COMPUTER-BASED ROLE PLAYING FOR INTERPERSONAL SKILLS TRAINING

G. A. Holsbrink - Engels

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PROEFSCHRIFT

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INTRODUCTION

This introductory chapter addresses the problem to be studied and describes interpersonal professional skills. The question under study is: What instructional methods should be applied in effectively developing interpersonal skills by novices? A general introduction to interpersonal professional skills is given. Interpersonal skills form a sub-category of communication skills, and the structure of the skills is described. Role-play is the most widely practiced instructional method for the development of interpersonal skills. The research project explores this instructional method, leading to a formulation of an instructional-design model and experiments that test the formulated model. The structure of this thesis adheres to these stages.

1.1 The Importance of Interpersonal Professional Skills

Professionals in many occupations need to master interpersonal skills. The ways in which professionals deal with one another are referred to as ‘the cornerstone of organizational functioning’ (Bailey & Butcher, 1983). Whether it is organizational- and consultancy work, management or services, or counseling, the professional roles need aside from expert knowledge, a professional way to interact effectively with clients, other professionals, and patients. The work performances of employees often depend on their ability to effectively interact with others.

Interpersonal skills training is also important for students of many disciplines in preparation to their professional roles. Since the eighties, increasing attention has been given to interpersonal skills training. Interpersonal skills training has been incorporated into professional preparation programs as a way of bridging the gap between lecture rooms and professional practice. The goal in all forms of professional education is to help the novices ‘to think like’ a member of the profession (Shulman, 1992). Interpersonal skills training has the potential to provide opportunities for novices to practice ‘thinking like’ professionals (e.g., in counseling, social work, medicine, nursing, psychiatry, ministry, law, and business administration).

In this chapter, section 1.2 provides the conceptual frame for the interpersonal skills to be developed. Different perspectives on interpersonal skills are given (1.2.1), interpersonal skills are described as a sub-category of communication skills (1.2.2), and the structure of the skills is described (1.2.3). Following the literature review, section 1.3 formulates the purpose of the study. The chapter finishes with an overview of the thesis (1.4).

1.2 What are Interpersonal Professional Skills¹?

1.2.1 Different perspectives

The attention for interpersonal skills has been stimulated by research from three different perspectives (Ellis & Whittington, 1981).

¹ As this thesis is directed at professional training, the terms interpersonal professional skills and interpersonal skills are used interchangeably.

First, a *developmental* perspective focuses on the development of socially skilled behavior in children: How and at what stages children acquire, refine, and extend their interpersonal skills.

A second perspective is *remedial*. Here the concern is with those individuals who fail to develop adequate interpersonal skills for several reasons. For instance, the use of these skills in the professional field of psychotherapy, which is a more intense process concerned with working with deeply seated personalities or behavioral difficulties. Attempts have been made to determine the nature and causes of social inadequacy and to ascertain to what extent the communication skill deficits can be remediated.

A third perspective is *specialized*. Attention is given to interpersonal skills in professional encounters. Most professions will involve interaction of a specialized nature either with clients or other professionals. It is important to chart the types of interpersonal skills which are effective in professional situations. This thesis concentrates on the latter perspective. To understand the nature of the skills that are developed, this section attempts to provide systematic descriptions of interpersonal skills in this specialized perspective.

1.2.2 Classifying interpersonal professional skills

Interpersonal professional skills are classified as a sub-category of professional communication skills. For this thesis, a broad taxonomy for professional communication skills is developed. Already existing taxonomies focus only on dyadic relationship (e.g., Ivey's microskills hierarchy, 1983; Goldstein, Gershaw & Sprafkin, 1985) or on group skills (e.g., Bertcher, 1979; Egan, 1976; Moreland & Buck, 1980; Trotzer, 1977; Mayadas & Duehn, 1982). These taxonomies vary in type and specificity of the skills. A broad or integrating taxonomy for professional communication skills remains to be developed. Figure 1.1. presents the taxonomy developed for professional communication skills. The following levels for classification are adopted:

Figure 1.1. A classification of professional communication skills.

Super-ordinate category. Professional communication skills are described as oral skills. Oral skills refer to verbal and non-verbal communication or spoken language. They do necessarily involve interactions with at least one other person. Oral skills integrate linguistic and non-linguistic elements. Linguistic behavior contains all aspects of speech, including the actual verbal contents (words used) and the paralinguistic message associated with it (e.g., pitch, tone, speed, volume of voice, accent, pauses, speech dysfluencies). Non-linguistic communication encompasses all bodily communication (e.g., interpersonal distance, facial expression, head movements, posture, gestures, gaze).

Oral skills may have a formal or informal character. Communication skills have a formal character when they are used in professional interactions with a functional, non-personal goal and relevant in this thesis. They have an informal character when they are used in interactions with a personal goal, for example, a social chat with a colleague.

Professional communication skills include basic and special skills. Though the overlap is considerable, basic skills may be considered as the more basic processes used for information-gathering, problem-solving, and information- or advice-giving. The skills are basic to communication in many different settings and styles (i.e. expressing and responding). In different professional contexts the skills are similar. For instance, the list of structured learning skills for adults by Goldstein, Gershaw and Sprafkin (1985). They describe beginning skills (e.g., starting, ending a conversation, listening), expressing oneself skills (e.g., expressing a compliment, an encouragement, anger, asking for help) and responding to others (e.g., responding to praise, to contradictory responses, apologizing). Special skills involve interactions

of a special nature in professional encounters (e.g., selling and telling bad news).

Basic-level categories. Professional communication skills can be divided into interpersonal skills and intergroup skills. Interpersonal skills or bilateral skills involve a dyadic (two-person) interaction. Intergroup skills or multilateral skills involve multiple (more than two persons) interactions.

Subordinate categories. Within the intergroup skills, a distinction is made between unilateral and multilateral skills. Unilateral intergroup skills refer to a communication situation in which one person or small group send messages to a group of passive recipients (e.g., students during a lecture). The recipients can do little to affect the communicator, the communication process, or the contents of the messages. Multilateral intergroup skills involve multiple interactions by all group members. The classification on subordinate categories is illustrated in Table 1.1.

1.2.3 The structure of interpersonal professional skills

The label ‘interpersonal skills’ refers to a wide variety of concepts such as social skills, soft skills, social competence, assertiveness and personal effectiveness. In a global sense, interpersonal skills are the skills employed when persons interact with one another. This description, however, states what interpersonal skills are *used for* rather than what they *are*. This section discusses the nature of interpersonal skills as skilled social behavior (Hargie, 1986). It describes some of the main characteristics of interpersonal skills. Three characteristics are focused on: (1) Goal-directedness and intentionality, (2) inter-related situationally appropriate social behaviors and (3) qualitative differences in social behavior.

Goal-directedness and intentionality

Socially skilled behaviors are goal-directed and intentional (Hargie, 1986). As opposed to chance, the performance of interpersonal skills is directed toward achieving a desired outcome. A person is confronted with a given state of an interaction that needs to be transformed to a goal state. But, this goal state can only be accomplished by successfully attaining a number of sub-goals. For example, an interpersonal skill implies telling Miss Johnson that her application for professor has been dismissed. Thus, at the beginning of the conversation, the given state is: The bad news is not told to Johnson, and the goal state is: The bad news is told and accepted by Johnson. To solve this problem, sub-goals are needed because a single utterance is not enough to reach the goal state. Examples of sub-goals are:

Chapter 1

Table 1.1

Illustrative classification of professional communication skills

PROFESSIONAL COMMUNICATION SKILLS	
Interpersonal skills	Intergroup skills
Conversations: interviewing Fact-finding interviewing Diagnostic interviewing Selection interviewing Job interviewing Exit-interviewing Conversations: Leadership Coaching and instructing Counseling Giving performance feedback Job evaluation Correcting a colleague for an error Reprimanding Firing Conversation: Selling Selling Handling customers requests and complaints Dealing with cross or aggressive customers Other skills Dealing with agents and distributors Consulting and problem-solving Telling bad news	<i>Uni-directional skills</i> Making presentations for an audience <i>Multi-directoral skills</i> Representation skills Representing a section, department or organization “ceremonically” or in other ways Business lunches Group leadership Leading and facilitating groups Chairing meetings Problem-solving in groups Inter-organizational group work Making decisions in a group Delegating Handling other person’s power Retaining power Persuading Negotiating Mediating between disputing parties Dealing with conflict situations Team-building

Note. This table is not meant to be exhaustive. It is merely an illustration.

Open the conversation, tell the bad news, listen and reduce frustration, give background information, listen and reduce frustration again, end the conversation etc. Different transformations are needed to reach each of these sub-goals. The transformations depend on the goal of the interaction and the relationship between the persons involved.

Socially skilled behaviors are also intentional. Intentionality is described as acting with a sense of capability and deciding from a range of alternative actions (Ivey, 1993). There is more than one action, thought, or behavior to choose from in response to changing interaction situations. Alternatives can be generated in a given situation and a problem can be approached from different views, using a variety of skills and personal qualities.

Inter-related situationally appropriate social behavior

Skilled social behavior is inter-related. It consists of identifiable units of behavior that form a

set: An organization of synchronized behaviors to reach a specific goal. It usually consists of a hierarchy of smaller component behaviors, each of which contributes in part to the overall performance. It should be noted that the whole skill is merely the sum of the hierarchical components.

Interpersonal skills always involve another person in a social situation. This implies that interpersonal skills usually are fluidly, open and have a less fixed temporal order (Hargie, 1986). Many social situations have a certain sequence of behavior (for example, checking into a hotel, going to a restaurant, the doctor, the dentist or church). Persons can and do break the sequential 'rules' without being social failures. Different persons may use different combinations of behaviors in professional contexts depending on response and adapting to responses and feelings of the other person. There seem to be common stages in social episodes (e.g., example, opening, discussion, closing), but the behaviors used within each stage may vary from person to person.

Persons have, to a certain degree, cognitive control over their socially skilled behavior. They need to develop appropriate knowledge and attitudes necessary to control when and how to use interpersonal skills. For instance, highly personal questions are not usually put to someone who has just been met for the first time. Thus, interpersonal skills are situation-specific: They may be appropriate in one situation and inappropriate in another. The performance of the skills can be adapted to suit different social situations and different cultural groups.

Qualitative difference in social behavior

Interpersonal skills are learned. Evidence for this is located by the finding that children develop distorted, socially unacceptable behaviors and do not acquire language when reared in isolation from other humans (for example, the Savage of Avignon and the Wolf Children).

A third characteristic of interpersonal skills is that not all social behavior is performed in the same way. There is a qualitative difference between the performance of novices and experts, and it will take considerable time and effort to acquire an acceptable mastery level.

