Clinical Instructor Characteristics, Behaviors and Skills in Allied Health Care Settings: A Literature Review

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Abstract: The purpose of this literature review is to compare both clinical instructor and student perceptions of helpful and hindering clinical instructor characteristics, behaviors and skills in athletic training and allied health care settings. Clinical education in athletic training is similar to that of other allied health care professions. Clinical education is used to practice didactic information in a hands-on environment, with the goal of integrating theory and practice in a controlled setting. Students are taught skills, behaviors and attitudes required to enter into professional practice. Athletic training clinical education evolved from the medical education model for training physicians and is currently based on the nursing model. Other allied health care professionals employ similar practices.

Objective: To provide an overview of helpful and hindering clinical instructor characteristics, behaviors and skills in athletic training and in other allied health professions.

Data Sources: MEDLINE, Health Source: Nursing/Academic, PubMed, SPORTDiscus, Academic Search Premier, ERIC and PsychArticles served as the data sources for the allied health fields that included athletic training, nursing, medicine, optometry, clinical psychology, occupational therapy, physical therapy, speech and language pathology, radiography.

Data Synthesis: Athletic trainer, allied health profession, and student perceptions of clinical instructor characteristics, behaviors and skills were reviewed and summarized.

Conclusions/Recommendations: This review presents literature suggesting that clinical education, regardless of the profession or setting, contains similarities. Clinical instructor characteristics, behaviors and skills are important and need to be the focus of clinical education in order to promote helpful, while minimizing hindering, behaviors. Effective clinical instructors enhance the learning process. Focusing on improved supervisor and supervision services should be employed to teach athletic trainers helpful clinical instructor behaviors.

Key Words: Supervision, clinical supervision, clinical education

T he purpose of this literature review is to detail helpful and hindering clinical instructor characteristics, behaviors and skills in athletic training and in other allied health settings. This review reveals that clinical education, regardless of the profession or setting, is a process that has been studied from both the supervisor and student points of view to determine best practices.[1-6] Laurent and Weidner[4] point out that clinical education is used across many health care professions as a way to practice didactic information in a hands-on environment. The goal of clinical education is to integrate theory and practice in a controlled environment to provide students with learning that has the "appropriate skills, behaviors and attitudes"[4] that is necessary for entry into professional practice.

Clinical education has been widely studied in allied health settings. A literature search using the key words supervision, clinical supervision and clinical education reveals research in athletic training, nursing, medicine, occupational therapy, physical therapy, speech and language pathology, radiography, optometry, and clinical psychology. The education process for entry-level athletic training evolved from the medical education model for training physicians[7] and is currently based on the nursing model[1-4] where students are paired one on one with the nurse supervisor and complete clinical rotations under the supervision of a practicing staff nurse who serves as a role model.[8]

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Clinical Education Foundations

Allied health settings have provided the foundation for clinical education (see Table 1). Additionally, Kilminster and Jolly[9] summarized effective undergraduate medical education clinical supervision practices. Their literature review helped define supervision, identify its purpose and cited the following findings. Direct supervision had a positive effect on patient outcome, whereas, lack of direct supervision was harmful for patients. The quality of the supervisor-trainee relationship was found to be the most important effective supervision factor. The supervisor was responsible for managing, educating and supporting the trainee. The supervision process must match the trainee's experience and training. A positive clinical learning environment positively affected the trainee's learning. Trainee's need clear feedback. Supervision should be structured. Supervisors must be clinically competent, knowledgeable, and have good teaching and interpersonal skills. Training supervisors may positively affect supervision.

