clinical students?

_____

_____

_____

5. After you have now had some experience as a CI, what do you think are necessary skills and expertise to effectively instruct and evaluate radiography clinical students?

_____

_____

_____

6. Think back to your first semester as a CI. How has your teaching changed from your first semester to now?

_____

_____

_____

7. In your experience, what are the best practices for instructing radiography clinical students?

_____

_____

_____

8. In your experience, what are the best practices for evaluating radiography clinical students?

_____

_____

_____

9. What experience or education has provided you with the expertise and knowledge of best practices of instruction?

_____

_____

_____

10. What experience or education has provided you with the expertise and knowledge of best practices of evaluation?

_____

_____

_____

11. What do you think prepares someone to transition from technologist to radiography CI?

_____

_____

_____

12. Based on your experiences, what advice would you give to someone who is transitioning from technologist into a CI position?

_____

_____

_____

Additional comments

Do you have any additional comments regarding your experiences and preparedness of your transition from technologist to CI or your perceptions of what would adequately prepare someone to make that transition?

_____

_____

_____

_____

_____

_____

Conclusion and Follow-up

Thank you for your time and participation! I hope this study will be beneficial for future technologists who become CIs.

Allow me to take some time to go over my notes with you. I want to be certain that I have written what you feel you expressed; then, we can make any necessary clarifications. This will assure accuracy of the interview. For data analysis, I will use a transcript of the audio recorded interview; however, I want to be sure that I have an overall understanding of your responses in my notes.

Study reports will use your chosen pseudonym, not your name. This will maintain your confidentiality.

Thank you, once again. Have a good day!

References

This interview guide was adapted from Cottrell & McKenzie's (2011) interview guide example listed on pages 248-250.

Cottrell, R. & McKenzie, J. (2011). Health promotion & education research methods using the five-chapter thesis/dissertation model. (2nd ed.). Sudbury, MA: Jones and Bartlett Publishers

APPENDIX B

Informed Consent Document

EAST TENNESSEE STATE UNIVERSITY
INFORMED CONSENT DOCUMENT (ICD)
FOR PROSPECTIVE RESEARCH INTENDED FOR REVIEW

This Informed Consent will explain about being a participant in a research study. It is important that you read this material carefully and then decide if you wish to be a volunteer.

PURPOSE:

The purpose of this research study is as follows:

The purpose of this study is to investigate how clinical instructors' (CIs) experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position.

DURATION

The expected duration of this interview is 1 hour.

PROCEDURES

The procedures, which will involve you as a research subject, include:

The researcher will be conducting personal interviews asking about:

- Your experiences as you made the transition from technologist to CI
- Your knowledge of best practices of instruction and evaluation as you began the CI position
- Your education in best practices of instruction and evaluation
- Preparation for your role as a radiography clinical instructor
- How you have gained the necessary skills, expertise, and knowledge of best practices to instruct and evaluate students?
- Preparation to transition from registered radiologic technologist to radiography clinical instructor

The interview will be audio recorded. The audio recordings will be transcribed. After the study is completed, the audio files will be kept on a password protected device for a minimum of five years. The transcript will be stored in a secure, locked filing cabinet in the researcher's home for a minimum of five years. Pseudonyms will be used in place of participants' names to protect confidentiality.

ALTERNATIVE PROCEDURES/TREATMENTS

The alternative procedures/treatments available to you if you elect not to participate in this study are:

There are no alternatives.

POSSIBLE RISKS/DISCOMFORTS

The possible risks and/or discomforts of your involvement include:

There are no expected risks.

POSSIBLE BENEFITS

The possible benefits of your participation are:

There is no anticipated direct benefit.

FINANCIAL COSTS

There are no costs to participate.

COMPENSATION IN THE FORM OF PAYMENTS TO RESEARCH PARTICIPANTS

There will be no payments provided to participants.

VOLUNTARY PARTICIPATION

Participation in this research experiment is voluntary. You may refuse to participate. You can quit at any time. If you quit or refuse to participate, the benefits or treatment to which you are otherwise entitled will not be affected. You may decline to answer specific questions.

CONTACT FOR QUESTIONS

If you have any questions, problems or research-related medical problems at any time, you may contact Christy Lee at leecg@goldmail.etsu.edu or Dr. Susan Epps at epps@etsu.edu. You may call the Chairman of the Institutional Review Board at 423/439-6054 for any questions you may have about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you cannot reach the study staff, you may call an IRB Coordinator at 423/439-6055 or 423/439/6002.