As for the above descriptions, it may be obvious that interpersonal skills and social skills are considered as interchangeable concepts. This is not the case for the related concept of social competence. In this thesis, social competence is used as the quality or adequacy of a person's overall performance in a particular task (McFall, 1982). It is an evaluation of behavior, reflecting subjective judgment based on certain criteria. These criteria are

formulated by judges and they may be subject to error, bias and judgmental influences.

To summarize this section, *interpersonal professional skills are described as a set of goal-directed, inter-related situationally appropriate social behaviors which can be learned and which are under the control of the individual* (Hargie, 1986).

1.3 Purpose of the Study

The main interest in this thesis is restricted to the development of interpersonal professional skills by novices. The research presented is mainly concerned with finding appropriate and effective models of training these skills. The initial research question of this thesis is: *What instructional methods should be applied in effectively developing professional interpersonal skills by novices?*

Role-play is the most widely practiced instructional method for the development of interpersonal skills (Argyle, 1984). This thesis focuses on the instructional effectiveness of role-play. To what extent is role-play appropriate and/or beneficial for developing interpersonal skills by novices? The research project focuses on explorations of role-play, leading to a formulation of an instructional-design model for interpersonal skills learning and experiments that test the formulated model. Whereas the practice of interpersonal skills is developed rapidly, relatively few publications have provided systematic descriptions of how to develop these skills. This thesis intends to do so.

There are two primary ways to find factors that contribute to the effectiveness of role-play. One possibility would be to compare the outcomes of studies of alternative instructional strategies. For example, assess the effects of role-play and lectures in developing interpersonal skills. The problem with such a comparative approach is that the instructional strategies usually differ in many ways (e.g., measures, duration). Another approach would be to compare alternative forms of role-play strategies. In such studies, most factors can be held constant. This approach is pursued in this thesis. A comparison is made of different instructional-design strategies and tactics.

1.4 Overview of the Thesis

Chapter 2 discusses the development of interpersonal skills and the method of role-play. In order to develop interpersonal skills, students have to solve social-communicative problems. The learning processes involved are described. Then, consideration is given to how to teach social-communicative problem solving to students. The method of role-play is explored.

Chapter 3 further explores the method of role-play. The use of role-play in theory and by Dutch corporate trainers is surveyed. It contains an empirical study of the use of role-play in current educational practice.

Chapter 4 attempts to formulate an instructional-design model for interpersonal skills learning. It integrates the studies of Chapter 2 and 3. The outcome of both studies makes the instructional-design strategies and tactics explicit. Role-play is seen as a complex learning environment for novices. Simplification is seen as an effective strategy for working with this complexity of the learning environment. A new instructional prospect, implemented by a computer network, is proposed.

Chapter 5 applies the proposed instructional-design strategies and tactics, formulated in Chapter 4, to the construction of computer-based role playing. The first version of the instructional program to develop the interpersonal skill 'Telling bad news' is discussed to illustrate how a computer-based representation of the problem situation can be constructed for novices.

In Chapter 6, an experimental study is reported in order to assess the effect and quality of the developed program, its effects on learning outcomes and learning processes.

Chapter 7 describes a second experimental study with a revised version of the instructional program. The study primarily focuses on two newly designed instructional strategies: The use of a conversational model and the opportunities for reflection.

Chapter 8 summarizes and discusses this thesis.

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THE DEVELOPMENT OF INTERPERSONAL SKILLS AND THE METHOD OF ROLE-PLAY

This chapter reviews the literature on the development of interpersonal skills. In order to develop interpersonal skills, students have to solve social-communicative problems. The nature of this task, performed by experts, determines what to teach novices. The problem-solving process has the following components: (a) Developing awareness of a social-communicative problem, (b) describing and exploring the problem and (c) solving the problem. The difference between novices' and experts' performance of interpersonal skills is explained to be a result of the learning processes involved. The learning of interpersonal skills comprises of different components: Learning by observation which begins at an early age, categorization, and schema acquisition. Human cognitive processing-capacity restricts the development of these skills. These learning processes are assumed to be responsible for the acquisition and (re-)construction of knowledge and problem-solving procedures. Then, consideration is given to answer the question of how to teach social-communicative problem-solving to students. A brief historical sketch of role-play is given. The relation between role-play, simulation, gaming and case studies is clarified. Role-play is described as an instructive method for learning to solve a social-communicative problem that is presented as a simulation of a case and acted out in a play. A case refers to a dialogue with a goal. The conditions necessary for an effective role-play, an instructional management plan, and variations in role-play are reviewed. The chapter ends with conclusions and research goals.

2.1 Introduction

This chapter focuses on the development of interpersonal skills and the method of role-play. Novices' interpersonal behavior differs qualitatively from experts' interpersonal behavior. Novices do not possess appropriate knowledge and problem-solving procedures to perform the skills as experts do. In order to develop interpersonal skills, novices have to solve social-communicative problems (section 2.2). The nature of the task, to determine what to teach novices, is described in section 2.2.1.

The difference between novices' and experts' performance of interpersonal skills is explained to be a result of the learning processes involved. Section 2.2.2 states that the learning of interpersonal skills comprises of different components: Learning by observation which begins at an early age, categorization, and schema acquisition. The human cognitive processing-capacity restricts the development of these skills. These learning processes are assumed to be responsible for the acquisition and (re-)construction of knowledge and problem-solving procedures.

After describing the nature of the instructional content and the learning of interpersonal skills involved, teaching social-communicative problem-solving is considered. Section 2.3 investigates the nature, the relevant features of role-play and thereby provides a point of reference for the development of an instructional-design model for interpersonal skills learning.

A brief historical sketch of role-play is given in section 2.3.2. Section 2.3.3 explains the relation between role-play, simulation, gaming, and case studies. Section 2.3.4 examines the main features of role-play. An instructional management plan is specified in section 2.3.5, and variations of role-play are described in section 2.3.6. Conclusions and research goals are presented in section 2.4.

Chapter 2 and the research reported in Chapter 3 will provide an outline for the development of an instructional design model for interpersonal skills learning which is described in Chapter 4.

2.2 The Development of Interpersonal Skills

2.2.1 What to teach: Social-communicative problem-solving

In order to develop interpersonal skills, the students need to solve social-communicative

problems. The students will be active and construct a sequence of necessary steps to reach a goal. From the information that is provided in advance and while being engaged in solving social-communicative problems, the students learn. For the solving of social-communicative problems, the students need to acquire knowledge and problem-solving procedures. The solution of a problem leads to the (re-)construction of social-communicative knowledge and problem-solving procedures. A skill is learned and practiced when this problem-solving behavior is used often (Dijkstra, 1997).

So, the first question to be answered is: What to teach the students. In determining what to teach, the nature of the instructional content will be described. The selection of the content will vary depending on the task to be performed by the students. The nature of the content depends on the nature of the task to perform (Leshin, Pollock & Reigeluth, 1992). The development of interpersonal skills includes one main task. The task is to solve social-communicative problems. This task will be further discussed after an illustration. Two examples are given. These examples reflect the social-communicative problems experts may have to deal with in their work.

Example 1. One of the employees of a department supervisor did not come to work and did not call in. A failure to call in is a violation of the organization's work rules. The same thing also happened several months ago. How should the supervisor speak to this employee?

Example 2. An employee has asked the supervisor permission to leave five minutes earlier regularly because of a change in the bus schedule. The next bus leaves an hour later. What decision should the supervisor make and how should the supervisor respond to an employee's complaint?

The main processes involved in most social-communicative problems share certain similarities. In this thesis, problem-solving refers to the activities that are performed by a person in a particular situation in order to reach a goal that deviates from the current situation (VanLehn, 1989). Many different disciplines have studied various types of problems to examine the problem-solving processes (e.g., Anderson, 1982; 1983; 1987; 1993; Chase & Simon, 1973a; De Groot, 1965; Elshout, 1987; Greeno, 1980; Newell & Simon, 1972, Schoenfeld, 1985; Vos, 1987a; 1987b; 1989). Little is known of problem-solving in the domain of communication skills training.

The process of social-communicative problem-solving includes a number of necessary steps in a certain sequence. It is assumed that pursuing this sequence will improve the effectiveness of solving social-communicative problems. Three main components or stages

are distinguished (see Table 2.1).

Table 2.1

A model of social-communicative problem-solving, indicating the main stages and their activities

Progressive stages of social-communicative problem-solving
<i>1. Developing awareness of a social-communicative problem</i> a. sensitivity to and recognition of the problem b. attending to the problem
<i>2. Defining and exploring the problem</i> a. isolation of the essential problem b. inventory of barriers
<i>3. Solving the problem</i> a. goal setting b. listing possible solutions c. selecting a satisfactory solution d. performance of the communication skill

Developing awareness of a social-communicative problem

The first stage in problem-solving is the awareness of a problem. Actually, if there is no awareness of a difficulty or obstacle, there is no problem. Sensitivity to and recognition of a difficulty, increases the possibility that experts perceive that something is wrong and feel that something should be done about it, although at the moment they may not know what. For example, for the problem of not calling in, the awareness did not appear until the supervisor noticed problems with the organization and piecing together work in his department. As for the problem of leaving before the end of the work day, awareness came after the employee's complaint. The awareness of the problem by experts may be triggered internally or externally. Internal triggering depends on the experts' own awareness and reflections, which may lead to the detection that something is wrong. In the case of external triggering, such awareness came from a different person.

At this stage of problem-solving, experts consider the significance and urgency of the problem, its possible effect and implications. They have to decide whether the problem needs attention. Not all social-communicative problems are worth dealing with. Some problems are ignored because they are considered unimportant. Only when experts find the problem sufficiently important, it will get their full attention. In essence, the awareness prepares experts mentally and emotionally for further exploration of the problem.

Describing and exploring the problem

At this stage, experts develop an understanding of the essential nature of the problem. They describe or clarify terms, recognize possible limitations, infer causes for the problem, and determine main issues. Knowing the barriers inherent to the problem situation can be of vital importance to the solving of the problem. If no barrier, there is no problem to solve. Experts can simply act. Examples of barriers are: The supervisor does not like confrontation; it makes him nervous and uncomfortable. Or, the change in the bus schedule is definitive and saying yes may look like favouritism to other employees.

The two most important issues in this stage are: (a) Isolating the critical factors of the problem and (b) discovering the barriers. How these insights develop, will vary from problem to problem. In some problems, the issues will be clear or there is only one issue involved.

The interaction between describing the problem and exploring the problem nearly always exists. Sometimes experts redefine problems on the basis of some information gathered during the exploration.

Solving the problem

Solving the problem contains four kinds of activities: (a) Goal setting, (b) listing of possible solutions, (c) selecting the solution which is most satisfactory and (d) executing (performing) the steps to solve.