Table 1. The Foundation of Clinical Education

Author	Year	Setting	Findings
Keenan, Hoover & Hoover[9]	1988	Nursing	Student autonomy is developed through appropriate leadership styles
Kirkpatrick, Byrne, Martin & Roth[9]	1991	Nursing	Collaboration between the nursing faculty and clinical nursing supervisor strengthens the students' experience, promotes problem solving, and assists student professional development
McGovern & Dean[10]	1991	Speech & Language Pathology	Shared evaluation and problem solving between the clinical supervisor and the student create the best condition for learning
Wilson[11]	1996	Optometry	Clinical supervisor conferences benefit students and enhance clinical teaching practices
Collins[12]	2003	Medicine	Direct supervision and timely feedback are effective planning strategies
Winstanley & White[13]	2003	Mental Health	The supervisor's role is to facilitate the student's educational and personal growth while supporting the development of the student's clinical independence

This foundational research encouraged other allied health settings to engage in further study of (a) effective clinical instructor characteristics, behaviors and skills, (b) student perceptions of clinical instructor characteristics, behaviors and skills, and (c) a comparison between both clinical instructor and student perceptions.

Athletic Training Clinical Instructor Characteristics, Behaviors and Skills

Athletic training clinical instructor (CI) characteristics, behaviors and skills have been reported from many different perspectives. Weidner and August[15] were perhaps the first to acknowledge that athletic trainers had received no special pedagogical preparation for assuming the role of a CI. Weidner, in separate reports with Henning[7,16,17] acknowledges that certified athletic trainers do not have the knowledge or skills to teach and evaluate AT students whom they supervise because they have had no formal supervisor training in those areas.

Weidner and August[15] also provided potential solutions to better prepare CIs to become effective supervisors by proposing several characteristics clinicians should follow. Clinical instructors should present clear, well-organized information; should be enthusiastic, dynamic, energetic, competent, and knowledgeable; have group instructional skill; and model professionalism. Further, they suggest that CIs should be carefully matched with students to affect positive clinical outcomes.

In a follow-up study, Weidner, Trethewey and August[18] contributed to the body of knowledge on effective clinical instruction by discussing learning strategies used by college students. They point out that college students are adult learners who want to apply what they have learned by participating in the learning process through problem solving. As adult learners, they value feedback as one of the components used to evaluate their progress. As such, CIs must match their clinical teaching skills to the student's level of understanding and experience.

Platt Meyer[19] reported that effective CI leadership characteristics significantly predicted clinical teaching effectiveness. She identified good communication skills as part of the characteristics that are found in effective leaders and should be assessed to determine CIs abilities. In an earlier study, using the 50-item Clinical Instructor Effectiveness Instrument, Platt Meyer found that professional attitudes, professional actions and communication skills significantly improved CI effectiveness[20]. She concurred with Anderson, et al.[1] who also reported that, in addition to leadership characteristics and teaching clinical skills, CIs were responsible for student professional development through effective clinical mentoring.

Communication skills were also reported by Swann[21] who described effective communication for CIs as a set of skills that creates a positive learning environment for AT students. The focus of her research was the need for feedback that would assist students in refining their clinical skills and behaviors while simultaneously developing their self-esteem. Swann maintained that the clinical learning environment was an ideal setting for feedback because of the experiential nature of the setting. Teaching using this style of communication should, therefore, be included in the training received by clinical instructors.

Weidner and Henning[16] detailed nine essential qualities, characteristics and skills needed for successful clinical instruction

that should be included in clinical instructor training (see Table 2). They concurred with the allied health literature by reiterating that clinical instructors have no formal pedagogical preparation. In 2004, Weidner and Henning[7] refined their list of nine essential qualities to seven by combining supervisory and administrative skills into one category, and by including the CIs professional development as part of the underlying skills found within each of the categories. The authors also developed standards and criteria for the selection, training, and evaluation of approved clinical instructors by using the Delphi technique, finding that the standards and criteria could cultivate and enhance quality clinical education. Harrelson and Leaver-Dunn[22] expanded on adult learning theory by arguing for the use of the experiential learning model in clinical education. In their article, they suggest that CIs should function as a facilitator rather than as an expert in order to promote a student-centered learning environment which would allow AT students to engage in the learning process.

