Sketching an Approach to Clinical Education: What We Can Learn From Improvisation

Garth W. Strohbehn, MD, MPhil
Tracy Jaffe, MA
Nathan Houchens, MD

A 56-year-old man is admitted to the inpatient general medicine teaching service with pleuritic chest pain, fever, cough, tachycardia, diminished breath sounds on the left, leukocytosis, and left-sided opacity on chest radiograph. The attending physician anticipates that the team discussion will focus on pneumonia, antibiotic strategies, and risk stratification. Yet on rounds, the intern proposes pulmonary embolism (PE) as the most likely diagnosis and suggests chest computed tomography and heparin. The attending had not anticipated this thought process and wonders how best to respond in a way that will enhance the team's learning.

This attending physician's dilemma is not unusual: incorporating effective teaching techniques into the typical time-constrained and patient-focused graduate medical education (GME) clinical space is challenging.[1–3] In this perspective, we describe how improvisation techniques, often used to teach clinicians effective communication strategies, can also be used by clinical educators to enhance their teaching skills within teams. We describe key principles of improv, examine their parallels to effective clinical teaching in GME settings, and show that skilled improvisers and excellent clinical educators share common behaviors. We aim to demonstrate the value of incorporating improvisation and spontaneity into clinical teaching for experienced as well as novice teachers.

Foundations of Improvisation

Since the 16th century Italian Renaissance *commedia dell'arte*, theatergoers have recognized that great actors implicitly trust their instincts and responses to situational stimuli. Spontaneity permeates their acting, and the result is a performance that invites the actor and audience member to experience authentic reactions. Adding authenticity to an actor's spontaneous or (in scripted acting) deeply explored responses to stimuli is the central tension behind improvisational training. In her memoir, *Bossypants*, The Second City alumna Tina Fey distills improv into 4 principles: (1) agree and say "yes"; (2) say "yes, and…"; (3) make statements; and (4) there are no mistakes, only opportunities (TABLE).[4]

Although primarily studied in developing communication skills in undergraduate medical education, GME,[5–8] and allied health professional education,[9,10] improv skills may also have a role in clinical teaching.[11] For many trainees, inpatient attending rounds and outpatient precepting experiences are the main learning opportunities each day. Improvisational theater principles can provide an efficient means for learner-centered teaching of key points while facilitating a conversational, hierarchy-flattening tone.

Principles of Improvisation in Theater and Clinical Education

Agree and Say "Yes"

Theater: The prime responsibility of improvisational actors is to support fellow players in the scene. Agreeing and saying "yes" reflects an acceptance of fellow players' ideas and establishes that all actors are supporting and participating actors. Accepting contributions from others (considered "gifts") develops trust among actors, creates a shared reality, and broadens possibilities in the act of co-creating a scene. Expressing gratitude for another's offerings through acceptance encourages ongoing engagement and demonstrates confidence in each other.

Education: From our observations of excellent clinical educators, we note that they support learners and recognize team members, even when given unanticipated suggestions or plans.[2] By agreeing and saying "yes," they affirm a learner's contributions to the conversation through positive language. However, this act does not equate to concurrence with the learner's clinical statements or reasoning. Rather, the educator is acknowledging that the learner has demonstrated openness to the ambiguities and challenges of medical practice. The educator is demonstrating enthusiasm and inviting other learners to contribute. This reinforces a supportive environment and identifies each team member—including the

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TABLE
Improvisation Principles Applied to a Specific Case[a]