The isolation and description of the essential problem develops to a conclusion level; a goal emerges. The goal may be to solve the problem, remove an obstacle, reach agreement or prevent something from happening. In the problem of example one 'not calling in', the goal might be to stop this behavior of his employee. In the problem of example two 'leaving before the end of the working hours', the goal might be to solve the problem to everyone's satisfaction by removing an obstacle. For instance, the supervisor may ask the bus company to maintain their current bus schedule.

After a goal is stated, experts advance the most feasible solutions. It is often difficult for experts to generate these. The solutions should be thoughtful, realistic, and suggest decisions or actions.

Then, the various solutions are evaluated. Experts explore the ramifications of each option, asking questions such as: 'Does it meet the criteria of a possible solution?' 'Is the solution practical?' 'What will it cost?'. Experts may judge all solutions as improper and go back to an earlier stage of problem-solving until more satisfying solutions emerge.

By the time experts have considered several solutions to a problem, an idea begins to develop as to which is the most adequate. At most, only a few solutions remain for final consideration. Then, experts must consider their ramifications, contrast and compare each against the other remaining possible solutions. Thus, the most adequate solution is selected.

The last step in solving the problem is the execution of the steps to solve and verbalizing them. The most desirable outcome of this stage would be that the experts have understood the problem and solved it. This is not always possible. Sometimes experts should be content with a temporary solution or only a good conversation.

In social-communicative problem solving, there are always two contents involved: An affective content and a cognitive or intellectual content. Emotions frequently affect the nature of the intellectual content of a conversation. If an expert fails to recognize and deal with the emotions of the conversational partner, this may create almost insurmountable barriers to effective problem-solving. For instance, a prerequisite to an expert performance is the ability to acknowledge and control one's emotional response to the situation. In solving social-communicative problems, the importance of the others' emotions must be kept in mind.

Problem-solving is not a linear process. Quite often, the social-communicative dialogues do not proceed in the sequence described in Table 2.1. For instance, possible solutions are listed (stage 3b) before the essential problem is isolated (stage 2a). The sequence merely offers a solid basis for identifying the major processes in problem-solving and provides information on how to support these. It does not prescribe the order in which these processes should take place.

2.2.2 The learning of interpersonal skills

Novices' interpersonal behavior differs qualitatively from experts' interpersonal behavior. Novices do not have the appropriate knowledge and problem-solving procedures available to perform the skills that experts do. The knowledge and procedure have to be acquired by the novices. The solving of social-communicative problems starts at a novice level and requires (long) learning processes including different components. It is assumed that components, comprising the development of these skills, are: (1) Learning by observation, (2) categorization and (3) schema acquisition. The human cognitive processing-capacity restricts the development of these skills.

Learning by observation

Firstly, much of the interpersonal behavior is learned through a process of modeling and imitation of significant others. This begins at an early age. According to Bandura (1967), the persuasiveness of this form of learning is clearly evident in naturalistic observation of children's play in which they frequently reproduce the entire parental role, including the appropriate mannerism, voice inflections and attitudes, much to the parents' surprise and embarrassment.

According to the cognitive-social learning view (Bandura, 1969, 1972, 1977a, 1977b), most behavior is learned by observation through modeling. A substantial amount of learning is done vicariously, by observing another person making skilled responses and then by trying to imitate the response of the model.

As children grow up they model on others, including peers, pop stars, film actors or sport personalities. Various behaviors will be tried out, until eventually persons build up patterns of responses which suit their personality, and eventually evolve personal styles of communication.

A similar process occurs when students enter new professions. The solving of other social-communicative problems (e.g., how to sell a product, how to evaluate a job) becomes important. New knowledge and problem-solving procedures need to be acquired. The new knowledge is linked to prior knowledge. The knowledge base grows as new knowledge is added. It provides knowledge for controlled processes to operate upon and for interpreting the behavior of others. They may be used to generate and guide behavior in new, unfamiliar problem situations. To help students observing an expert making skilled responses, a model may be presented by a demonstration role-play (see also 2.3.6) or a video-tape. Then by trying to imitate the response of the model, it is advised to let students practice roles acted out in plays.

Categorization

Secondly, the basic-level category of interpersonal skills (Chapter 1) is partitioned into different subordinate categories, for instance interviewing, consulting, selling and so on. The students learn to categorize or group interpersonal skills and acquire conceptual knowledge. This is quite difficult because the categories are ill-defined, have fuzzy borders, and overlap. For instance, an interpersonal interaction in a job evaluation may look similar to an interaction for correcting an employee. This means that the categorization is more time consuming.

There is broad evidence that experts in a particular domain possess more concepts that may

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help them solve problems in this domain. Experts have better memory for problem states than novices, because of the availability of more concepts to label those states (e.g., Barfield, 1986; Chase & Simon, 1973b; De Groot, 1966).

Categorization has a memorization aspect that entails remembering a label and some common characteristics of a concept. Concepts enable students to identify or categorize particular social-communicative problems as belonging to a particular category. Before solving social-communicative problems, it is helpful to learn how to apply a concept (e.g., identify a bad news conversation) in advance. For that reason, the students should be told the label (bad news) and the critical characteristics which distinguish it from other concepts (the news is irrevocable).

Schema acquisition

Thirdly, ultimately the students should acquire schemata for (1) the problem situation and (2) the problem-solving procedure. For the problem-situation, the students should acquire conceptual schemata for categorizing the social-communicative problems. For each category of the problems, the students will develop a problem-solving procedure. The problem-solving procedure resembles a cognitive schema (a script) that contains a number of necessary steps in a certain sequence to reach the goal. These schemata provide knowledge that can be applied to particular cases. In each dialogue, it is the students' task to operate the problem-solving procedure in order to perform concrete activities. It is helpful to tell students about the goal (e.g., communicate the bad news), the steps (e.g., reduce frustration), and the order in which the steps should be performed (e.g., tell the bad news straight away before reducing frustration etc.), before solving a social-communicative problem. To help students generalize new situations, a demonstration of the procedure in advance, for instance by video, is advised.

Cognitive capacity constraints

Finally, it is assumed that students can invest a maximum amount of mental effort in developing interpersonal skills. Their mind has limited cognitive processing capacity. This is also referred to as limited attentional resources or limited working memory capacity (Van Merriënboer, 1997). The limited processing capacity explains why it is so difficult to perform two conversations at the same time. For instance, it explains why it is difficult to have a conversation with an employee while you listen to a client on the telephone. The learning of interpersonal skills is typically constrained by this limited processing capacity. Novices' may

fail to learn interpersonal skills due to the high cognitive load that is imposed on the students' cognitive system when they play their first roles. Students can only process seven plus or minus two bits of new information at a time.

2.3 The Method of Role-play

2.3.1 How to teach

In order to develop interpersonal skills, the students need to solve social-communicative problems. After describing the nature of the instructional content and interpersonal skills learning, the following question is how to teach this task to the students. To determine how to teach, the instructional method will be described.

Role-play offers a learning environment for the development of interpersonal skills. Role-play enables students to solve social-communicative problems in a play-situation. The interaction of one person with one another is acted out. Naturalistic or real conversations are probably the most desirable and effective learning environments for the training of interpersonal skills. However, the impracticality of frequent observation for specific interpersonal events and the possible threat for the persons involved if others observe, led to the structuring of analogous situations. Likewise if a real situation is not available, too expensive or too dangerous, a simulation of real situation is a good option. Role-play is available when it is planned. In this thesis, role-play is seen as an alternative 'second-best' approach, replicating some critical parts of the natural environment with the expectation that behavior in this setting will accurately reflect real functioning (Bellack, Hersen & Lamparski, 1979).

This section focuses on the use of role-play as a learning environment for the development of interpersonal skills. Its main purpose is to investigate the nature, the relevant features of role-play, and thereby provides a point of reference.

A brief historical sketch of role-play is given in section 2.3.2. Section 2.3.3 explains the relation between role-play, simulation, gaming and case studies. Section 2.3.4 examines the main features of role-play. An instructional management plan is specified in section 2.3.5 and variations of role-play are described in section 2.3.6.

2.3.2 History of role-play

The idea of play as a medium for instruction can be traced back to the Greeks. Probably the first role-play session was run when a master teaching a pupil, said to him: 'Act as if I am a customer and you are serving me'. The pupil played his role. The master played his role as a would-be-customer. When they discussed their roles afterwards, play was used as method of instruction (Corsini, Shaw & Blake, 1961).

The Viennese psychiatrist Moreno was the first to examine role-play in a scientific way (Corsini, Shaw & Blake, 1961). Moreno (1946) created the sociometric measure, a technique that studies interpersonal attraction and group membership in institutional settings (e.g., reform schools). He used role-play for psychiatric objectives. These plays are known under the names of psychodrama and sociodrama. If role-play is used in therapeutic settings, an important goal is the catharsis or release of emotions. In psychodrama, the enactment and its emotional and behavioral confrontations are the central activity; discussion and analysis are minimal (Joyce & Weil, 1980). Role-play in psychotherapy has a special meaning that is beyond the scope of this thesis.

Another origin can be found in Germany in the 1920s (Corsini, Shaw & Blake, 1961; Wohlking & Gill, 1980). The Reichswehr, which was limited to 100,000 men by the Treaty of Versailles, started a corps of commissioned officers. Role-play procedures were used for the selection of these officers. After the fall of Duinkerken, the British and USA army used similar procedures for selecting officers.

Immediately after World War II role-play was used in business and industry (Lippitt, 1943; French, 1945; Argyris, 1951; Corsini, 1960). In the 1950s, the ideas of acting out situations in role-play was used to reach educational and training goals. The first publications in the Netherlands date from this period (Wieringa, 1957). The educational use of role-play became more and more widespread. During the 1970s and 1980s the use of role-play increased even further and role-play is now common-place in university curricula, business, and industrial training programs.

2.3.3 Role-play, simulations, gaming and case-studies

The use of role-play as an instructive teaching method is part of a wider set of techniques that have collectively become known as simulation and gaming (Van Ments, 1989). Simulation and gaming are used to describe a variety of activities and materials. Role-play, instructional games, simulations, and simple participatory exercises are all called simulation and games. There is no generally accepted taxonomy of simulations and gaming (Cunningham, 1984).

Classifications have been based on the degree to which decisions can be computerized or automated, on the amount of chance involved, on the level of competitiveness, on their historical validity, on the complexity of rules, on the amount of excitement, on the length of time required to play (Nesbitt, 1971).

Percival and Ellington (1980) suggest that reality-based instructional methods, such as case-study, are related to simulation and games as shown in the Venn diagram of Figure 2.1. It should be noted that Percival and Ellington leave out role-play of their considerations.

Percival and Ellington identify three basic types (case studies, games and simulations) and four 'hybrid' types (games used as cases studies, simulation games, simulated case studies and simulation games used as case studies). The description of these categories will be discussed in this section; how they relate to role-play will be extended in section 2.3.4.