Table 2. The Foundation of Clinical Education

Essential Qualities, Characteristics, Skills	Action
Legal and ethical behavior	Adhere to Code of Ethics
Clinical competence	Demonstrate sound clinical decision making and problem solving
Injury evaluation and assessment skill	Provide feedback to student
Communication	Be non-threatening and tactful, provide clear and honest dialogue
Supervision	Comply with the CAATE accreditation direct supervision standards
Instruction	Follow the principles of adult learning theory; students' personal experiences should bridge the gap between didactic and practical application
Administration	Effective CIs should be able to simultaneously care for the injured active person while supervising the student through effective time management skills and the delegation of appropriate tasks to the student
Professional development	Emphasize the skills necessary for clinical education (teaching, mentoring, role-modeling); encourage students to participate in the professional organization
Interpersonal skills	Strong interpersonal skills are necessary; use enthusiastic, friendly, honest, receptive, concerned, interested, and encouraging words

Peer[23] cited seven characteristics, behaviors and skills that promote effective athletic training education. The seven principles include student-faculty contact, cooperative and collaborative student activities, active learning, timely feedback, time management strategies, high expectation communication, and diverse teaching strategies. Peer posits that the use of institutional and faculty inventories to assess the clinical education environment can help programs determine the extent to which these seven principles are practiced. By identifying the strengths and weaknesses of an athletic training education program, steps can be taken to improve CI performance and, therefore, the program's effectiveness.

Research on perceived clinical instructor behaviors and behavior categories was conducted by Lauber, et al.[3] Using the Clinical Instructor Behavior Instrument (CIBI), the authors surveyed program directors (PD) and CIs from accredited athletic training education programs to determine the perceived importance of CI behaviors and categories related to both roles, and to determine how important each behavior and category was to each group. The CIBI included 30 specific CI behaviors within 5 categories (instructional, interpersonal, evaluative, professional, and personal). They found that both groups agreed on the perceived importance of the behavior categories, and found the same relative importance of each category with one exception. The PDs identified evaluative behaviors as more important than the CIs. Professional, instructional, interpersonal and personal followed in order of importance for both groups. The authors suggested that the documentation PDs use to evaluate student performance may provide insight into the outcome of the study. The results of this study indicated that CI behaviors should be discussed among PDs and CIs to ensure consistent athletic training clinical education. They also suggested that an evaluation tool that would demonstrate and assess important as well as problem areas in clinical education could be developed and implemented. Information gleaned from the data gathered by using this instrument could also be used to select and train CIs.

Allied Health Professions Clinical Instructor Characteristics, Behaviors and Sills

Other allied health settings have reported on clinical instructor characteristics, behaviors and skills. Researchers in medicine, nursing, optometry and occupational therapy have reported on the need for effective clinical instructors as they struggle to affect clinical education.

In 1998, a study was conducted at Oxford University to assess the effects of a training course that was designed to improve CI skills for physicians who supervise medical students. Following a teacher training workshop, participants reported that they were able to better use positive feedback, develop a broader range of teaching methods, create more CI/student interaction, provide for greater student involvement, and have an overall improvement in their daily work. Further, CIs remarked that the workshop provided sustained value, and that there were few blocks to implementing the changes suggested in the workshop. Sustained effects in the learning process were also seen. In their concluding remarks, the authors listed the value of clinical instructor education, saying that training develops CI teaching and assessment skills and provides a forum where CIs can discuss difficulties as well as solutions in the clinical learning environment.[24]

In nursing, the CI is typically referred to as a preceptor or role model. Preceptors have been identified as ideal CIs because they

have effective leadership characteristics that can be used to match nursing students with CIs in the clinical setting. Knowing the preceptor's leadership style can create a positive clinical environment for the nursing student.[25]

