



## Review Article

# Teaching communication skills: Using Gagne's model as an illustration

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## ABSTRACT

Communication skills is an essential competence for physicians. Good communication skills correlate with higher patient satisfaction and overall patient outcome. Therefore, such training should start as early as in the undergraduate curriculum with experiential methods and more advanced skills to be integrated at different levels. Design of the training program should prepare for the transfer of communication skills into the clinical setting. Supervision from clinician educators could enhance the transfer of communication skills. Faculty development programs could help clinician educators to develop teaching skills needed in teaching communication. Continuous feedback from teachers and reflective practice of the learners are essential for effective learning of communication skills. The design of the teaching should be based on theory such as adult learning theory or experiential learning. Gagne's model provides a template for the systemic design of instructional events, and this article will illustrate an example of teaching communication skills based on the model.

**KEYWORDS:** *Communication skills, Gagne model, Role play*

## INTRODUCTION

Communication skills is an essential competence of a doctor and researches have shown that effective communication skills correlated with better patient care and patient-doctor relationship [1]. However, studies have shown that communication was a main health service complaint and doctors were deficient in some basic skills. It occurs quite often that doctors are not able to obtain all aspects of a patient's health concern [1]. In addition, when doctors do provide information, they do not always attend to patients' needs or check their understanding after their explanation. Unfortunately, doctors are not able to identify more than half of psychological morbidity during consultation [1]. The reasons why doctors seem to be incompetent in communication could be due to lack of time, fear of increasing patients' stress and effect on doctors' emotional stability, etc. Many doctors choose to cope with active distancing behaviors [2], hence possibly attribute to the gap between competence and performance [3].

Communication skills consist of several components which could be taught and learned. Initiation of communication training began in the 1970s, and now most medical schools have offered courses to a different extent [4]. However, training of communication skills is not as emphasized when compared to other clinical skills. Learning communication skills is different due to more emphasis on the cognitive aspect and variation in an individual's style and personal experience [5]. Systemic and longitudinal course design results in the most favorable outcome, especially when the course coincides with

clinical practice [6]. Most undergraduate curriculum includes basic interview skills training while more advanced skills such as breaking bad news (BBN) are taught during post-graduate training [7]. Examples of suggested topics to address doctors' active distancing behaviors include active listening, empathy, and discussion of treatment options. The content of the curricula for communication skills is diverse among different countries. A more global curriculum on the outcomes of communication skills was listed in The Scottish Doctor. Kalamazoo, I and II reports, were based on expert advice on essential communication and interpersonal skills. Some of the communication skills included opening discussion, understanding patient's perspective, sharing information, etc. [6].

In communication, the content, process, and perceptual skills are interlinked. Content skills refer to the substance of communication such as a patient's history and treatment plans. Process skills are how content was obtained and delivered. Perceptual skills are the thinking process and feeling of healthcare professionals, for example, the process of critical thinking, attitudes, and thoughts about patients. Aspergren and Lonberg-Madsen proposed that some skills such as keeping eye contact and avoidance of medical terms could be learned by observing from teachers or through own experience from

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clinical practice [8]. Examples of skills that were not spontaneously acquired were related to process such as establishing rapport with patients and summarizing during a consultation. These skills need to be taught in a stepwise manner through undergraduate to postgraduate courses [8].

## **METHODS FOR TEACHING COMMUNICATION**

### **SKILLS**

There are various methods of teaching communication skills. Studies have demonstrated that the competence of communication skills could be developed and enhanced by established methods [9]. Traditional and experiential methods of teaching would be introduced as followed.

### **DIDACTIC TEACHING**

In didactic teaching, basic knowledge and concepts are taught and it would be helpful to provide learners with the evidence on the importance of communication skills at the beginning of the session [1]. Teaching activities include lecture presentations, literature study, project work, seminars, or e-learning. However, learners' role in this method of teaching is more passive, and studies have shown that this traditional method is less efficient in developing skills to be applied in practice [5].

### **ROLE MODELING**

In addition to didactic teaching, a more interactive way to teach communication skills is for teachers to demonstrate interviewing either with real patients or review previous videotaped sessions. Learners would be more motivated to learn if they witness an ideal demonstration. This method also allows teachers and learners to discuss both the verbal and nonverbal aspects of a dialog. Students could also provide feedback to the teachers [10].