Simulations

In many educational programs, the use of instructional simulations has been built in: E.g., link trainers for aircraft pilots, rehearsals for actors, cadavers for medical students, the moot court for lawyers; an airline stewardess serves meals in a mock cabin to real persons. The verb 'simulation' literally means 'imitation'. It is an operational representation of central features of reality (Guetzkow, 1963). According to Taylor (1971) 'a simulation is small in comparison to real system; it can be started and stopped at will; it is readily observable'. Shannon (1975) describes a simulation as 'the process of designing a model of a real system and conducting experiments within this model for the purpose either of understanding the behavior of the system or of evaluating various strategies (within the limits imposed by a criterion or set of criteria) for the operation of the system. Cecchini and Frisenna (1987) argue that a simulation is 'a set of dynamic models'. A distinction is made between a model and a simulation. According to Ackoff and Sasieni's (1968) formula: 'A model represents reality, a simulation imitates it'.

Games

Non-English languages tend to have just one term for what the English call 'play' and 'game'. In Dutch, for instance 'spel' is used for both play and game, and so are 'jeu' in French, 'Spiel' in German, 'gioco' in Italian and 'juego' in Spanish. The English word 'play' is related to the

Figure 2.1. Relationship between games, simulations and case studies (according to Percival & Ellington, 1980).

experience of pleasure. The word ‘game’ is related to the notion of competition. Games are contests among adversaries (players) operating under constraints (rules) for an objective (winning, victory or pay-off; Abt, 1968).

Case-studies

Case-studies have been increasingly advocated as effective methods for preparing students for their future jobs. Cases are used in medicine, law, business-administration (Christensen & Hansen, 1987; Easton, 1982; Erskine, Leenders & Maufette-Leenders, 1981; Leenders & Erskine, 1978; Reynolds, 1980; Ronstadt, 1980) and teacher education (Harrington, 1991; 1994; Harrington & Garrison, 1992; Merseth, 1991; Silverman, Welty & Lyon, 1992). A case is a description of a situation (Easton, 1982). It is a partial, historical, clinical study of a situation which has confronted a practitioner (Christensen & Hansen, 1987, p. 27). Case studies may include writing (one’s own) cases, case discussion, or completing written analysis

of cases. Case studies are intended to provide students with opportunities to recognize specific events as a problem to be solved, gain an understanding of them; reflect on them and on the consequences of action, and devise sensible, morally acceptable and effective ways of acting. In short, case studies are the *presentation* of information about a situation or a process-in-action, for analysis and discussion by a student, or by a group (Romiszowski, Mulder & Pieters, 1990).

The four 'hybrid' types

These types of instructional methods contain the relevant features in different combinations of the three 'basic' types described before. The 'hybrid' type 'simulated case studies' is relevant here. In this thesis, role-play is described as an instructional method for learning to solve social-communicative problems which are presented as a simulation of a case (see the shaded area in Figure 2.1). The latter type has all the relevant features of simulations and case studies as described before, but not of games. Role-play is not seen as a game because it does not involve competition nor does it have a set of arbitrary rules specific to the particular game.

2.3.4 Role-play as a simulation of a case

In this thesis, role-play is described as a particular combination of simulation and case studies. A simulation is described as the representation of certain features of a real situation to achieve some teaching objective. This representation of certain features of a real situation has been characterized by Gagné (1962) in the following formula: *Simulation = (Reality) - (Task irrelevant elements)*. While the representation of a real situation tends to be more vivid and contextual than textbook presentations, simulations reflect a more disciplined and more manageable piece of reality than observing or doing work in the world itself (Shulman, 1992).

Role-play, simulation and case-studies have in common these methods representing a real situation. A role-play represents a conversational situation that focuses on the dialogue between persons. Oomkes (1984) states that 'role-play is a simulation of a life- or work-situation which is relevant to the participants and fits into the training objectives. In role-play are the gist's of the situation, role relations and role content described' (p. 93). Kessels and Smit (1990) see role-play as an instructional method in which students play a situation from reality. The situation concerns a complex interaction with a goal (p. 10). In this thesis, role-play focuses on the dynamics of dyadic interactions. Ouwehand (1994) describes role-play as 'a simulation of a real-life situation in which social and communication skills are at the centre

(p. 11).

A simulation, and thus role-play, should be operational. The conversational situation constitutes dynamic and transactional processes (Shaftel & Shaftel, 1982). The situation is not entirely within the student's control. Role-play is complicated by the often unexpected responses of others in the dialogue. As in real dialogues, actions bring responses, some expected, some unforeseen, to which a student must react. The situation thereby becomes transactional; it changes as consequences occur.

Role-play, simulation and case studies have also in common that these methods share active participation of students. Role-play forces students to take responsibility for their own learning processes. Role-play requires the full participation and involvement on the part of the students.

Role-play allows students to work together in analyzing social situations, and in developing ways of coping with these situations (Joyce & Weil, 1980). 'Role-play is dealing with problems through action; a problem is delineated, and acted out' (p. 243). Role -playing requires students to actively participate in real or hypothetical problem situations, reflecting the kind of experiences naturally encountered in the discipline under study. The students must analyze what is happening, make proposals for actions that might solve the problem, and then act out the proposed line of behavior. The activities of the students are directed toward a meaningful end. Role-play develops the problem-solving abilities of students because finding solutions is rewarded (Stadsklev, 1974) and gives students simple, direct and rapid feedback on the effects of their actions (Van Ments, 1989). It helps students understand that different actions and decisions bring about different results. It encourages a flexible approach to problem-solving because there is no single 'right' outcome of any one best strategy.

In role-play, the solution always is practiced by the students. The students take roles and act them out in a play. Role-taking refers to the willingness of the students to adopt a new role; without this, role-play is dead (Stadsklev, 1974). When students take a particular role they are using a repertoire of behaviors that are expected of that role in that situation. The process of role-taking is a natural and a continuous one for anyone who is socialized within society. For example, a dialogue depends on each person's anticipating of the other's feelings, expectancies, thoughts and reactions. This enables each one to guide and monitor the dialogue. Roles are ascribed to persons in a variety of ways. Roles may be defined in terms of social position (e.g., teacher, husband), by the context (e.g., football supporter, holiday-maker) or by function or purpose (e.g., doctor, patient). A role summarizes or condenses what may be

complex perceptions of the details of another person's behavior. Students identify themselves their roles, the significant other(s), and with the situation and act accordingly.

Shaftel and Shaftel (1982) state that 'role playing enables people to explore human problems in spontaneous enactments' (p. 12). Spontaneity is basic to role-play. It does not utilize a script or prescribed responses. Role-play and acting are often confused. Role playing is not similar to improvisations as made by actors in the theater (Wright, 1989). The dramatist's ideas are enacted to influence and entertain an audience. Actors train their performances so that the performances are 'open' and yet completely under their control. In role-play, the players are not concerned with the audience. They only practice their roles and notice the effects of their behavior on the other player(s). As mentioned before, the situation is not entirely within the student's control. Only the global, instead of details, content and sequence of the conversation are known. The aim is to behave as similarly as possible as a professional would in a particular work situation. Thus the 'acting out' in role-play is spontaneous and no different from the behavior of the majority of persons in their professional lives.

In this thesis, role-play is also seen as a particular case study. Role-play and case studies share general features such as the presentation of a case and discussion of the solution. Firstly, the presentation of the case is discussed. In role-play, a social-communicative problem is delineated as a case. Usually, the nature of problems consists of an incident or open-ended problem-situation; the situation is a dilemma. No solution is offered. The problem stops at the dilemma point. The responses cannot be applied routinely. New elements demand description, rethinking, and often call for creative responses. The problem can be an imaginary situation or a real one (Turner, 1992).

Secondly, role-play and case studies are followed by guided discussions. In a guided discussion, the participants receive feedback from other participants and from the trainer. This provides insight into their own behavior and sensitivity to others' opinions, attitudes and needs. Role-play provides a mirror for participants to observe themselves as others observe them. In addition, the solution may be discussed and considerations can be made in the effort to solve problems involved.

The relevant features of role-play found, are summarized in Table 2.2. The table illustrates the explicit conditions that are necessary for effective role-play.

Chapter 2

Table 2.2

The main features of role-play

Features are:

1. A social-communicational problem is presented as a simulation of a case.
 2. It represents a conversational situation.
 3. It focuses on the interaction of persons with one another.
 4. The interaction has a goal.
 5. The conversational situation constitutes a dynamic and transactional processes.
 6. Active participation by the students.
 7. Students take roles.
 8. The roles are acted out in a play.
 9. The enactment's are spontaneous.
 10. The play is followed by a guided discussion.
-

In this thesis, a role-play is described as an instructive method for learning to solve a social-communicative problem that is presented as a simulation of a case and acted out in a play. A case refers to a dialogue with a goal.

2.3.5 Specification of an instructional management plan

Several additional instructional conditions should be fulfilled before role-play can be used.

The conditions to be considered are: (a) Deciding whether to use individual self-paced learning or co-operative learning, (b) deciding on the role of the trainer, (c) deciding on the time available and (d) deciding on the room available.

A role-play is described as a group problem-solving method (Shaftel & Shaftel, 1982). The solving of a social-communicative problem is performed by a group. A role-play involves an enactment of two or more students. Individual study can be used when students are introduced to an interpersonal skill.

The group is valuable because it offers safe practices for the role-players. If at first, the students perform inadequately, only the participating students in the course have witnessed the performance. Because all students will practice, the situation is only slightly threatening to the students, and they have additional chances to improve (Van Ments, 1989; Wright, 1989). The safety of role-play also allows mistakes without concern about negative consequences, and allows students to learn to recover skills for getting out of trouble after having said or done the wrong thing (Pendersen & Pendersen, 1989). Students can learn from mistakes and there is always another chance to try out different behavior and rehearse the skills. Students may even be encouraged to take risks and learn from them. Therefore, the group-attitude towards role-play needs to be open and students must be willing to participate (Nijkerk, 1988; Van Ments,

1989).

Students may be unwilling to act properly for fear of appearing foolish or of making mistakes in public. Students often feel threatened by video cameras or the knowledge that their behavior is under close observations by their teacher and peers. Factors like stress, tension or instability by some students in the group, may inhibit the use of role-play (Nijkerk, 1988). In these cases, tension may arise, students may feel insecure and it may influence the use of role-play in a negative way (see for examples of misuse of role-play e.g., De Kock Van Leeuwen & Clee, 1958). Role-play depends on the quality of participation of the students.

Role-play can strengthen the observational learning process in the group. A common assumption about role-play is that only those playing the roles learn. The theory of observational learning makes clear that the observers learn too. As they observe and listen, observers mentally rehearse what they would say (Wright, 1989).