Optometrists have expressed the importance of training the preceptor to ensure good supervision. Specifically, teaching and evaluation are skills that have been acknowledged as important preceptor skills. Proper evaluation of those skills before, during, and after clinical rotations can help meet program goals and objectives, helping to ensure program effectiveness.[26]

The mental health field has also recognized that CIs have had no formal training. Getz[27] proposed a core curriculum of seven essential competencies that are presented in competency-based supervision training sessions for new supervisors. The competencies include models of supervision, counselor development, supervision methods and techniques, supervisory relationship, ethical, legal, and professional regulatory issues, evaluation, and administrative skills. The core curriculum employs a methodology that mimics situations counselors might experience by incorporating readings, lectures, videotapes, group and dyad discussion, surveys, role-play, and feedback. Assessment is conducted throughout the curriculum to determine the effectiveness of the supervisor's training. Participants who completed the core curriculum rated the supervisor training highly, citing an increase in the clinical competence, confidence and professionalism in their roles as supervisors. In addition, the author suggests that this model may be applicable in other supervision settings.

Cohn and Frum[28] mirror the sentiments found in the other allied health settings by citing the absence of formal CI training in occupational therapy. The author stated that in occupational therapy education, CIs needed only one year of fieldwork experience and were not prepared to teach students the relationship between theory and practice. Not only were CIs lacking experience, they were also lacking the foundation with which to supervise students. The author suggested that occupational therapy educators needed to develop and disseminate information to the CIs about how to supervise students, handle fieldwork problems, and design effective fieldwork programs.

Student Perceptions of Effective Clinical Instructor Characteristics, Behaviors and Skills

Most of the literature related to clinical supervision has been written by allied health professionals whose intent is to influence CI effectiveness. Many characteristics, behaviors and skills were identified to promote clinical instructors' abilities and, therefore, to enhance their supervisory capabilities. The literature that details students' perceptions of effective clinical instructors is more limited and comes from athletic training, physical therapy and nursing research.

Curtis, Helion and Domsohn[2] studied helpful and hindering behaviors used by CIs from athletic training student points of view. Using a critical incident technique, the researchers asked junior and senior level AT students to record helpful or hindering verbal or physical CI behaviors on a form created to gather the data. The students recorded the circumstances that preceded the incident, the CIs behavior, as well as the students' reasoning for why the behavior was either helpful or hindering. Four general categories emerged from the collected data that were divided into subcategories. The categories, in order of student importance,

included mentoring, professional acceptance, nurturing, and modeling. Helpful mentoring behaviors included explanation, demonstration and constructive feedback, with supervisor unavailability and missed learning opportunities as hindering supervisor behaviors. Students identified a desire for autonomy and an acknowledgment of their skills as helpful professional acceptance behaviors, whereas poor interaction styles were seen as a frequent hindering behavior. Helpful behaviors consisted of confidence-building actions like positive reinforcement and support, with the opposite types of feelings like humiliation creating hindering behaviors. Modeling behaviors accounted for only 4% of the total responses with the majority of incidents described as hindering. They included unprofessionalism and poor administrative skills. The authors admitted that the results of this student perception study are subjective and may not be applicable to all clinical education settings.

Emery[29] studied physical therapy students' perceptions of important clinical instructor behaviors by surveying 102 seniors who had completed their clinical education from three different undergraduate physical therapy programs. The researcher designed a questionnaire by dividing 43 previously identified clinical instructor behaviors into four categories; communication, interpersonal relations, professional skills, and teaching behaviors. Emery asked the students to score each behavior according to how important the behavior was relative to the quality of their clinical education experience as well as the frequency with which the student observed his or her clinical instructor exhibiting each behavior. As a result, the students reported that all behaviors were important and that all were observed with the same relative frequency. However, the researcher noted differences in behavior frequency were seen among the three undergraduate programs studied and, therefore, concluded that inconsistency existed in the clinical instruction process of these programs.