### **STANDARDIZED PATIENTS**

Standardized patients (SPs) are usually well-trained actors to simulate real patients. Under simulation, learning goals would be easier to be achieved as learners could practice more advanced communication skills under controlled learning environment. Skilled SP could adapt their response according to students' level [7]. The process could be videotaped and reviewed afterwards. Videotaping offers the advantage to provide both verbal and nonverbal cues that the learners were not aware of during the interview. The record could be used to compare with performance of peers or for the assessment of improvement in the future. Besides teachers, learners could also receive feedback from SP. However, some students felt that SPs were too unrealistic and this affected their engagement in the learning process [11]. The main disadvantage of hiring actors as SP is the high cost [10]. In order to sustain simulation training under budget, volunteers were recruited and trained to become SPs. One study showed that learners did not report much difference in the depth of gathering information from volunteer SPs when compared to SP [12].

## **REAL PATIENTS**

Interaction with real patients provides learners the opportunity to apply communication skills in a real setting. This method would complement programs where only SPs are used for training. The interview could also be videotaped for discussion and feedback. The disadvantage of real patients lies in that the learning environment cannot be controlled when compared to the simulated setting. As a result, preset learning objectives may not be achieved depending on the pace of the clinical encounter and patients' response. In addition, most patients would not be able to participate if the rehearsal of a certain skill is needed [5]. Consent from the patient is another important issue to be addressed. An alternative would be to invite real patients to participate in the training program for the purpose of teaching. They would need to be informed of the expected learning outcomes of the learners and trained in providing feedback.

## **ROLE PLAY**

In role play, the teaching of communication is based on a scenario which could be an actual event or a prewritten script [13]. An actor or learners could portray the patient or other roles in the scenario. The process is supervised by a facilitator who would provide guidance and feedback. This method provides a safe learning environment for learners, especially in learning communication in a more challenging situation. Learners could discuss alternatives and facilitator or peer could provide feedbacks. Interaction in a small group setting enhances retention of the skills learned. Unlike real patient encounter, role play provides opportunities for practice of skills that needed improvement. The obstacles in this method of teaching would be to overcome anxiety and encourage volunteers to participate in the learning process [10].

Research shows that learning is more effective when students are not in stress. Compared to using real patients, small group teaching with simulation offers a safer and more controllable environment for communication skills training. It allows students to pause and ask for assistance when they get stuck or feel uncomfortable [14]. In role play, students could simulate patients or patients' significant others to gain insight from a different perspective and to feel the impact of communication skills. The teacher or other participants could provide suggestions or constructive feedback. Studies showed that feedback to a group of students was just as effective as individual feedback [2]. Regardless of the method of learning communication skills, students would learn better if they were able to reflect on their learning process, strength, and area for improvement [15]. The various methods teaching communication skills are summarized in Table 1 [5].

## **THE THEORETICAL BASIS OF TEACHING COMMUNICATION SKILLS**

Traditional methods of teaching communication skills such as lectures or merely watching demonstrations by tutors are less effective in sustaining the skills due to lack of hands-on experience. Recent studies demonstrated that more effective methods for learning communication skills were based on

**Table 1: Methods for teaching communication skills**

| Method                | Characteristics  | Disadvantage   |
|-----------------------|--|--|
| Didactic              | Provide information on research and conceptual framework of communication skills<br>Various activities such as lecture presentations, project work | Learners more passive<br>Less efficient in developing skills<br>Less tendency to lead to change in behavior be applied in practice |
| Role modeling         | Demonstrate appropriate behaviors<br>Trigger interactive discussion<br>Opportunity for feedback from the students to the teachers                  | Lack true experiential training  |
| Standardized patients | Allows repeated practice<br>Adapt to learners' needs<br>Provide feedback a from lay perspective  | Engagement depends on learners' attitude<br>High cost  |
| Real patients         | Interaction with real patients<br>Complement training with SP  | Learning process more unpredictable<br>No opportunity for repeated rehearsal<br>Consent from patient needed                        |
| Role play             | Practice skills in safe environment<br>Opportunities to practice challenge cases encountered in practice<br>Free, available                        | Resistance to participate<br>Anxiety of learners   |

SP: Standardized patient

experiential learning [6]. According to Kolb's learning cycle, students would practice first such as interviewing a patient, followed by feedback from the teacher. Students would then be encouraged to relate their experience to their existing knowledge of communication and apply what they had learnt in the next encounter.

