

Assessing Nonverbal Communication Skills Through Video Recording and Debriefing of Clinical Skill Simulation Exams

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Context: Nonverbal communication (NVC) skills are a critical component to clinician interactions with patients, and no research exists on the investigation of athletic training students' nonverbal communication skills. Video recording and debriefing have been identified as methods to assess and educate students' NVC skills in other allied health care fields.

Objective: To investigate whether athletic training students perceived video recording and debriefing of their simulation exams to be an effective method for learning and assessing their NVC skills.

Design: Survey.

Setting: A standard athletic training education laboratory.

Patients or Other Participants: A convenience sample of 47 participants enrolled in an upper-level athletic training laboratory course.

Data Collection and Analysis: Descriptive statistics were conducted on combined items from NVC feedback forms that students completed after three simulation exams.

Results: While 96% of the students thought their ability to assess their NVC communication skills had improved and 98% actually felt that their NVC skills improved as a result of this method, all participants agreed this was a worthwhile experience.

Conclusion(s): Similar to medical and nursing literature, students felt that video recording and debriefing of clinical simulation exams were worthwhile and valuable methods for learning about and evaluating their NVC skills.

Key Words: Standardized patient, body language, patient interaction

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Athletic training students' (ATSS') ability to communicate effectively is critical to their success as a future clinician. Effective interpersonal communication skills include verbal and nonverbal components that allow professionals to establish a positive relationship with their patient, which is fundamental for health care professionals.^{1,2} Patients rely on verbal and nonverbal cues to interpret what a clinician is saying regarding their injury or illness.² Expression of body language, or nonverbal communication (NVC), gives meaning and context to verbal communication³ and often indicates what will be said prior to speaking and is a critical way for individuals to convey their emotions.⁴ Though both components of communication are important, it has been estimated that 60% to 65% of the meaning of a patient interaction is communicated nonverbally.⁵ Furthermore, medical education research has found that clinicians who engage in appropriate NVC skills, such as nodding, eye contact, and appropriate posture, were reported to have a higher level of patient satisfaction, as well as an overall better evaluation.⁶ For these reasons, NVC may be a more reliable indicator of what is being communicated and therefore should be assessed in athletic training education programs (ATEPs).⁷ While there has been investigation into the teaching of interpersonal skills to athletic training students (ATS),⁸ NVC has yet to be specifically evaluated in athletic training and has received much less attention than verbal communication in the medical education literature.^{3,9,10}

Academic faculty have struggled with how to effectively assess and link NVC skill development to clinical practice.¹¹ Understanding the importance of NVC skill development is dependent upon the context to which it is being referred.¹ Therefore, it may not be beneficial for students to learn about NVC skills in a traditional lecture format to have the greatest impact clinically. Additionally, the assessment of these skills by peers via role play has not been shown to portray the types of encounters they will face in the future.¹¹ The use of standardized patients (SPs), rather than peers, has proven to be a realistic and worthwhile experience for student learning in athletic training,¹² and several studies in the medical and nursing literature support the use of video recording as a method for teaching and learning about NVC skills.^{13–15} Video feedback is one of the most effective methods for improving verbal and nonverbal communication skills.¹⁶ While video feedback has been demonstrated to be effective, it is also important that students debrief appropriately during this time.

Debriefing is a process that is often used in patient simulation experiences.¹⁷ It allows the student to reexamine the patient encounter to analyze their interaction and think about how they may be able to enhance or develop more skillful practice.¹⁷ When students reexamine a clinical encounter and debrief through guided reflection, they are able to transfer their learning from the experiential exercise to real-life practice.¹⁸ By facilitating ATS reflection through the debriefing of their NVC skills during a video-recorded simulation exam, it will allow students to learn about these skills in the

context of clinical practice.¹⁹ Video feedback and encounter debriefing may enable ATSS to increase their NVC skill knowledge in a context similar to their clinical education experiences. Therefore, the purpose of this study was to investigate whether ATSS perceived the video recording and debriefing of their simulation exams (ie, the instruction and supervision of a rehabilitation exercise for a therapeutic exercise course) to be an effective method for learning and assessing their nonverbal communication skills.

METHODS

Participants

Athletic training students within an athletic training education program, accredited by the Commission on Accreditation of Athletic Training Education, from 1 northeastern institution were recruited to participate in the study. All participants ($n = 47$; 17 male, 30 female) were juniors who completed a therapeutic exercise course in either fall 2010 or fall 2011. All 47 (100%) participants completed the requirements of the study.