Nursing literature provides two studies from the nursing student's perspective. The clinical learning environment was researched by Dunn and Hansford[30] through survey analysis and focus group interviews. Using a Likert scale, the 23-item Clinical Learning Environment Scale (CLES) surveyed students on their perceptions of staff-student relationships, nurse manager commitment, patient relationships, interpersonal relationships, and student satisfaction. Subsequently, 42 nursing students from a variety of patient care settings were interviewed who had been identified during a pilot study as having either an extremely good or extremely poor clinical learning environment. The interviews provided common themes that were then compared with the data collected from the CLES. The results of this study showed that each of the CLES factors matched the data from the interviews. Student satisfaction was identified as the most reliable indicator of a positive learning environment in that, if the student had a supportive learning environment, the student was more satisfied, and conversely, if the student was satisfied, the environment was seen as more supportive. Similarly, if the CI was effective and supportive, the students had a positive perception of the clinical environment. Additionally, the results showed that students need to feel appreciated for their contribution to the medical team. The authors suggest that further research is needed to determine how to prepare and support nurse CIs.

In a study of 50 nursing students, Pertab[5] interviewed and surveyed the subjects in order to determine their perceptions of a

supervisor who could be labeled as perfect, and to determine if the lack of clinical supervision, which was problematic at the time the research was conducted, created problems for the nursing student. The author triangulated the data and found that the results were generally positive. Students felt they received good supervision, yet 40% reported their supervision was haphazard and poorly coordinated. The author concluded that confusion exists relative to good nursing clinical supervision, that no consistent model of clinical supervision for nurses exists, and that students lacked supervision support. The data illustrated that the students perceived their supervisors did not give them the help they thought was necessary.

All of the authors of the student perception studies agreed on the importance of using the results of their studies with caution, while, at the same time, paying attention to the expressed needs of the students.

Comparison of Student and Clinical Instructor Perceptions of Clinical Instructors Characteristics, Behaviors and Skills

A comparison of both student and clinical instructor perceptions of effective clinical supervision follows to ascertain differences between the groups. Athletic training, radiography, occupational therapy and physical therapy have all contributed to this body of knowledge.

Andersen, et al.[1] studied both supervisor and student opinions to assess athletic training clinical supervisor skills. They hypothesized that supervisors would rate their clinical skills more favorably than students, and that older, more mature students would be more critical of their supervisor's skills than younger students. The supervisors included program directors and head athletic trainers, from both accredited programs and non-accredited internship programs. Each supervisor asked ten students to participate in the study. Each participant completed the Athletic Training Supervisory Skills Inventory (ATSSI), a 46-item survey instrument that incorporates athletic training supervisor behaviors within six different domains. The researchers found that supervisors and students generally rated supervisor skills in the good to very good range, that supervisors were more critical of themselves than students, and that older students do not rate their supervisors as positively as younger students. Further, most students believed they received adequate supervision, and the supervisors were satisfied with the quality of supervision they provided.

Laurent and Weidner[4] compared clinical instructor and undergraduate AT student perceptions of instructor characteristics as being either most or least helpful in the learning process. A 42-item questionnaire was divided into eight subgroups; Student Participation, Clinical Instructor Attitude Toward Teaching, Problem Solving, Instructional Strategy, Humanistic Orientation, Knowledge and Research, Modeling, and Self-Perception. All of the clinical instructor characteristics correlated as being helpful by both the students and the clinical instructors in the study. The researchers concluded that both the clinical instructor and student perceptions of helpful clinical instructor teaching characteristics, which were identified in the study, can help shape the direction of clinical instruction. These authors found that supervision and supervisory relationships are dynamic and that the relationships need to keep pace with the educational process. Additionally, helpful clinical instructor characteristics promote learning by engaging the student

to make the learning more meaningful and applicable.