Despite the teaching of communication skills in the undergraduate setting, there were many factors that contribute to the competence of students in applying the skill in the clinical setting [16]. Transfer of skill is demonstrated when the learners can integrate the new behaviors into the applied context for a prolonged period [3]. One of the factors that influence the transfer of communication skills is whether students believe that their actions would be beneficial to the patients. Negative experience would impede students attempt to apply the new skills [3].

According to adult learning theory, students would be more motivated if they could identify areas where they need assistance [15]. A study on undergraduate communication skills course on history taking under simulated setting and clinical setting showed that the learning attitude of medical students improved when they were able to correlate skills learned under simulation to the real clinic setting [2]. When these students transitioned into the clinical learning environment, they were at a more peripheral region at first. According to communities of practice, as these learners kept learning and gaining more experience and skills, they move toward the center [17]. In addition, social learning theory proposes that learners learn through interaction with the environment and surrounding people [17]. Therefore, clinician educators could assist learners by keep providing feedback to facilitate implementation of new behaviors [11].

## **FACULTY DEVELOPMENT FOR TEACHING COMMUNICATION SKILLS**

The role of facilitators in teaching communication is pivotal, especially in experiential learning methods. However, most clinician educators did not receive training in teaching

communication skills. Clinician educators are experienced in the patient–doctor relationship, yet experience alone is not enough for teaching communication [18]. Facilitators from other fields such as social scientists may have more background on training in communication skills; however, they are not familiar with the patient–doctor interaction when compared with physicians [5,7]. Clinician educators could participate in a workshop to learn teaching skills such as ways to establish a safe learning atmosphere, rule setting, task delegation, provision of feedback, and encouragement of reflection in role play [13].

## **COMMUNICATION IN EASTERN CULTURE**

It is inevitable that there is a cultural difference in communication and patient–doctor relationship, but the basic principles of teaching communication skills are quite similar [5]. There were only a few studies on how communication skills are taught in the east. One pilot communication course in undergraduate curriculum course in China adapted interactive teaching methods and received great feedback from participating students. The content of the course was similar to the Western literature [19].

## **BARRIERS TO TEACHING COMMUNICATION IN THE CLINICAL SETTING**

In most countries, medical students are not responsible for the primary care of patients. Most medical students participate in history taking and examining patients but they usually do not explain treatment plans. One of their main concerns in the clinical setting is dealing with patient's emotions. When students' were overwhelmed by patients' response, some became detached if they were not guided by supervisors [11]. Therefore, supervisors' support in dealing with possible negative learning experiences would decrease students' barrier to engage further in the learning process [11].

The main barrier of teaching communication in clinical practice for clinician educators is the lack of time. When time is limited, patient management is prioritized compared to the teaching of learners [20]. In addition, most clinician educators

were not taught in this field during their training, and their skills in communication might not be competent. Studies have shown that some important skills are not spontaneously acquired over time [8].

## STRATEGIES FOR TEACHING COMMUNICATIONS IN THE CLINICAL ENVIRONMENT

A variety of teaching methods from formal, informal, and hidden curriculum would increase the success rate of transfer of communication skills in clinical practice. For formal curriculum, regular sessions on different topics of communication skills could be offered with clearly stated learning outcomes. The curriculum of clerkship at Harvard Medical School consisted of student interviews with real patients and SP. Self-assessment and feedback from the clinician educator and SP were provided. In addition, web-based resources such as presentation slides, videos, and links to resources are made available for students [21].

Most opportunities for teaching communication skills take place in the clinical setting. In this form of informal curriculum, clinician educators became role models where students learn and observe their pattern and skills of communication. The support from the organization is also important to foster the training and transfer of communication skills in practice. Communication skills should be recognized as a formal learning objective in clinical practice to enhance the quality of patient care [20].

## ILLUSTRATION OF TEACHING BREAKING BAD NEWS USING GAGNE'S MODEL

The theoretical basis of Gagne's model is based on the information processing model. Gagne's model provides a template for systemic design of instructional events to facilitate achieving learning outcome [22]. There are nine steps in this model and has been applied in other fields such as leadership and military. The following is the planning of teaching BBN by role play using Gagne's model of instructional design [Appendix 1] in a general internal medicine ward [23].