CONFIDENTIALITY

Every attempt will be made to see that your study results are kept confidential. A copy of the records from this study will be stored in a secure, locked filing cabinet in the researcher's home for at least 5 years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, or ETSU IRB, and personnel particular to this research (Christy Lee and ETSU Graduate Committee members) have access to the study records. Your records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

By signing below, you confirm that you have read or had this document read to you. You will be given a signed copy of this informed consent document. You have been given the chance to ask questions and to discuss your participation with the investigator. You freely and voluntarily choose to be in this research project.

SIGNATURE OF PARTICIPANT DATE

PRINTED NAME OF PARTICIPANT DATE

SIGNATURE OF INVESTIGATOR DATE

SIGNATURE OF WITNESS (if applicable) DATE

APPENDIX C

Interview Cover Letter

3-21-15

Dear Participant:

My name is Christy Lee. I am currently a graduate student at East Tennessee State University, pursuing my Master of Science in Allied Health. Part of the degree requirements includes completion of a research thesis. The title of my study is Radiography Clinical Instructors' Perceptions of the Transition from Technologist to Educator.

The purpose of this study is to investigate how clinical instructors (CIs) experience the transition from practitioner to educator and what knowledge or education of best practices of instruction and evaluation they bring to the position. I will be conducting personal interviews with Joint Review Committee on Education in Radiologic Technology (JRCERT) recognized clinical instructors (CIs). The interviews should take less than an hour to complete.

I invite you to participate in this study. I would greatly appreciate your time and assistance! My goal is to identify information that might improve orientation and training programs for CIs, thereby better preparing new CIs in the areas of student instruction and evaluation.

Please respond to this e-mail to indicate your willingness to participate or to indicate you decline. If I do not receive an e-mail response, I will contact you again via e-mail. If you decline to participate, I appreciate your consideration. If you agree to participate, I would like to schedule this interview before May 1, 2015. I will contact you by e-mail or phone to discuss a specific appointment time and place.

Sincerely,

Christina G. Lee, BS, RT(R)(CT)(MR)(QM)
Master's Candidate
East Tennessee State University

APPENDIX D

Auditor's Certification for Transcripts

Mountain Empire Community College

Amy Greear
Director of Community Relations
agreear@mecc.edu
276.523.7480

July 8, 2015

To whom it may concern:

This letter is to certify that I, Amy Greear, have reviewed six transcripts of oral interviews for Christy Lee. These transcripts are accurate.

If I can answer any questions or concerns regarding these transcripts, please feel free to contact me. Thank you!

Amy M. Greear

Amy Greear

APPENDIX E

Auditor's Certification for Chapter 4

Mountain Empire Community College

Amy Greear
Director of Community Relations
agreear@mecc.edu
276.523.7480

September 4, 2015

To whom it may concern:

This letter is to certify that I, Amy Greear, have reviewed Chapter 4 (participant information) for Christy Lee. The summary of interviews is accurate.

If I can answer any questions or concerns regarding these transcripts, please feel free to contact me. Thank you!

Amy Greear

VITA

CHRISTINA G. LEE

Education:

M.S. Allied Health, East Tennessee State University, Johnson City, Tennessee, 2015

B.S. Allied Health, Mars Hill University, Mars Hill, North Carolina 1998

A.A.S. Radiologic Technology, Southwest Virginia Community College, Richlands, Virginia 1997

A.S. Science, Southwest Virginia Community College, Richlands, Virginia 1997

Public Schools, Jonesville, Virginia

Professional Experience:

Assistant Professor, Radiography and Computed Tomography, Southwest Virginia Community College; Richlands, Virginia, 2008-2015

Adjunct Faculty, Mountain Empire Community College; Big Stone Gap, Virginia, 2009-2015

Peer Reviewer, Quality Matters; Annapolis, Maryland, 2014-2015

Radiologic and Computed Tomography Technologist; Lee Regional Medical Center, Pennington Gap, Virginia 2008-2013

Radiology Operations Supervisor; Lee Regional Medical Center, Pennington Gap, Virginia 2004-2008

Radiologic, Computed Tomography, and Magnetic Resonance Imaging Technologist; Lee Regional Medical Center, Pennington Gap, Virginia 1997-2004

Magnetic Resonance Imaging Technologist; Holston Valley Medical Center, 2002-2004

Interim Radiography Program Director; Cumberland Valley Technical College, Pineville, Kentucky, 1999-1999

Radiologic Technologist, St. Joseph's Urgent Care Clinics; Asheville, North Carolina 1997-1998