Instrumentation

Nonverbal Communication Reflection Form. The NVC Reflection Form (Figure 1) was given to all students to complete at the conclusion of each of 3 video-recorded practical examinations throughout the semester. This form was not used in data collection, but rather was adapted from the literature¹ to give to participants to guide their reflection and debriefing on their NVC behaviors in 8 areas. These 8 areas focused on bedside manner, tone of voice, word choice, facial gestures, eye contact, posture, zone of comfort, and negative body language. Students were also asked to explain each of their findings as they pertained to the behaviors, as well as list strengths and weaknesses from their self-reflection.

Nonverbal Communication Experience Feedback Form. The NVC Experience Feedback Form was adapted from the literature²⁰ and administered to participants to assess perceptions of the study methods (video recording and debriefing). The form had 3 sections: (1) demographic information (ie, gender, course number, academic year); (2) questions regarding the experience (eg, worth of experience, understanding and improvement of nonverbal communication skills, preparation for future experiences with actual patients) using a Likert scale (1 = strongly disagree, 5 = strongly agree); and (3) open-ended questions regarding strengths/weaknesses of the methods, as well as an area for students to describe the individual growth they felt they obtained from the experience.

Standardized Patients and Their Training

Six students volunteered to participate as standardized patients (SPs). These students were either freshman or

Figure 1. Nonverbal Communication Reflection Form.

Name:

Date:

Practical:

Critique of Non-Verbal Communication Skills

Please check all categories that apply for each of the qualities listed below and provide short explanations of what you observed.

1. Bedside Manner

- ☐ a. Pleasant ☐ f. Not confident
☐ b. Professional ☐ g. Warm, friendly
☐ c. A bit unprofessional ☐ h. A bit cold
☐ d. Confident ☐ i. Appropriate greeting
☐ e. Overconfident ☐ j. Inappropriate greeting

Explain your findings (positive/negative or both):

2. Tone of voice

- ☐ a. Professional but soothing
☐ b. Professional but cold
☐ c. Professional, neutral as to tone
☐ d. Slightly unprofessional, tendency to patronize
☐ e. Slightly unprofessional, tendency to irritate

Explain your findings (positive/negative or both):

3. Choice of words – the words chosen for the situation were

- ☐ a. Appropriate for the situation at hand
☐ b. Slightly inappropriate because: too formal for athlete

Explain your findings (positive/negative or both):

4. Facial gestures exhibited (non-verbal communication)

- ☐ a. Compassionate smile ☐ d. Distracted
☐ b. Fake smile ☐ e. Worried
☐ c. Professional but unexpressive ☐ f. Indifferent

Explain your findings (positive/negative or both):

5. Eye contact

- ☐ a. Good eye contact during the role play
☐ b. A little eye contact during the role play
☐ c. Failed to maintain eye contact during the role play

Explain your findings (positive/negative or both):

6. Posture

- ☐ a. Erect but relaxed
☐ b. Erect but stiff
☐ c. Slightly slouched

Explain your findings (positive/negative or both):

7. Zone of comfort

- ☐ a. Too close
☐ b. Too far away
☐ c. Left appropriate zone of comfort

Explain your findings (positive/negative or both):

8. Negative body language/distracting behaviors

- ☐ a. Rolling eyes ☐ f. Squirming
☐ b. Deep sighs ☐ g. Foot tapping
☐ c. Crossed arms ☐ h. Wrinkled forehead
☐ d. Chewing gum ☐ i. Yawning/stretching
☐ e. Fiddling with pens/papers ☐ j. None observed

Explain your findings (positive/negative or both):

9. Overall – on scale of 1–10, I would award my ability to communicate: _____

Include an explanation of why a score below 10 was given (if applicable).

10. List one strength and one weakness of the interaction you observed

Strength:

Weakness:

sophomore students with no previous coursework in therapeutic exercise. These individuals were selected over actors due to budget constraints. The SPs were given the exam cases, expectations, and a description of their role 1 week prior to the interaction. A 1-hour question-and-answer session was held for all SPs to discuss the cases and alleviate any confusion or misunderstanding regarding their role. During this time, SPs were not required to rehearse any case information, but were told which basic movements would cause pain or discomfort so that they could “act” appropriately. For example, students given the following sample case were coached that bearing full body weight on the extremity would cause pain, as well as any type of resistance exercise using an external device such as tubing, Thera-Band, etc.