Role-play provides an effective way to deal with heterogeneous groups because, compared with other methods, a broader range of interpersonal skills can be encompassed. For example, socially well-adapted students can successfully interact with shy and withdrawn students. Further role-play enables students to learn from each other. Slow students learn from faster ones, often better than from trainers, by observing and practicing strategies.

Secondly, the role of the trainer should be considered. The trainer should organize and confirm the mastery of the skill. The trainer should stand in a non- hierarchical relation to his students (Nijkerk, 1988). Furthermore, the trainer should be experienced in the use of role-play (Nijkerk, 1988; Potter & Andersen, 1976). The teacher needs the ability to create a cooperative, supportive atmosphere in which all participate (Turner, 1992). So, role-play depends on the quality of the teacher.

Thirdly, the time and room available should be considered. There should be sufficient time available for role-play (Nijkerk, 1988; Van Ments, 1989) and a suitable room or space in which to operate (Nijkerk, 1988; Potter & Andersen, 1976; Van Ments, 1989).

2.3.6 Variations in role-play

It is often possible to use a role-play for multiple objectives. Table 2.3 presents a specification of objectives based on a literature review. A broad distinction may be made between role-plays dealing with the practice of skills and those dealing with changes in understanding, feelings and attitudes (Van Ments, 1989).

To realize these objectives, various types of role-play have been described in literature

(e.g., Van Ments, 1989; Wright, 1989). Shaw, Corsini, Blake and Mouton (1980) distinguish structured and unstructured role-play. In a structured role-play, the exercise is planned to cover a particular situation and explore it in terms of the way the situation is structured. Unstructured role-play allows the players to explore their own problems or situations. Wohlking and Gill (1980) distinguish between method-centered and developmental role-plays. Method-centered role-play corresponds to Shaw's structured role-play. It is used to develop the player's skills in specific procedures. The developmental type, which is similar to Shaw's unstructured type, is concerned with learning about attitudes and motivations. In this thesis, the focus is on the structured type of role-play. Within this category, several subcategories can be distinguished.

Demonstration role-play

Role-play can demonstrate what can go wrong in a communication situation and how to avoid these problems (Wright, 1989). This may motivate students to practice communication skills. Demonstration role-play can be used as a simple and inexpensive substitute for dramatized video. The core of this type of role-play is the 'script'. Each role-player receives the same information about details, flow and purpose. The observers receive information about the purpose of the play, what to watch out for, what to take note of and what is to be expected from them when the role-play ends. The major activity (objective) follows after the role-play, when the observers discuss the role-play situation and list positives, negatives, and alternative courses of action.

Skills practice role-play

Role-play can provide unthreateningly communication skills-practice in such a way that students will not lose face. Often, students are unaware of their own speech mannerism, their failure to attend to other group members, or other less-than-adequate communication skills. Role-play allows them to observe themselves (if video recording is incorporated) either directly or through the reports of observers. The structure of this type of role-play is much different from a demonstration role-play. Each role-play participant should receive somewhat different (yet logically related) information (Wright, 1989). There is a need to provide separate instructions for each role. To get the others actively involved, the observers need the same information. In this thesis, the focus is on this type of role-play.

Table 2.3
Specifications of objectives of role-play based on literature review

Objectives of role-play	Authors who mention the objective
<i>1. Dealing with practice and improvement of skills</i>	
To develop specific communication skills	Kessels & Smit (1990), Lang & Van der Molen (1992), Potter & Andersen (1976), Shafstel & Shafstel (1967), Turner (1992), Van Ments (1989), Wohlking & Gill (1980)
To obtain experience in solving interpersonal problems	Joyce & Weil (1980), Nijkerk (1988), Shafstel & Shafstel (1967), Tistaert (1987)
To experiment with and acquire new behavior	Joyce & Weil (1980), Kessel & Smit (1990)
<i>2. Dealing with changes in understanding, feelings & attitude</i>	
To increase insight in one's own actions and receive feedback from others (The probable consequence of behavior)	Kessels & Smit (1990), Nijkerk (1988), Shafstel & Shafstel (1967), Tistaert (1987), Turner (1992), Van Ments (1989)
To increase sensitivity for interpersonal situations	Joyce & Weil (1980), Nijkerk (1988), Shafstel & Shafstel (1967), Van Ments (1989)
To demonstrate an (general) interpersonal problem	Kessels & Smit (1990), Nijkerk (1988), Van Ments (1989)
To explore a subject (feelings dilemma's and historical realities of time)	Joyce & Weil (1980), Shafstel & Shafstel (1967)
To promote understanding of a human-relations' problem	Potter & Andersen (1976), Tistaert (1987)
To promote understanding of a professional - interpersonal relations' problem	Nijkerk (1988)
To draw the (obvious) conclusions of a course of professional actions	Nijkerk (1988), Turner (1992)
To develop a common line of actions in e.g., assessment-situations, in communication of information or in managing rules	Nijkerk (1988)
To promote a professional attitude	Lang & Van der Molen (1992), Turner (1992), Wohlking & Gill (1980)
To promote understanding of the concept 'role'	Tistaert (1987)
To develop ethics (personal integrity and group responsibility)	Shafstel & Shafstel (1967)

2.4 Conclusions and Research Goals

This chapter reviews the development and training of interpersonal skills. Novices' interpersonal behavior differs qualitatively from experts' interpersonal behavior. Novices do not have the appropriate knowledge and problem-solving procedures available to perform the interpersonal skills that experts do. Novices must therefore acquire this knowledge and problem-solving procedures. They acquire knowledge and problem-solving procedures by the information that is provided in advance and while being engaged in solving social-communicative problems. The nature of this task, performed by experts, is described to determine what to teach novices. The problem-solving process has the following components: (a) Developing awareness of a social-communicative problem, (b) describing and exploring the problem and (c) solving the problem.

The difference between novices' and experts' performance of interpersonal skills is explained to be the result of the learning processes involved. It is stated that the learning of interpersonal skills comprises different components. Learning by observation which begins at an early age, categorization, schema-acquisition are assumed to be responsible for the acquisition and (re-)construction of knowledge and problem-solving procedures. The human cognitive processing-capacity restricts the development of these skills.

After describing the nature of the instructional content and the learning of interpersonal skills involved, the following question is how to teach social-communicative problem-solving to the students. In this thesis, role-play is described as an instructive method for learning to solve a communicative problem that is presented as a simulation of a case and acted out in a play. A case concerns a dialogue with a goal. A brief historical sketch of role-play is given. The conditions necessary for effective role-play and an instructional management plan are specified. The objectives and variations in role-play are reviewed.

While the use of role-play in interpersonal skills training is widespread, there is still disagreement about what the instructional variables are, how role-play is used, how effectiveness arises, under what conditions role-play has these effects. During the late 1960s and early 1970s, role-play emerged as a viable, interesting and challenging instructional method. From the late 1970s until now, the number of research publications on role-play has been very small. This may be due to: (a) The reemphasis on 'basic skills' at all levels of instruction; (b) de-emphasis on the affective and behavioral components of instruction in favor of verbal-cognitive facets; (c) an absence of sufficient empirical evidence documenting

the value of role-play; (d) a tendency toward uncritical acceptance and use of role-play (Ruben & Lederman, 1982).

Before specifying an instructional design model for interpersonal skills learning in Chapter 4, in which the method of role-play will be detailed, information on the use of role-play in theory and in the training practice will be surveyed in Chapter 3. Then a computer-based training program will be developed in Chapter 5. In the research which will be described in chapter 6 and 7, the effectiveness of the instructional strategies: (a) The use of a conversational model, and (b) opportunities for reflection will be studied. The survey of the use of role-play in corporate communication training will clarify the prerequisite knowledge and skills of the trainers, and their case histories, to outline the instructional variables and to specify the situation in which role-play is used.

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THE USE OF ROLE-PLAY IN THEORY AND PRACTICE: A SURVEY¹

The purpose of this chapter is to study the use of role-play in theory and in training practice. It will outline the instructional variables and will specify the situation in which role-play is used. There is a tendency towards uncritical acceptance and use of role-play. In theory, many authors (e.g., Shaftel & Shaftel, 1967, 1982; Joyce & Weil, 1980, Tistaert, 1987; Nijkerk, 1988) only give (global) descriptions of this instructional method in an optimistic and positive way without empirical confirmation. Neither is there much known about role-play in training practice by corporate trainers. A written questionnaire on the use of role-play was constructed from theory. The questions refer to (1) trainers' education, their jobs and labour conditions, (2) advantages and disadvantages of role-play (3) introduction and instruction, (4) running a role-play session and (5) debriefing. The questionnaire was mailed to about 201 corporate trainers. Of the 175 respondents 68 questionnaires (34%) were suitable for data processing. The results of the study show that role-play is a complex instructional method with different instructional variables. There is no specific set of conditions for the use of role-play. More emphasis has been put on what to do and not enough on why to use it. The instructional-design model for interpersonal skills learning needs to be extended and detailed.

¹ Holsbrink - Engels, G. A. (1994). Visions of Dutch Corporate Trainer on Role Playing. In R. Armstrong, F. Percival, & D. Saunders (Eds.), *The Simulation and Gaming Yearbook: Interactive Learning* (pp. 96-110). Newbury Park, CA: Sage Publications. (with major modifications).

3.1 Introduction

In many outlines of interpersonal skill training programs, role-play is used as the main instructional method. This chapter deals with role-play theories and how role-play is used in the current training practice. It will outline the instructional variables and will specify the situation in which role-play is used.

There are two goals for this exploratory study, without employing an a priori explanatory model relating the variables. The first goal comprises of the diversity of viewpoints of most role-play theories combined with the lack of systematic empirical evidence for their assertions. There is a tendency towards uncritical acceptance and use of role-play (Ruben & Lederman, 1982). From the field of interpersonal skill training, not much is known of the use of role-play. Many authors (Shaftel & Shaftel, 1967, 1982; Joyce & Weil, 1980, Tistaert, 1987; Nijkerk, 1988, Kessels & Smit, 1990, Wanrooy, 1992) only give (global) descriptions of this instructional method in an optimistic and positive way without empirical confirmation. For example, they do not pay attention to problems role-play may have for trainers and students. Van Ments (1989) and Georges (1989) are exceptions but their assertions about disadvantages are not empirically supported either. The second goal of this study is to bring together information on the use of role-play in training practice by corporate trainers.

A framework containing components involved in the use of role-play has been developed from literature research in section 3.2 and is used as a basis for the subsequent empirical survey in section 3.3. and 3.4. This chapter ends with a discussion in section 3.5.