### Step 1: Gaining attention

At the beginning of the session, learners would be asked about their prior experience in witnessing BBN. If the learners do not have any exposure in BBN, a bad example of BBN video clip would be used to trigger discussion, as well as to stimulate learners and get their attention.

### Step 2: Informing learner of objectives

After a short discussion on either prior experience or video demonstration on BBN, facilitators would briefly mention prior studies on the importance of mastering BBN and its impact on patient-doctor relationships. Hopefully, this would further motivate learners when facilitators inform them of the following learning objectives for this session:

- Collect relevant information from the patient
- Deliver bad news based on Buckman's model
- Express empathy towards patient's reaction via verbal and nonverbal response.

### Step 3: Stimulate recall of prior learning

An interactive discussion would be held as learners were given the pre-session reading on Buckman's model on BBN before this session. First of all, learners would be asked about their perspective and definition of bad news. In addition, learners would discuss the potential barriers to delivering bad news. Based on the learners' prior experience or video clip, learners would further be asked about elements from the scenario and discuss what would constitute good and bad ways of BBN.

### Step 4: Presenting the stimulus material

The six steps on Buckman's model [23] for BBN would be explained: Getting started, what does the patient know, how much does the patient want to know, sharing the information, responding to patient and family feelings, and planning and follow-up (SPIKES). Examples of how to ask questions on each step would be given. For instance, on the step of what does the patient know, sample probing questions would be provided: What do you think of your illness? What did other physicians tell you?

### Step 5: Providing learning guidance

After the review, the six steps would be summarized into the SPIKES protocol which would be easier for learners to remember [23]. SPIKES is an acronym which is composed of setting, perception, invitation, knowledge, empathy, and summary [Table 2]. We would then refer back to previously shown video clips or actual case scenario to assess how BBN could be done better following the SPIKES protocol.

### Step 6: Eliciting performance

A sample case could be prepared beforehand, for example, informing the need for intubation due to impending respiratory failure in an elder patient who was admitted for treatment of pneumonia. In the prepared case scenario, there are three roles: Patient, patient's family, and resident on duty.

Learners would be encouraged to volunteer, those who do not wish to be in the role play would be observers and they would be instructed to provide feedback at the end. If the case scenario is provided the learners, they will provide the clinical encounter, physician's approach, and patient's response.

It is important that the learners portrait the patient to gain insight from the patient's perspective [24]. According to interaction adaptation theory, power structure and perceptions of the patient and healthcare provider in BBN is a process of mutual influence where both parties evolve by adapting to each other's needs and through verbal and nonverbal communication [25].

If no learners volunteered, they would be informed of

**Table 2: The SPIKES acronym [23]**

|  |
|--|
| Step 1: S-Setting up the interview                                 |
| Step 2: P-Assessing the patient's perception                       |
| Step 3: I-Obtaining the patient's invitation                       |
| Step 4: K-Giving knowledge and information to the patient          |
| Step 5: E-Addressing the patient's emotion with empathic responses |
| Step 6: S-Strategy and summary                                     |



research and theory on the effectiveness of role play in practicing communication skills. According to situated learning, learning occurs through social interaction with the learning environment and other members [17]. Therefore, when learners participate in the role play and gain perspective from roles other than a physician, their experience would help with personal reflection and future practice [14]. In addition, the session on assessment of BBN would be mentioned again.

Learners would then be asked for the reasons of reluctance to participate in role play. If the group of learners happened to be all shy, then I would break the ice by taking on the role of the physician and portrait a bad example of BBN. If junior learners were worried about their lack of knowledge in such a scenario, they could take on the role of the family or the patient. The group could also brainstorm and come up with their own scripts and lines together to avoid embarrassment on a single learner [26]. The objective of the session would be reviewed again and it would be stressed that the learning goal was not medical knowledge but communication.

#### Step 7: Providing feedback

First of all, the learners portraying the resident would reflect on what went well and what could be improved. Reflection allows the learners to critically analyze their experience and consequences which would prepare them for continued learning and future practice [17]. “Reflection-in-action” and “reflection-on-action” were proposed by Schon [15]. In this feedback process, “reflection-on-action” occurred as the reflection took place after the role play where the learner re-examined such experience for future improvement [Appendix 2]. Hopefully, the learners would be able to undergo “reflection-in-action” as they in cooperated past experiences to future unfamiliar events during the process. The learners portraying the patient and patient’s family would give additional comments and share whatever emotions or affect they experienced. Finally, the observers would give their own feedback based on the six steps of the SPIKES protocol. The facilitator could finish off by commenting points that were missed and bring the whole group back to look at the learning goals that were provided at the beginning of the session.