Williams and Webb[6] completed a study using radiography students to determine effective and ineffective clinical setting activities that encourage independent student development. The study was prompted by clinical education reform which called for a more independent, "reflective practitioner."[6] The authors proposed that research studying student perceptions of the clinical supervisor's role relative to effective and ineffective behaviors would provide insight into how well clinical supervisors were prepared to carry out their supervisor responsibilities. Two groups of participants volunteered for this study, 24 radiographer educators and 84 radiography students. Twenty-four experts in radiography education completed the Delphi technique in order to determine the statements to which the students would respond.

The critical incident data fell into three categories: Teaching Skills and Techniques, Interpersonal Style, and Professional Competence. Williams and Webb[6] found that 80% of the critical incidents came from two categories (Teaching Skills and Techniques, and Interpersonal Style), with Professional Competence scoring very low. Additionally, the supervisors received low scores relative to reflective practice. The investigators concluded that students appreciated supervisors who engaged them in the learning process by encouraging personal growth, that the supervisor's interpersonal style affected their self-confidence, anxiety, and the acquisition of new skills, and that they appreciated good role modeling. Ineffective behaviors were also reported by the students. Revealing a weakness in the study the researchers, due to the nature of critical incident technique, reworded the hindering behaviors into positive statements without divulging how they were interpreted.

The authors agreed that students' practical experiences were tied to reflective practice. They noted, however, relative to the educational reform in radiographic clinical education, that supervisors were not prepared to take on student desires for student-centered learning. Rather, task-centered teaching and learning were the strategies employed by the clinical supervisors, a style that would hinder reflective practice.[6]

The clinical learning environment and the need for effective supervisors were also identified by occupational therapy students as important components to their clinical education.[31] Students and supervisors in 65 clinical settings were surveyed to determine the impact of the practice setting on student experiences. They found that the clinical learning environment helped develop the student's preferred clinical practice setting and that the most critical component of the clinical environment experience was dependent on the quality of the supervision. The survey revealed that both students and supervisors agreed that effective supervision led to a good clinical experience.

Echoing research in other health settings, Jarski, Kulig and Olson[32] cited a lack of formal pedagogical preparation in their study of physical therapy student and clinical instructor perceptions of effective and hindering teaching behaviors. These researchers surveyed 139 students who had completed at least one clinical rotation, and 31 CIs who were actively involved in clinical supervision. The questionnaire used in this study divided 58 teaching behaviors into four categories: communication skills, professional skills, interpersonal skills and andragogic or adult learning skills. Participants were asked to rate each behavior as either helpful or hindering. The reported results showed that

teaching behaviors were perceived as most important by both groups followed by interpersonal behaviors. Further, this study found that the most hindering behaviors related to the teaching process and instructor interpersonal skills. Of all the data reported, one major difference was that students perceived being unsupervised in the clinical setting as helpful, whereas CIs perceived that behavior as hindering. Jarski et al. believed this finding may imply that students prefer to develop their clinical skills independently. This study concurred with research in the other allied health environments that suggests effective clinical teaching is dependent on instructor availability and positive clinical instructor interpersonal skills.

Summary

The review of this literature demonstrates the striking similarities between clinical instructor characteristics, behaviors and skills across many allied health professions. The researchers in all these studies agreed that clinical instructor behaviors are important and need to be the focus of clinical education in order to promote helpful, while minimizing hindering, behaviors.

A common theme found in this literature review is that effective clinical instructors can enhance the learning process.[3] Clinical instructor characteristics, behaviors and skills that promote effective clinical instruction include matching clinical teaching skills to student understanding and experience, having good communication skills, providing constructive feedback, facilitating a student-centered environment, and training clinical instructors. Similarly, students suggest that supportive clinical settings have clinical instructors who provide constructive feedback, use good communication skills and help students develop self-confidence.

The authors concur that future research is warranted that might identify areas to help improve supervisor and supervision services,[1,14] which might help promote the development of instructional programs and assessment tools that could be used to teach helpful clinical instructor behaviors.[3]

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