3.2 Components of Role-play as an Instructional Method

3.2.1 Components of role-play

All role-plays used for interpersonal skills training have four components: (a) introduction, (2) instruction, (3) run session and (4) debriefing. For each component the variables that may affect the process of role-play are enumerated in Table 3.1. For each variable the references are given. Many authors give (global) descriptions of these components without empirical evidence (Joyce & Weil, 1980; Kessels & Smit, 1990; Nijkerk, 1988; Shaftel & Shaftel, 1967, 1982; Tistaert, 1987; Wanrooy, 1992).

Table 3.1

Components of role-play and overview variables that may affect the process of role-play based on literature review

Components of role-play	Authors who mention the specific phase
<i>1. Introduce</i>	Nijkerk (1988), Van Ments (1989)
1a. objectives	Van Ments (1989)
1b. arouse interest/motivation	Shaftel & Shaftel (1967), Joyce & Weil (1980), Tistaert (1987), Van Ments (1989)
1c. warming up	Bond (1986), Brandes & Philips (1979), Davidson & Gordon (1978), Nijkerk (1988), Van Ments (1989)
1d. method and procedures (fish-bowl or multiple)	Joyce & Weil (1980), Van Ments (1989), Shaftel & Shaftel (1982)
1e. situation (background, context)	Joyce & Weil (1980), Nijkerk (1988), Tistaert (1987), Van Ments (1989)
1f. 'props' or additional material like a telephone	Van Ments (1989)
<i>2. Instruction</i>	Tistaert (1987), Nijkerk (1988)
2a. choice of players	Shaftel & Shaftel (1967), Joyce & Weil (1980), Van Ments (1989)
2b. instruction of players	Shaftel & Shaftel (1967), Joyce & Weil (1980), Van Ments (1989)
2c. instruction of observers	Shaftel & Shaftel (1967), Joyce & Weil (1980), Van Ments (1989)
<i>3. Run session</i>	Shaftel & Shaftel (1967), Joyce & Weil (1980), Tistaert (1987), Nijkerk (1988), Van Ments (1989)
3a. start of the actual role-play (give a starting signal)	Van Ments (1989)
3b. Interruption	Van Ments (1989)
3c. provide information	Van Ments (1989)
3d. control time	Van Ments (1989)
3e. stop the actual role-play when it is justified	Joyce & Weil (1980), Nijkerk (1988), Tistaert (1987), Van Ments (1989)
<i>4. Debriefing</i>	Shaftel & Shaftel (1967), Tistaert (1987), Nijkerk (1988), Van Ments (1989)
4a. Clear up role-play	Joyce & Weil (1980), Van Ments (1989)
4a1. ask main protagonist(s) for his/her reaction	Van Ments (1989)
4a2. ask subsidiary characters for their reactions	Van Ments (1989)
4a3. ask observers for observations	Van Ments (1989)
4a4. Agree on what happened and final decisions reached	Van Ments (1989)
4b. Draw conclusions	Joyce & Weil (1980), Van Ments (1989)
4b1. Analyze causes of behavior	Van Ments (1989)
4b2. Draw conclusions about the way people behave	Van Ments (1989)
4b3. Decide on what can be done to improve situation	Joyce & Weil (1980), Van Ments (1989)
4b4. re-run (amended) role-play	Shaftel & Shaftel (1967), Joyce & Weil (1980), Tistaert (1987), Nijkerk (1988), Van Ments (1989)
4b4. Debrief repeated role-play; step 5-7	Shaftel & Shaftel (1967), Joyce & Weil (1980), Tistaert (1987)
4c. Draw general conclusions and extrapolate	Shaftel & Shaftel (1967), Joyce & Weil (1980), Tistaert (1987), Nijkerk (1988), Van Ments (1989)

Chapter 3

3.2.2 Introduction

After an introduction of the objective(s), role-play as a method for practice is introduced to students. Firstly, the interest and motivation of the students in the problem being explored is elicited (Tistaert, 1987). The students will start thinking about the problem. There are many ways to do this; studying a text and making notes on it; write a letter, memo or case; answer questionnaires; use of a video and a lot of warming-up games (Bond, 1986; Brandes & Phillips, 1979; Davidson & Gordon, 1978). After the warming-up, the procedure of role-play is explained. There are two direct and common ways of organizing a role-play: a 'fish-bowl' and a 'multiple' approach (Van Ments, 1989).

In a 'fish-bowl' approach, the players meet each other in the center of the room and are observed by other students who sit in a circle around them. In a 'multiple' approach, the group is split up into a number of small groups of two or three students, and each group enacts the role-play at the same time in parallel.

An introduction to the particular problem of the role-play follows by telling the problem-story, or by reading it aloud or by a visual presentation (Tistaert, 1987). The outline of the problem to be solved is introduced. The context and the problem situation are given. It should begin with a short introduction to the place of action and a description of the history of the problem (Wright, 1989). The problem stops at the dilemma point (Shaftel & Shaftel, 1982). Other preparations, such as the use of a number of 'props', depend on the purpose of the role-play (Van Ments, 1989). A few props (e.g., a pen; a telephone; name badges), may help to create the right atmosphere.

3.2.3 Instruction

Instruction pertains to the choice of players, instruction of players and instruction of the observers. In choosing the players, there are several ways to allocate the roles: randomly; assigning players to roles which fit them closely; deliberately choosing players with characteristics opposite to those of the role; and rotating roles between all the students (Van Ments, 1989). The choice of method depends on the purpose of the role-play and the particular group.

The second part of instruction is the requirement to students to study their roles, imagine the situation and then (re)act to it within the constraints and resources of the situation. The descriptions of the roles are written on handouts or on cards. The details of the role should be completed by the players (Tistaert, 1987). An important point is that the players play, behave,

invent and create whatever is necessary to fill out their roles as realistically as possible.

The observers are instructed by the trainer to ensure that the reports are meaningful to the role-players. The observations should relate to both the content (what actually happened within the role-play) and the process (how and why it happened). Observations can be carried out in various ways: observation notes, interaction analyses, questionnaires, observer grids and so on. The observers should be focused on the key items of interest. The observers may watch an individual role-player or the group as a whole. They may be taking part as actors in the role-play, they may be sitting or standing apart from the players, or they may be observing in another room through one-way screens or from video-screens.

3.2.4 Run session

The start of role-playing is fairly straightforward: the trainer should give a starting signal (Van Ments, 1989). The players should be clear as to when they are 'in' the role-play. Role-playing is monitored by the trainer and can be recorded on video and replayed during debriefing (Nijkerk, 1988, Van Ments, 1989). Sometimes, interruption in the role-playing is chosen. Van Ments (1989) lists six situations when interruption is necessary: players depart from their roles, burlesquing, poor performances (drying up), lack of insight and empathy, repetition and boredom and emotional escalation. Interruption is a matter of judgment which depends on the trainer's knowledge of the players and their behavior. It also depends on the relationship between the students and the trainer.

The trainer's task to control time is obvious. A problem for the trainer is the timing of the segments. The enactment should not be stopped, until the proposed behavior is clear (Joyce & Weil, 1980; Nijkerk, 1988; Tistaert, 1987; Van Ments, 1989). In this phase, the end of role-playing must be timed in such a way that it fits into the whole program and must be stopped when justified.

3.2.5 Debriefing

The key role of debriefing, or reflection as it is sometimes called, is to emphasize the points of learning (Joyce & Weil, 1980; Nijkerk, 1988; Van Ments, 1989). The meaning of the enactment needs to be clarified; the lessons to be learned are underlined and connections are made with what the students already know and what they need for future learning (Van Ments, 1989). To be effective, the debriefing-session must follow soon after the enactment itself and requires sufficient time. Most authors agree that the time for debriefing should be at least as

long as the actual role-play (Van Ments, 1989).

Debriefing consists of three activities; clearing up role-play, drawing conclusions from the particular case, and drawing conclusions on the category of communicative problems to be solved. In the first activity, the enactment itself is completed. The content of the role-play is discussed. The players (the protagonist first) consider their roles and the observers are asked for a reaction.

Usually, a discussion and analysis of the processes of the role-play will follow. The interactions are analyzed and discussed. The students will often be offered a chance to repeat the role-play and improve their performance (Tistaert, 1987). In replaying, (the same) persons may take different roles or the same roles but play them differently. Other students too may take the roles and there may be major or minor changes in the role descriptions (Nijkerk, 1988).

A discussion on the category of problems to be solved is necessary, so as to prevent the particular case to be left in isolation from the rest of the training program. Most important is the task of avoiding a particular case in a vacuum (Van Ments, 1989). Also, extrapolations to real-life are made.

Once the rules of role-play have been mastered, it is easier to learn how to act in new plays. Thus, the students spend less time mastering the rules of a play and more time exploring the content when different cases of the same category of social-communicative problems are acted out in plays.

The above mentioned four components of role-play are used to structure a questionnaire in a survey. The purpose of the survey is to study the use of role-play in the current training practice. The questionnaire is prepared for trainers in Dutch corporate training agencies.

3.3 Method

3.3.1 Subjects

Dutch corporate trainers were the target group for the survey. The inclusion and exclusion criteria were that the trainers must have (1) experience with behavioral change and behavior modification training, (2) experience with role-play in (interpersonal skill) training, and (3) same position for a minimum of one year.

In order to obtain an optimal coverage, different ways of tracing were used to find the members of the target-population. The corporate trainers (N = 406) were selected from the directory of the Dutch Association of Corporate Trainers (NVvO, i.e., Nederlandse Vereniging van Opleidingsfunctionarissen), from the directory of the Dutch Association for Management (NIVE, i.e., Nederlandse Vereniging voor Management) and from the directory of the Dutch Association of Training and Development Institutions (VETRON i.e., Vereniging van Trainings- en Opleidingsinstituten in Nederland).

A random sample of 201 out of 406 trainers was drawn to obtain a representative sample of the population of corporate trainers.

3.3.2 Materials

A written questionnaire consisting of 50 items was designed using the a'fore'mentioned four components for the use of role-play described in section 3.2. The variables enumerated in Table 3.1 are operationalized into five sections: (1) the trainers' education, their jobs and labour conditions (fourteen questions); (2) advantages and disadvantages of role-play and the preparations for role-play (fourteen questions and statements); (3) the introduction and instruction of role-play (six questions and statements about objectives, method and procedure, context, warming up, choice and instruction of players, instruction of observers); (4) run a role-play (nine questions and statements about the start of the actual role-play, interruption, provide information, control time and stop) and (5) debriefing role-play (seven questions and statements about clear up role-play, draw conclusion and draw general conclusions).

Two different structured response-modes were used: checklist response and a scaled response (Tuckman, 1988). These items were endorsed on a five point Likert type scale: never, seldom, sometimes, often and always. The positions were quantified: never = 1, seldom = 2, sometimes = 3, often = 4, and always = 5. For each question, the mean score was calculated. Table 3.2 gives some examples of questions in the written questionnaire. The original questionnaire is presented in Appendix A.