Improvisation Principle	Sample Educator Phrases	Sample Educator Responses to Specific Case
Agree and say "yes"	▪ "That is an interesting idea." ▪ "We should carefully consider that." ▪ "I appreciate the thought you have put into this."	"I'm glad you mentioned nonadherence to treatment. It is definitely a major cause of why patients present to the ED for heart failure."
Say "yes, and…"	▪ "That is a great start. Perhaps we could expand upon it." ▪ "I would also like to bring up…" ▪ "I might ask you to also consider…"	"In addition to nonadherence, there are also many other potential reasons for patients to have multiple presentations with this condition."
Make statements	▪ "It makes sense that this is puzzling. I have grappled with this concept since medical school." ▪ "When I have previously encountered this situation, my approach has been…" ▪ "This has been a challenging week for all of us."	"I think a lot of physicians can get frustrated with seeing the same patients repeatedly. Sometimes it can lead to us making assumptions about others. Perhaps there is more to this patient's story."
There are no mistakes, only opportunities	▪ "This is a great opportunity to highlight some key principles." ▪ "This causes problems for a lot of physicians. We all benefit from reviewing the mental framework." ▪ "Now we are prepared to see the next patient who presents with these findings."	"Let's discuss how we can explore the patient's history to most effectively control her condition and avoid the ED. I would propose we start with the social history, since it often contains rich information about important determinants of health."

[a] Examples apply to this scenario: a 64-year-old woman visits the emergency department for the fourth time in 6 months with fluid overload related to decompensated heart failure. The attending is prepared to discuss the most recent evidence for various heart failure treatments. However, the intern states the patient is "a frequent flyer in the ED because she doesn't listen and she's always noncompliant with dietary restrictions." The attending shifts the teaching focus to assumptions in medicine and the importance of gathering a social history.

educator—as a lifelong learner and supporting player (TABLE). In the case presented, the attending responds, "Thanks for sharing that point. PE can be a cause of many of this patient's findings, particularly the pleuritic chest pain, cough, and sinus tachycardia."

Say "Yes, and …"

Theater: Compelling improv actors immediately and fully immerse themselves into a scene's reality without judgment. Subsequent action is guided by players listening to each other and maintaining flexibility to co-construct the scene. Therefore, "yes, and…" marries 2 principles skilled players use to propel scenes: (1) full acceptance of the partner's "gift" (the "yes"), and (2) the act of collaboratively adding something in return (the "and"). They recognize that relationships among players are sacrosanct and dedicate themselves to building on the ideas and successes of their peers. Refusing or refuting the reality of an offering—denial—is a "cardinal sin" in improv because it immediately limits a scene's potential. As a result, players are encouraged to avoid phrases like "yes, but…"

Education: Saying "yes, and…" in the educational context reinforces the educator's enthusiasm and adaptability. Great teachers recognize that carefully crafted teaching points have little effect if they ignore the learner's contributions, so they build on the learner's input and co-construct the team's path to discovery. Master educators are (or become) effective listeners who approach their craft with humility and eschew authoritative models of education in favor of learner empowerment.[1] Yet "yes, and…" does not automatically accept the veracity of every learner's contribution. The skilled educator allows the learner to chart the course to discovery (ie, deciding how to approach a problem), while the educator helps to navigate the journey (ie, saying "yes, and…" to build upon the learner's ideas; TABLE). In the case, the attending physician builds on the intern's understanding by stating, "PE can be deadly and, for that reason, should be considered for many patients who demonstrate cardiopulmonary signs and symptoms. I'm hoping we can also explore other conditions that might lead to this constellation of findings."

Make Statements

Theater: Information-containing statements, rather than questions, populate a scene's universe with ideas for future use and create opportunities for spontaneity by 3 major mechanisms: (1) statements release a single player from bearing all creative responsibility and leverage each individual's talents; (2) they add detail to a scene's characters; and (3) they firmly establish relationships and context within the scene.