#### Step 8: Assessing the performance

Learners would be evaluated in the following week by identifying good and bad elements of BBN using video clips. They would be assessed on BBN using SPs at the end of the rotation in internal medicine. Residents would be evaluated by role play in the following week with another case scenario. Subsequently, they would be evaluated in the clinical setting under supervision with an encounter that needed BBN.

#### Step 9: Enhancing retention and transfer

After the assessment, learners would still meet weekly before the end of the rotation. They would give incidences where either they witness BBN or deliver bad news themselves. We would refer back the SPIKES protocol and encourage the learners to continue practice BBN.

## CONCLUSION

Communication is a skill that can be taught and learning is enhanced using experiential methods such as interaction with SP or role play. The teaching of communication skills should be integrated at different levels with the ultimate goal to ensure transfer of such skills into the clinical setting. Clinician educators are important in supervising and providing feedback to learners. Organizational support would further lead to a culture that fosters training of communication skills.

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#### Conflicts of interest

There are no conflicts of interest.

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## Appendix 1: Gagne's lesson plan template[22]

Session title: How to break bad news using SPIKES protocol

Student/trainee level: Residents, medical students

| Level number | Level                              | Activity   |
|--------------|------------------------------------|--|
| 1            | Gaining attention                  | Asking learners about their prior experience in witnessing BBN<br>Providing a bad example of BBN   |
| 2            | Informing learner of objectives    | Collect relevant information from the patient<br>Deliver bad news based on SPIKES protocol<br>Express empathy towards patient's reaction via verbal and nonverbal response   |
| 3            | Stimulate recall of prior learning | Discuss definition of bad news and barriers to BBN<br>Comment on the case on elements of BBN based on presession reading on Buckman's model  |
| 4            | Presenting stimulus                | The six steps on Buckman's model for BBN would be presented with examples given<br>Getting started<br>What does the patient know?<br>How much does the patient want to know?<br>Sharing the information<br>Responding to patient and family feelings<br>Planning and follow-up |
| 5            | Providing learning guidance        | Introduce SPIKES protocol for easier memorization<br>Refer back to prior case scenario and discuss using SPIKES protocol   |
| 6            | Eliciting performance              | Learner generated case or a prepared case would be used for role play<br>Participation would be encouraged by volunteering<br>Preparation for strategies in case of reluctance to role play  |
| 7            | Providing feedback                 | Participants provide reflection and self-evaluation first<br>Observers and facilitator also give feedback<br>Review learning objectives  |
| 8            | Assessment of performance          | Assess learners by SPs, role play under simulation<br>Supervisors assess learners in the clinical setting  |
| 9            | Enhancing retention and transfer   | Meet regularly for reflection of clinical encounter of witness of BBN<br>Review SPIKES protocol  |

BBN: Breaking bad news, SPs: Standardized patients

## Appendix 2: Self-assessment of communication skills on breaking bad news

Level: ☐ Residents ☐ Medical students

Date: \_\_\_\_\_

Please use the following scale to guide the assessment

| Scoring scale  | Definitely 5 4 3 2 1 not at all |
|--|---------------------------------|
| 1. Did you set up an ideal environment before BBN?                     | 5 4 3 2 1                       |
| 2. Before BBN, did you assess what patient knew already?               | 5 4 3 2 1                       |
| 3. Did you adjust your pace according to patient's response?           | 5 4 3 2 1                       |
| 4. Did you deliver appropriate information when it was asked for?      | 5 4 3 2 1                       |
| 5. Did you provide information in an ordered and logical manner?       | 5 4 3 2 1                       |
| 6. Did you invite questions?   | 5 4 3 2 1                       |
| 7. Did you check for patient's understanding of the information given? | 5 4 3 2 1                       |
| 8. Did you show empathy toward patient's feelings and emotions?        | 5 4 3 2 1                       |
| 9. Did you seem supportive during the conversation?                    | 5 4 3 2 1                       |
| 10. Did you maintain good eye contact?                                 | 5 4 3 2 1                       |

Which parts of the conversation did you do particularly well?

Which parts of the conversation did you think could be done better?

What did you find to be the most difficult aspect during BBN?