3.3.3 Procedure

During a pilot study, the questionnaire was reviewed by six experts. They evaluated the questions and statements, and made suggestions for improvements. Based on these suggestions, the questionnaire was improved.

The initial mailing of the questionnaire to the sample of 201 respondents included a cover

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Table 3.2

Typical examples of questions in the written questionnaire

Section	Question (checklist- or scaled response)
1. Labour conditions	Have or are you: Check one: (a) a salaried employment (b) a freelance employment (c) an owner/holder of an agency (d) otherwise, namely
2. Advantages/disadvantages of role-play	In whatever degree do you see the following characteristics as advantages of role-play in training? Trainees are enabled to analyze their own behavior. Never---seldom---sometimes---often---always Role-play provides the opportunity to try out different behavior. Never---seldom---sometimes---often---always Role-play is useful for attitude change. Never---seldom---sometimes---often---always
3. Instruction	In which way do you instruct the players: Check one: (a) oral/verbal (b) on paper (c) both (d) players receive no instruction
4. Run a role-play	In which way are the next aspects reasons for your intervention? Players depart from their role. Never---seldom---sometimes---often---always Poor performance in role playing. Never---seldom---sometimes---often---always Repetition. Never---seldom---sometimes---often---always Emotional escalation. Never---seldom---sometimes---often---always
5. Debriefing	Who is the leader of the debriefing? Check one: (a) the trainer (b) the trainee (c) both (d) otherwise, namely

letter, the questionnaire itself, and a stamped, return-addressed envelope. In the cover letter the trainers were informed about the objective and means of the survey, and a request for co-operation. After a three-weeks period, a second mailing was sent for correspondence with the 158 non-respondents. The second mailing included the same letter requesting co-operation, a questionnaire, and a stamped return-addressed envelope in case the respondent could not find the original one. Again after a three-weeks period when the second mailing had failed, additional mailings were sent and about 100 telephone calls were made to increase the return.

3.4 Results

3.4.1 Reliability of the questionnaire

In the data analysis, frequency and chi-square analysis were used. Five reliability checks for internal consistency, i.e. the Spearman-Brown Prophecy Formula (Nunnally, 1978) were made (four were significant for $r > .50$, $p < .001$ and one was significant for $r > .33$, $p < .01$).

3.4.2 Response and non-response

After the first and second mailing and telephone calls, 26 trainers from the sample had not responded (non respondents). Of the 175 respondents only 68 questionnaires (34%) were suitable for data processing. In Table 3.3 the reasons for unsuitability of 107 response are given.

Table 3.3
Non-response, suitability and unsuitability of the sample

	Frequency	Percentage
<i>Non-response and suitable response</i>		
Non-response	26	12.9%
Suitable response	68	33.8%
<i>Reasons for unsuitability</i>		
Incomplete form	4	2.0%
No longer in the employ of	39	19.4%
Removal of the organization	2	1.0%
No time for it	19	9.5%
No or little use of role-play	9	4.5%
Too late	8	3.9%
Unclear reason given	19	9.5%
Retired	3	1.5%
Don't see the sense of it	3	1.5%
Seriously ill	1	0.5%
<i>Total</i>	201	100.0%

3.4.3 Trainers' characteristics

Some characteristics of the suitable part of the sample is described here. The frequencies, percentages, mean, standard deviation and range pertaining to most of the trainers' characteristics are listed in Table 3.4.

Kind of training

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Communication and management training were the major proportions of the trainers' (60%) activities. A relatively large proportion (34%) of the trainers trained other skills. Training focused on self-presentation skills, personal development, selling skills, team building, commercial skills, marketing and technical skills.

Table 3.4
Some characteristics of the sample

	Frequency	Percentage	
<i>Kind of training</i>			
Communication	7	10.4%	
Management	13	19.4%	
Both	24	35.8%	
Both & Other	16	23.9%	
Other	7	10.4%	
<i>Gender</i>			
Female	16	23.9%	
Male	51	76.1%	
<i>Training target group</i>			
Private sector	32	46.4%	
Non-profit sector	4	5.7%	
Both	33	47.8%	
<i>Employment</i>			
Salaried	49	71.0%	
Freelance	13	2.8%	
Owner/Holder	24	18.8%	
Other	16	7.2%	
<i>Educational level</i>			
Intermediate vocational	4	5.9%	
Higher vocational	18	26.9%	
University	45	67.2%	
	Mean	Standard Deviation	Range
<i>Other characteristics</i>			
Age	39.9	8.5	26- 64
General work experience in years	9.5	6.7	1- 24
Specific work experience	8.5	6.3	1- 24
Average duration of training in shifts	6.6	4.0	2- 27
Total training hours in a month	60.5	35.3	1-160

Gender

Most of the trainers were male (76%). A significant difference existed between gender and the age structure (chi-square = 14.05, $df = 4$, $p = .007$). The age of women was lower compared to that of men. In the sample 81% of the women were younger than 40 years. Of the men 39% were younger than 40 years.

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Target group

A major proportion of the trainers (94%) worked with trainees from the private sector. The participation level of males who *only* work in the private sector (57%) was significantly higher than that of women (19%; chi-square = 7.46, $df = 2$, $p = .02$).

Employment

Employment, in the context of the present study, was not equally distributed over gender. Nearly all female trainers (93%) had salaried employment against more than the half of male trainers (64%). The owners/holders of training corporations were all male. It may be noted that the major part of the trainers (71%) had salaried employment.

Educational level

A large part of the trainers (67%) was university-trained, mostly in social sciences.

Other characteristics

The average age of the trainers was 40 years. The standard deviation was 8.5 with a range between 26 to 64 years. The general work experience ($M = 9.5$) in the sample was mostly one year longer than the specific work experience ($M = 8.5$). Specific work experience was described as experience with interpersonal skill training. In the sample there was a large variation in work experience. The years of work experience differed from 1 to 24 years. There was also a large variation between the trainers in the average duration of training in sessions ($M = 6.6$) and the total training hours per month ($M = 60.5$).

3.4.4 Advantages, disadvantages and other general characteristics of role-play.

In Table 3.5 the frequencies, percentages, mean, standard deviation and range pertaining to most of the variables of this section are given.

Advantages of role-play

The greatest advantage of role-play was the possibility of giving feedback on the behavior of trainees ($M = 4.5$; 56% answered always an advantage). Secondly, the advantage of analyzing your own behavior was mentioned ($M = .3$; 35% answered always) and thirdly the possibility to emphasize non-verbal behavior and emotions ($M = 4.0$; 25% answered always). Attitude-change scored last.

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Disadvantages of role-play

The dependence on the quality of trainer and trainee ($M = 3.1$) was mentioned as the major disadvantage of role-play. Secondly, the simplification of reality ($M = 2.9$) and thirdly the large amount of time ($M = 2.8$) were stated. The control of the trainer over what is learned and the order in which it is learned ($M = 1.9$) was seen as the smallest disadvantage.

The trainer's role

During the role-play the trainer has to perform different functions. According to the sample the first and most vital function was to provide information ($M = 4.2$), the second function was to facilitate the role-play session ($M = 4.1$) and to control time and plan the session ($M = 4.1$) was the third function mentioned. The function of therapist ($M = 2.4$) was seen as a (very) small proportion of the trainers' normal job although the opinions differed.

Objectives of training

For the majority of the trainers, the main objective of the training was to improve interpersonal skills (65%). A quarter of the sample (27%) did not want to give priority to only one objective. They kept several options such as exchanging experience, improving knowledge and insight into efficient behavior, increasing behavior alternatives, remaining steady in difficult situations and increasing awareness of personal behavior. Other (7,4%) objectives mentioned were situation, person, and skill dependent. No general statements were possible.

Other general characteristics

Per session the average number of role-plays was two and the average duration was 19 minutes. Both averages had a large range. Some trainers ran one role-play in the morning or afternoon, others ran nine role-plays. The average duration of a role-play ranged from 5 to 60 minutes.

The trainers had been asked which 'techniques' they used to demonstrate interpersonal skills. 26.5% never and seldom, 47.1% sometimes, 22.1% often and 4.4% always showed a video ($M = 2.9$), 5.8% never and seldom, 19.1% sometimes, 51.5% often and 23.5% always let trainees play a demonstration role-play ($M = 3.9$) and 54.5% never and seldom, 30.9% sometimes, 13.2% often and 1.5% always played a demonstration role-play by themselves ($M = 2.3$).

Table 3.5
Some general variables that may affect role-play

	Mean	Standard Deviation	Range
<i>Advantages of role-play</i>			
Feedback on behavior	4.5	0.7	
Analyze own behavior	4.3	0.6	
To emphasize non-verbal behavior and emotions	4.0	0.8	
Try out different behavior	3.8	0.9	
Better understanding/empathy	3.7	0.7	
A good representation of reality	3.5	0.8	
To discuss problems	3.3	0.8	
Analyze group behavior	3.1	0.8	
Changes attitudes	3.0	0.7	
<i>Disadvantages of role-play</i>			
Depends too much of the quality of trainer and trainee	3.1	1.0	
Simplification of reality	2.9	0.8	
Uses a large amount of time	2.8	1.1	
Confusion about playing a role or playing oneself	2.5	0.9	
Depends on what trainee already knows	2.4	0.9	
May be seen as too entertaining or frivolous	2.2	0.8	
Cost trainer too much devotion	2.0	0.9	
Trainer loses control over what is learned and in which order	1.9	0.9	
<i>The trainer's role</i>			
As provider of information	4.2	0.7	
As facilitator	4.1	0.7	
As time controller/planner	4.1	0.8	
As motivator	3.9	0.9	
As engender of energy	3.8	0.8	
As corrector	3.3	0.8	
As adjudicator	3.1	1.0	
As therapist	2.4	1.1	
<i>Other general characteristics</i>			
Average duration of role- play (min.)	19.3	12.0	5-60
To demonstrate skills average frequencies trainer uses techniques:			
(a) life role playing by trainees	3.9	0.9	
(b) by video	2.9	1.1	
(c) by trainers	2.3	1.1	
Average number role-plays by session	1.9	1.2	1- 9
	Frequency	Percentage	
<i>Objectives of training</i>			
Improvement of interpersonal skills	44	64.7%	
Several options	18	26.5%	
Other	4	5.8%	
To obtain experience	1	1.5%	
To increase knowledge	1	1.5%	

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3.4.5 Introduction and instruction

The introduction and instruction of role-play had been investigated in the third section of the written questionnaire consisting of 6 items. Table 3.6 shows the frequencies and percentages pertaining to the characteristics of introduction of role-play and instruction of players and observers. The trainers nearly always paid attention to the objectives and the procedure of role-play. Attention was often given to the context, warming-up and getting acquainted. For the allocation of roles to players, several techniques were used.

