Situ-Action: Teaching Students to Identify Client Needs With Synthesized Conversational Scenarios

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It is important for student clinicians to recognize how situational factors interact to affect a client's communicative success. This article describes the development of a classroom activity to provide such experience to students before actual clinical contact. Brief descriptions of situations in which clients might communicate were synthesized. Small independent groups of student clinicians (a) considered each situation, (b) selected a rating of Conversational Fluency to predict the most likely communicative outcome, and (c) listed actions that were likely to improve fluency. In general, the student groups agreed on communicative outcomes. Differences of opinion stimulated discussions of clinical decision-making. Implications for development of university teaching materials are summarized.

For many years, there has been a need to provide students in Communication Disorders with realistic role-playing and problem-solving experiences prior to actual contact with clients. These activities serve several purposes: students learn to realistically play the role of clinician/therapist in diagnosis and treatment, they are able to discover the potential effects of their decisions and actions without embarrassment to themselves or discomfort to others, and they tend to learn more effectively when they are actively rather than passively involved in the process. Previous authors have promoted the use of case studies to acquaint students with important variables that can affect clinical decision-making (Kaplan, Gladstone,

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& Katz, 1984; Lloyd & Kaplan, 1978; Moeller, 1989; Nerbonne, Smedley, Tannahill, Schow, & Flevaris-Phillips, 1989; Sanders, 1982). Others have described the use of case discussions (Dowling, 1992), simulated clients (Godden & Fey, 1990), computer-based instruction (de Jonge, 1993; Siegel & Yanz, 1985), and interactive multimedia (MacLeod, Purves, & Johnston, 1995) to promote student learning.

At La Trobe University, one semester of aural rehabilitation is required of all speech-language pathology students. One aim is to prepare them for treatment of real-life communication difficulties encountered by clients with hearing and vision impairment. A conversation-based communication therapy approach is employed (Erber, 1988), with emphasis on problem-solving by both the client and the partner. In weekly tutorials, students gain experience in recognizing potential sources of communication breakdown, in employing a variety of repair strategies, and in using amplification and assistive devices. Related activities provide them with realistic experiences that demonstrate effects of simulated hearing and vision loss on speech perception. The students also participate in several out-of-class assignments which strengthen their communication and problem-solving skills.

In one assignment, pairs of students engage in 15 brief conversations on selected topics while simulating different amounts of hearing and vision impairment. One student assumes the role of the client with impaired hearing and vision, and the other student assumes the role of the partner with normal hearing and vision. The students are in different rooms linked by audio and video equipment. The hearing impairments are simulated with a HELOS hearing loss simulator (Erber, 1988, 1995) and the vision impairments are simulated with plastic diffusers mounted on the camera of the video system linking the two participants. After each conversation, the students apply a simple rating scale (see Table 1) to

Table 1

Conversational Fluency Rating Scale

1 = 0-20% of spoken sentences are understood (Repetition and clarification are required virtually *all* of the time.)
2 = 21-40% of spoken sentences are understood (Repetition and clarification are required *most* of the time.)
3 = 41-60% of spoken sentences are understood (Repetition and clarification are required about *half* of the time.)
4 = 61-80% of spoken sentences are understood (Repetition and clarification are required *little* of the time.)
5 = 81-100% of spoken sentences are understood (Repetition and clarification are required virtually *none* of the time.)

assess its fluency (Erber, 1988, 1994, 1995). This assignment permits students to experience (a) the effects of simulated hearing and vision impairments on conversation, (b) the use of strategies to repair conversational breakdown, and (c) the application of a conversational fluency rating scales (Erber, 1995).

In addition to their experiences with sensory-loss simulation, students need to recognize how positive and negative factors can interact to affect the success of conversation in social situations. It is better for students to consider these factors before actual face-to-face contact with clients, so that they can interpret details in case histories and make inferences from lifestyle information that their clients provide. Work has begun on ways to produce a wide range of realistic social situations for study. This paper describes initial development of a simple procedure to synthesize a variety of (simulated) clients and situations for analysis by student clinicians.

METHOD

Preparation of Materials

Through review of the research literature as well as discussions with clients, their communication partners, and other clinicians, we identified a variety of important social and physical variables which influence communicative success for people with hearing and vision impairment (e.g., Demorest & Erdman, 1987; Jennings & Head, 1994; Lamb, Owens, & Schubert, 1983; McCarthy & Alpiner, 1983; Montgomery, 1993; Schow & Nerbonne, 1982; Ventry & Weinstein, 1982). Seven factors were selected on the basis of how frequently they were named in relation to hearing handicap (e.g., Demorest & Erdman, 1987; Erber, 1988, 1993; Lamb et al., 1983) and in relation to methods of aural rehabilitation (e.g., Erber, 1988, 1993; Jennings & Head, 1994; Montgomery, 1993) (see Table 2). Between 7-16 common conditions within each factor were listed, for example, distances ranging from 0.5 to 3.0 m, client hearing levels ranging from 10 dB HL to no response.