An individual comes into the athletic training room after being immobilized and nonweight bearing for 4 weeks following a fracture to his ankle. The fracture has healed, and he is permitted to begin rehabilitation. Indicate an appropriate exercise for each goal of rehabilitation (range of motion, strength, and proprioception).

The SPs were also instructed to ask the ATS questions if the instructions were unclear (ie, if the ATS used language that was not of a layperson’s understanding, for example, stating dorsiflex rather than up). Unlike other studies,^{8,12} the SPs used for this study did not complete any feedback forms on the participants’ NVC skills at the conclusion of each exam.

Procedures

Participants’ therapeutic exercise skills were evaluated 3 separate times during the semester using simulation examinations with SPs. Each participant was given a scenario and was permitted 20 minutes to write out their exercise selection and appropriate parameters prior to the SP encounter. Upon completion of the written portion, participants were escorted to the rehabilitation area of the athletic training room. One of the investigators then activated the video recorder. The students introduced themselves to the SP and carried out the specific scenario. Each SP encounter lasted approximately 10 minutes.

At the conclusion of the video-recorded examination, all simulation exams were downloaded to a flash drive. Participants were then given 1 week to view their individual performance and reflect and debrief on it using the NVC Reflection Form as a guide. Students were required to complete this activity as part of the course requirements, but were not graded on the depth to which they completed the form. At the conclusion of the course, participants completed the NVC Experience Feedback Form, and the results were compiled for further analysis.

Data Analysis

Descriptive statistics were calculated on combined items from the NVC Experience Feedback Form. Participants’ comments were compiled and inductively analyzed.

RESULTS

Descriptive statistics for the combined items from the NVC Experience Feedback Form are presented in Table 1. Results

showed that 100% of the participants strongly agreed or agreed that assessing their NVC skills was a worthwhile experience. They strongly agreed or agreed 96% of the time that their ability to assess their individual NVC skills had improved. Participants strongly agreed or agreed 96% of the time that the experience made them feel that they better understood these types of skills, and 94% were more comfortable about future experiences with actual patients. Ninety-eight percent of the participants also strongly agreed or agreed that the experience allowed them to improve their NVC skills. On the other hand, less than half (49%) of the participants agreed that they did not previously consider evaluating their NVC skills, and only 21% actually wanted to evaluate their NVC.

Emergent themes from the written comments included improvements in confidence, an increased awareness of NVC, and other unprofessional/nervous habits, as well as an awareness of the videotaping, which added pressure or changed behavior.

DISCUSSION

The purpose of this study was to investigate whether or not ATSs perceived the video recording and debriefing of their simulation exams with SPs to be an effective method for learning and assessing their NVC skills. The findings from this study indicated that the students perceived the methods of video recording and debriefing of their NVC skills to be a valuable experience. The investigators were able to view all of the exams and found that students improved their awareness and demonstration of appropriate NVC skills by the end of each semester. It is evident that the methods of video recording and debriefing used in this study proved to be effective for athletic training students to learn and assess their NVC skills.

Since traditional simulation testing is not recorded and NVC behaviors are less conscious and controlled than verbal behaviors, it is difficult for students to see their relevance to patient interactions, unless appropriate reflection methods are used. The use of video recording as a method for the teaching and learning about communication skills is supported in the medical and nursing literature.^{13–15} Video feedback has also been found to be 1 of the most effective methods for improving communication skills.¹⁶ In this study, students felt that this medium offered them an opportunity to understand what skills need practice, while also developing confidence prior to their actual patient encounters during their clinical experiences.¹⁴ Furthermore, these methods allow ATSs to proceed through Miller’s assessment model for professional practice.²¹

Miller’s assessment of medical students’ clinical skills indicated that students should proceed through distinct stages when demonstrating a skill s/he “knows”, “knows how”, “shows how”, and “does”.²¹ As educators, we often engage in this process as we evaluate the psychomotor skills of our students throughout their curriculum, but we may not be this specific when assessing NVC skills. It may be assumed that students understand what NVC skills are, and that we can inquire about these skills via an essay and/or standardized exam to understand what students know.²¹ However, the values and skills contained in knowing how and showing how are not