Education: While effective learning in medicine necessitates asking questions to learners to reveal their thought processes, excellent educators must balance asking specific questions with making statements. Socratic or open-ended questioning is especially useful in promoting critical clinical reasoning and represents one manifestation of improvised pedagogy. Yet an environment of intensive questioning, sometimes referred to as "pimping,"[12] may generate fear, risk alienating members of a diverse audience, and stifle conversation, even when performed with the best of intentions. In contrast, making statements can normalize a conversational tone for teacher-learner communication. By using statements, educators can make their own clinical reasoning explicit, demonstrate emotional vulnerability, or maintain humility by admitting knowledge gaps and past personal errors (TABLE).[1] In the case, the attending continues, "It can be challenging to keep track of all data and identify key details, particularly when the service is busy. One way I deal with this is to draw on illness scripts for common clinical conditions. For this patient, I am having difficulty reconciling the findings with my illness script for PE."

There Are No Mistakes, Only Opportunities

Theater: Taking chances is embraced in improvisational acting because it helps create interesting scenes. Working with fellow players to turn "mistakes" into opportunities for creative scene development is a skill. This collaboration requires mindful awareness, reflective listening, attention to detail, and a willingness to welcome and expand upon the scene, no matter how unsalvageable it may seem. Great players honor spontaneous effort and commitment over perfection, especially in the face of ridiculousness. They trust their colleagues will do the same to create compelling stories.

Education: In the clinical context, clinicians strive to avoid medical errors that jeopardize patient safety. In our experience, clinical educators skilled in the use of improvisational techniques are more likely to discuss patient safety systems and risk mitigation and their effects on clinical practice. In the educational context, we suggest that "mistakes" are learner misunderstandings rather than medical errors that can result in patient harm. Each learner's path to knowledge discovery contains misunderstandings, particularly surrounding clinical reasoning. The master clinical educator listens actively to the learner and avoids judgment of unexpected statements. In doing so, the educator lets go of preconceived notions of how a teaching interaction will unfold and recognizes that there are myriad paths to knowledge discovery, each with value. The educator appreciates opportunities to approach concepts from novel angles and build pedagogical skills that may benefit future learners (TABLE). In the case, the attending continues, "While PE could be a cause for some of the patient's symptoms and signs, this is a great opportunity to review the illness scripts for other conditions that feature pleuritic chest pain. This will allow us to consider our approach for this patient and others with similar presentations."

Conclusions

The parallels between improvisational acting and effective clinical teaching are pronounced. The act of perceiving contributions from learners as gifts and adding to them with enthusiastic collaboration, acceptance, and spontaneity has benefits. These skills may increase an educator's flexibility in dynamic learning situations and cultivate an environment that values learners' contributions. Learning and honing improv techniques is an experiential process. We suggest that clinician educators interested in augmenting these skills seek training from others more experienced in this method. Useful resources include websites (www.improvdoc.org and www.medicalimprov.org), which provide a multimedia approach to learning and additional resource lists. Clinician educators may also learn techniques through in-person improvisation classes, which can often be found at local theaters and higher education institutions.

Master educators embrace a pedagogy that views spontaneity and self-determined learning paths as valuable ends in themselves, as well as critical to learners' well-being and optimal learning environments. Great teachers' techniques are often manifestations of this philosophy. Using the principles outlined here, good clinical teachers may adopt behaviors that not only make for great improvisation but also lead to becoming exceptional clinician educators.

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Garth W. Strohbehn, MD, MPhil, is Clinical Fellow, Section of Hematology/Oncology, University of Chicago Medicine; **Tracy Jaffe, MA,** is Faculty Director of Theatre, Department of Communication, Media & Theatre Arts, Social and Behavioral Science Division, Washtenaw Community College; and **Nathan Houchens, MD,** is Associate Chief of Medicine, Medicine Service, Veterans Affairs Ann Arbor Healthcare System, and Assistant Professor, Division of Hospital Medicine, Department of Internal Medicine, University of Michigan Medical School.

Corresponding author: Nathan Houchens, MD, Veterans Affairs Ann Arbor Healthcare System, 2215 Fuller Road, Mail Code 111, Ann Arbor, MI 48105, 734.845.5922, fax 734.913.0883, nathanho@med.umich.edu