Table 2

Seven Factors Used to Describe Each Synthesized Conversational Situation

Hearing ability: pure-tone thresholds; word-identification scores
Amplification: use of hearing aid(s), ALD(s), telephone amplifier
Vision ability: letter acuity; perception of head, mouth, and eye movements
Environment: location, noise, reverberation, distraction; lighting, glare
Distance: between the main communicators
Partner: cooperation, speech and language clarity, use of strategies
Conversation: topic, purpose (social/informative), complexity

HyperCard software (Apple HyperCard Ver. 2.1) was used to create and display a range of client situations, each composed of a random selection of conditions to represent the seven factors. Two lines of descriptive text were given for each condition. Several conditions were excluded because they produced incompatible combinations, for example, a job interview with a person who did not face the client; a conversation in a car at a 3.0 m distance. From this modified database, a variety of hypothetical situations were produced which adults with hearing and vision impairment might realistically encounter. Of the many situa-

Table 3

Examples of Synthesized Conversational Situations Presented to Students for Consideration: (a) Situation 2; (b) Situation 8

(a)	**Situation 2**	
	Hearing:	Thresholds bilaterally: 10 dB @ 500 Hz, 25 dB @ 1000 Hz, 40 dB @ 2000 Hz, 70 dB @ 4000 Hz (sensorineural); 76% word identification
	Amplification:	owns a hearing aid for the right ear, wears it occasionally; says it helps some of the time
	Vision:	6/480 visual acuity (binocular): can see exaggerated head movements only, but not eye or mouth movements; retinopathy
	Environment:	a room with a radio on; five family members in the room
	Distance:	the speaker is 1.5 m from the client
	Partner:	a person who is unaware of the principles of clear speech and strategies for clarification; never exhibits these behaviors
	Conversation:	instructions for an activity
(b)	**Situation 8**	
	Hearing:	Thresholds bilaterally: 60 dB @ 500 Hz, 70 dB @ 1000 Hz, 80 dB @ 2000 Hz, 90 dB @ 4000 Hz (sensorineural); 36% word identification
	Amplification:	does not own hearing aids; owns a portable amplifier which helps in face-to-face conversations
	Vision:	6/6 visual acuity (binocular): can see head, mouth, and eye movements easily
	Environment:	a dinner party for three people in a restaurant; carpet, table cloths
	Distance:	the speaker is 0.5 m from the client
	Partner:	a person who knows the principles of clear speech and knows strategies for clarification, but who does not exhibit these behaviors spontaneously
	Conversation:	new technical information

tions that were synthesized in this way, 10 were selected for presentation to students during an in-class activity that was named "Situ-Action" (see Tables 3a and 3b for examples).

Participants

The participants were 57 students in the third year of the undergraduate speech-language pathology course at La Trobe University (age range: 20 to 34 years; 55 females, 2 males). All had relevant academic and clinical experience in acoustics, linguistics, language development, voice and articulation disorders, aphasia, fluency, and basic audiology. During the previous 12 weeks, the class had rated the fluency of about 30-40 brief conversations conducted under various conditions of simulated hearing and vision impairment. As a result, they were personally familiar with numerous variables that can affect conversational fluency and were considered experienced raters.

Procedure

The Situ-Action activity was presented during the last 2-hr lecture period of the semester. As in several previous class activities, the students were divided into seven small groups (called Group A, B, C, etc.) ranging in size from 5-12 students each. Each group received the same descriptions of the 10 situations, the conversational fluency rating scale (see Table 1), and the following instructions:

1. For each situation, consider and discuss all of the information that is given; then select a number from 1 (poor) to 5 (good) which represents the degree of conversational fluency you would expect/predict as an outcome of a conversation in that situation. Write this number on the form. Then write a few sentences to justify your rating.

2. If your expectation for conversational fluency is a rating of 5, then go on to the next situation. If your expectation for conversational fluency is a rating of 1, 2, 3, or 4, however, then list any actions on the form which are likely to cause conversational fluency to improve (a) at the moment, and (b) in the future.

Discussion of Each Simulated Client's Situation

The groups separated, and each held brief discussions to reach a consensus opinion regarding the likely communicative outcome of each client's situation. The groups were given an hour to complete this work (i.e., about 6 min per situation). Lively discussions were held, in which the students debated the relative importance of the various factors. The instructors observed, but they did not participate in these discussions. At the end of the hour, the groups returned to the classroom and reported their communicative expectations for each hypothetical

client, their recommended actions for each situation, and reasons for their decisions.