Table 1. Nonverbal Communication Experience Feedback Results—Frequency (%)^a

Statement	Disagree	Neutral	Agree	Strongly Agree
The experience of assessing my nonverbal communication skills was worthwhile.	0 (0)	0 (0)	24 (51)	23 (49)
Prior to this assignment, I did not consider evaluating my nonverbal communication skills.	10 (21)	14 (30)	20 (43)	3 (6)
My ability to assess my nonverbal communication skills were strengthened by this experience.	0 (0)	2 (4)	26 (55)	19 (41)
The opportunity to reflect via the video recordings makes me feel more comfortable about future experiences with actual patients.	1 (2)	2 (4)	22 (47)	22 (47)
The opportunity to observe my interactions makes me understand what nonverbal communication skills are.	0 (0)	5 (10)	20 (43)	22 (47)
I feel this experience allowed me to improve my nonverbal communication skills.	0 (0)	1 (2)	25 (53)	21 (45)

^a None of the participants strongly disagreed with any of the above statements.

adequately addressed through written assessments, and students may not be adequately prepared for future practice if more suitable teaching methods are not used.²² The use of video recording during an exam with a SP makes it possible for students to understand and assess their NVC skills in an authentic way. Specifically, it allows them to not only know, but also show and do this skill in a context that is specific to which it will be used as they interact with patients in the future.¹ If this was done through role playing with peers, it may not have as great of an impact because there would not be as much relevance to clinical practice. Using unfamiliar SPs for a simulation exam where students are asked to apply a specific, unrehearsed skill is closely related to the clinical environment. These findings were evident in our results, as 94% of the students indicated that the ability of ATSS to observe themselves through video allowed them to feel more comfortable about future experiences with actual patients, and 90% indicated it made them understand what NVC skills are. While video is an important method for learning these skills, video coupled with reflection (ie, debriefing) helps students improve, self-assess, and feel more comfortable with their NVC skills.²²

When students are given the opportunity to self-assess and reflect on their NVC skills, it allows them to discover areas in which they can improve.²² Though many believe that reflection occurs naturally, not all students are as introspective as they should be.¹⁷ Therefore, it is important for ATEPs to use debriefing and guided reflection of video-recorded simulation exams to allow students to transfer their learning of NVC skills from the experiential learning exercise to real life.¹⁸ When students engage in guided introspective activities, they can learn how to self-correct and assimilate new experiences with prior ones and improve their competence.²³ Athletic training education program use of video recording, SPs, and self-reflection of NVC behavior will benefit the ATSS' professional development. Video recording and debriefing allows unconscious or unnoticed NVC behaviors that are not formally addressed in the curriculum to be identified to hold the ATS accountable for his or her growth and development.

The NVC form used in this study provided guidance for the ATSS as they debriefed their experience and reflected on their observations as they pertained to each behavior from the

recorded encounter. Even though students were required to complete this form, they were not formally assessed on the depth to which they completed it, but rather were given feedback from the instructor. This type of formative assessment fostered learning by allowing students to be more open and honest when evaluating their behavior(s), because there was less concern on how it may impact their overall evaluation. The results of our study lend more support to previous literature^{24,25} that supports this type of formative assessment. Ninety-eight percent of the students indicated that this experience allowed them to improve their NVC skills, while 90% agreed that the activity helped them understand the nature of NVC skills.

Student self-assessment through video recording is also informative for ATEP programmatic changes. Feedback obtained through the review of student self-assessments may allow a program to better understand what students perceive regarding a teaching and learning methodology. This informal assessment can then be used to make appropriate modifications to the curriculum and/or pedagogical strategies as they pertain to NVC skills and the clinician-patient interaction.²⁴ For example, 1 significant weakness that was indicated by students regarding this study was the anxiety of having the video camera in their face. This finding is similar to what was found in other athletic training literature regarding video recording and SPs.¹² However, as the result of this informal assessment data, we have successfully applied for and been awarded technology funds from our university to purchase hidden video cameras to mitigate this reported anxiety.

CONCLUSION

Similar to medical and nursing literature,^{13–15} we found that the combination of video recording and debriefing clinical simulation exams are appropriate methods for ATSS to learn and evaluate their NVC skills. Nonverbal communication skills are less conscious than other verbal communication skills, and if appropriate instructional methods are not used, students may not see their relevance to clinical practice. Athletic training students perceived these methods to be worthwhile and agreed that they allowed them to understand, improve, and strengthen their ability to assess their NVC skills with actual patients both now and in the future. Therefore, ATEPs should seriously consider integrating video recording and debriefing clinical simulation exams into their ATSS'

clinical skill development and professional preparation. Future research could measure the specific NVC skills ATSS display during clinical exams and/or clinical education experiences to better understand commonalities or differences within this skill set.

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