RESULTS

As each group gave its expectation for conversational fluency in each situation, its response was entered in a large display matrix which listed the 10 situations at the left, and the conversational fluency rating scale (1 to 5) across the top (see Table 4). Each group's communicative expectation for the client in each situation was denoted by the position of that group's letter (Group A, B, C, etc.). In general, there was remarkable agreement among the seven independent groups of students, with their expectations for conversational fluency differing by no more than one unit on the 5-point rating scale for 6 of the 10 situations. Notable exceptions were Situation 2 (see Table 3a) and Situation 8 (see Table 3b).

Table 4

Expected Levels of Conversational Fluency Reported by Seven Groups of Students (e.g., A, B, C) for Each of 10 Synthesized Conversational Situations

	Conversational fluency rating				
	Poor				Good
Situation	1	2	3	4	5
1			ABDEF	CG	
2	A	BDF	EG	C	
3	ABCDEFG				
4			A	BCDEFG	
5	D	CEFG	AB		
6	A	CDFG	BE		
7			DEFG	ABC	
8		CDF	G	ABE	
9	BCEFG	AD			
10	DE	ABCFG			

Situation 2: Group A reported that they expected fluency to be low (1) because of the client's very poor vision, the 1.5 m distance which probably would make communication difficult for a person who could not see the speaker, possible acoustic distraction from the other people present, and the likelihood that receiving instructions would be stressful and difficult.

Group C explained that they expected the fluency to be 3 under the given conditions, but had assigned a higher rating (4) because it would be easy to improve the situation by reducing the volume of the radio and decreasing the client-part-

ner distance.

Situation 8: Groups C, D, and F, who assigned a rating of 2, felt that good vision would help little if the partner were uncooperative and if the partner failed to speak clearly when necessary. Another important negative factor was that the conversation included new technical information. Of less importance were the presence of three people and the client's relatively low auditory word identification score.

Groups A, B, and E who rated the expected conversational fluency as 4 felt that the client would be able to use amplification and speechreading to compensate for auditory limitations because vision was normal. They also felt that the near distance and the carpet in the room were likely to be positive factors.

All the groups proposed recommendations for immediate action and also long-term communicative therapy. In general, these recommendations included improving the surrounding environment, reducing distance, increasing the partner's speech and language clarity, and maximizing the use of good communication strategies by both conversational participants.

For example, recommendations for immediate action in Situation 2 included turning the radio off or going to a quieter room, requesting that the partner speak louder or decrease distance, and suggesting that the client use the hearing aid. It was also proposed that the partner use gestures or slowed speech. Long-term goals emphasized training the client and partner in cooperative communication strategies.

Some of the immediate actions recommended for Situation 8 were similar to those for Situation 2, for example, choosing the least distracting location, and use of clear speech. Additional recommendations included use of speechreading and other visual support (e.g., written material) to clarify technical words, or selecting a more familiar topic for the conversation.

DISCUSSION

The Situ-Action activity demonstrated to the class that they had learned important communication principles and clinical decision-making skills. The students ended the semester with confidence that they would be able to apply their knowledge when clinical placements brought them into contact with real clients who experience similar communicative difficulties in real-life situations.

The small-group format was found to encourage individual participation. Virtually all students became actively involved in their small-group discussions, even those who participated rarely during class lectures and discussions. Small-group cohesion was reinforced as they reported and defended their clinical decisions. The considerable agreement between groups suggests that students learned similar principles throughout the semester, and that they know how to apply this knowledge to clinical situations. Occasional disagreement between groups serves as a reminder that some communicative situations are ambiguous and that

alternative outcomes are possible.

It was relatively easy to prepare the situations for consideration. Although HyperCard software was written especially for this project, a computer need not be used. The various conditions can be printed on small cards instead: a card is selected at random from each of seven decks and these are combined to create each situation. Regardless, the potential exists to generate a large number of different scenarios for study (e.g., for seven factors and only five conditions of each, the total number of combinations equals 5 to the 7th power, or 78,125 different client situations).

Most clinicians who have become familiar with the Situ-Action procedure claim that it is realistic, considering the complexities of real people and their lives. Students reported that the process forced them to simultaneously consider in detail the effects of many potentially contributing factors. They claimed that the procedure stimulated their imagination, as each situation was not enacted but was only described. It was felt that the distinction between short-term and long-term recommendations increased students' awareness of the difference between an immediate solution (e.g., environmental change) and the need for continuing therapy (e.g., to modify client or partner behavior).

Educators in aural rehabilitation teach their students about situational variables and their communicative effects in many ways. Further application of the Situ-Action procedure and further study of its benefits are encouraged. For example, one could administer the Situ-Action activity before and after a lecture sequence to demonstrate changes in students' knowledge and clinical behavior. Other research might consider the relative influence of different situational factors on the way that students assign ratings Ratings expected by students and ratings expected by expert clinicians could be compared. The effectiveness of the Situ-Action procedure could be compared with that of other approaches to the study of communication variables, such as the simulation of sensory loss.

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