Instruction for observers

In most cases (55%), the trainers instructed observers with an observer-grid both orally and visually. An observer-grid consisted of a structured framework with questions or attention-points for observations. A number of behavior categories were given low scores. Only 7% of the trainers claimed not to work with observations.

Table 3.6
Some variables that may affect introduction and instruction

	Mean	Standard deviation
<i>Introduction</i>		
Attention is paid to		
Objectives	4.5	.87
Procedure	4.5	.91
Context	4.3	.99
Warming up	3.4	1.2
	Frequency	Percentage
Acquaintance	39	66%
<i>Instruction observers</i>		
Oral/Verbal	15	21.7%
On paper	11	15.9%
Both	38	55.1%
No instruction	5	7.3%

3.4.6 Run session

Table 3.7 presents the frequencies, percentages, means, standard deviations and ranges pertaining to the characteristics of running a session. In most cases (71%), the trainers started the actual role-play. In 27% of the cases, the trainers stopped the actual role-play. In 39% of the cases, several occurrences (e.g., the players stop, the play ends) were used to stop.

Intervention

It appeared that 60% seldom or sometimes took action to stop role playing (9% never, 34% seldom, 26% sometimes, 17% often and 14% always; $M = 2.8$).

By comparing the reasons for intervention, the reasons: Burlesquing ($M = 3.2$), emotional escalation ($M = 3.0$), departing from the role ($M = 2.9$) and repetition ($M = 2.9$) scored the highest positions. Lack of empathy ($M = 2.3$) scored the lowest position.

Table 3.7
Some variables that may affect running the role-play session

	Mean	Standard Deviation
<i>Intervention</i>		
Intervention general	2.8	0.8
Reasons for intervention		
(a) Player deproportions from role	2.9	1.2
(b) Burlesquing	3.2	1.5
(c) Poor performance	2.5	1.0
(d) Lack of insight	2.8	1.1
(e) Lack of empathy	2.3	0.9
(f) Repetition	2.9	1.1
(g) Boredom	2.8	1.3
(h) Emotional escalation	3.0	1.2
Techniques for intervention		
(a) Role-reversal	2.6	1.1
(b) Alter ego/ Doubling	2.0	1.0
(c) Mirroring	2.3	0.9
(d) Role-example	2.3	1.0
(e) Consultant group	2.5	1.1

The intervention scores were found on the left side of the scale which meant that the largest percentages laid on the categories never, seldom and sometimes.

The most used techniques for intervention were role-reversal (i.e., the players who had been cast as protagonist and antagonist exchange their roles; $M = 2.6$) and the consultant group (i.e., having a special home support group which function as consultant and advised the protagonist on how to proceed; $M = 2.5$).

3.4.7 Debriefing

The results of the debriefing section of the questionnaire are presented in Table 3.8.

Table 3.8
Some variables that may affect debriefing

	Mean	Standard Deviation	Range
<i>Average duration debriefing</i>			
In minutes	27.6	14.7	5-55
<i>Replay</i>			
Frequency of replay	1.3	1.6	1-10
Average duration replay in minutes	14.9	24.2	1-75

Average duration debriefing

The debriefing session often followed soon after the enactment itself. The average duration was 28 minutes. This average had a large range. Some trainers debriefed one session in 5 minutes, others debriefed in 55 minutes.

Replay

A relatively large proportion of the trainers (39%) never replayed a role-play. If the trainer decided to replay, the average frequency was one ($M = 1.3$) and the average duration was 15 minutes. The standard deviation was very large ($SD = 24.2$).

3.5 Discussion

This chapter concerns the use of role-play in theory and in current training practice. A framework containing the training components involved in the use of role-play has been developed from literature research and it is used as a basis for a survey. The population of Dutch corporate trainers was the target group for the study. The results of the study show that role-play is a complex instructional method with different instructional variables. There is no specific set of conditions for the use of role-play. There are several opinions on how to use role-play but for these there is not much empirical evidence and no instructional-design model is available. Role-play is used by a heterogeneous trainers population.

Results for advantages, disadvantages and other general characteristics of role-play indicated that the most striking advantages of role-play mentioned by the trainers is the importance of behavioral feedback, whereas the usefulness of attitude-change has the lowest value. This differs substantially from what is stated by Joyce & Weil (1980), Van Ments (1989), Kessels & Smit (1990). They describe attitude-change as one of the important

advantages of role-play.

Van Ments (1989) summarizes potential disadvantages. The three main disadvantages of role-play are (1) a consequential break down in the normal discipline of the classroom, (2) the trainer loses control over what is learned and (3) the use of a large amount of time, space and sometimes people. In the present study, the disadvantages one and two are placed lastly. The third disadvantage corresponds to the findings of this study.

An outstanding feature of the list of objectives for training is that only one trainer (1.5%) mentions the objective 'increasing of functioning in the work-place'. In instructional-design theories, transfer is an important issue. The results of this study do not reflect this main topic. This may indicate a gap between theory and practice.

The presented results for introduction and instruction indicate that for demonstration of the skill(s), the trainers only sometimes ($M = 2.9$) use a video-tape. The trainers prefer probably more active instructional methods in which trainees experience their own behavior. Other possible explanations are that trainers have their doubt on the learning outcomes by watching video (it is only nice to watch), or there are no suitable video's available, or the rental fee for the video is too high.

Another result, especially since it is less expected, is that 93% of the trainers use and instruct observers. In literature, authors rarely mention the use of observation (Joyce & Weil, 1980; Nijkerk, 1988; Kessels & Smit, 1990; Wanrooy, 1992). Van Ments (1989) only makes the remark that observers are useful in some role-plays, essential in some, and not needed in others. The finding contradicts those studies. It is in correspondence with an earlier finding of this study, namely the importance of feedback on behavior (advantages). For adequate feedback, quality observations are indispensable.

Turning to the results for running a session, results suggest that the recurrence of intervention is generally low. This may indicate that trainers rarely use intervention-techniques. This finding might be caused by the demands made on the trainers by intervention. Tower (1969) says that the trainers must possess 'tact', 'receptivity', skill in communication, insight, imagination and flexibility in dealing with unexpected developments. Inexperienced trainers may find it difficult to do. It may also be sought in the advantage of keeping the role-play going.

With regard to debriefing, results indicated a large range in duration of the debriefing (5 to 55 minutes) and a large standard deviation of the average duration of replay. This means that all trainers have their own style of conducting a replay session. There is not much consensus

among the trainers.

The findings of the present study lead to several new questions. More research into the instructional variables of role-play is desirable. The theory for role-play use is poor. The conditions when to use role-play, need to be specified in more detail. There are several opinions on how to use role-play but for these there is not much empirical evidence and no instructional-design model is available. More emphasis has been put on what to do and not enough on why to use it. In Chapter 4, special attention will be given to the development of an instructional-design model. The content of Chapter 2 and this Chapter 3 will be used for the development of an instructional-design model for interpersonal skills learning. Further studies should concentrate particularly on the research-based instructional strategies and tactics that can lead to the desired instructional outcomes.

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TOWARD AN INSTRUCTIONAL-DESIGN MODEL FOR INTERPERSONAL SKILLS LEARNING

This chapter will develop a general instructional-design model for interpersonal skills learning. Ten components of role-play are described and prescriptions are provided for the implementation of each of them in a learning environment. Role-play is seen as a complex learning environment for novices to develop interpersonal skills because of high cognitive load during solving social-communicative problems and the play performance. Simplification is supposed to be an efficient strategy for working with the complexity of such a learning environment. It entails the development of expertise, firstly by simple yet representative kinds of social-communicative problems to solve. Another learning environment, computer-based role playing, is proposed. It is suggested to alter and simplify the solving of social-communicative problems more than done in conventional role-play in order to facilitate learning. Two newly designed instructional strategies, the use of a conversational model and opportunities for reflection, are introduced. It is assumed that a computer-based representation of the problem situation can be more useful and possibly more effective for novices if they use a conversational model which focuses the attention on the necessary steps to solve social-communicative problems. Further, it is assumed that reducing the complexity of the problem situation and diminishing time constraints of a real-life dialogue provide opportunities for reflection. The complexity of the problem situation is reduced by stripping away irrelevant and relevant features of a real-life dialogue. The time constraints are diminished by making time available for writing and correcting messages. Directions for research are identified to study computer-based role playing to train interpersonal skills.

4.1 Introduction

Role-play is the most widely practiced instructional method for the development of interpersonal skills (Argyle, 1984). The instructional requirements of role-play have been reported in the studies in Chapter 2 and Chapter 3. They are used to specify an instructional-design model for interpersonal skills learning in section 4.2. The model details the method of role-play into ten components and prescriptions are provided for the implementation of each of them in a learning environment.

In this thesis, a learning environment is described as a situation having significant features of authentic problem-solving, where students practice to acquire knowledge and develop skills. This situation includes the content taught, the instructional-design strategies and tactics which guide and mediate individual learning, the sequencing of the learning activities, the trainer and the physical space, the equipment, tools and materials allotted for learning.

Role-play is supposed to be a complex learning environment for novices to develop interpersonal skills (4.3). The learning environment is complex because of two factors. First, the cognitive load is high during social-communicative problem-solving, because the execution of all steps has to take place immediately in a goal-directed dialogue. Moreover, social-communicative problem solving is acted out in a play. A play is complex for novices, because the data to be considered for a successful performance are often overwhelming. Further, novices may also fail to develop and practice the intended skills due to a lack of repeated exposures. Only few students can participate in any enactment in role-playing. It is supposed that the complex learning environment confuses novices and thus influences learning negatively.

Section 4.4 describes simplification as an efficient strategy for working with this complexity of the learning environment. It entails the development of expertise, firstly by simple yet representative kinds of social-communicative problems to solve.

Another learning environment, computer-based role playing, is proposed which simplifies novices interpersonal skills training. It is suggested to alter and simplify the learning environment more than done in conventional role-play, in order to provide more useful and possibly more effective instruction. Two newly designed instructional strategies, the use of a conversational model and opportunities for reflection, are introduced. Instructional-design strategies and tactics are methods of instruction to enhance learning. The difference between instructional strategies and tactics is that strategies are broader in scope. A variety of tactics

can be used to implement a single strategy. This chapter ends with a discussion and implications for research (4.5).

4.2 An Instructional-Design Model for Interpersonal Skills Learning

4.2.1 Introduction

An attempt is made to link what is known about the psychology of learning to the practice of instruction (Bruner, 1966). This section illustrates how to design a learning environment for interpersonal skills learning. The design is based on the preliminary implications, given in section 2.2.2, about learning of interpersonal skills. Further, the instructional-design model integrates role-play theories (e.g., Van Ments, 1989; Wohlking & Gill, 1980; Wright, 1989), 4C-model (Van Merriënboer, Jelsma & Paas, 1992; Van Merriënboer, 1997) and the theory about designing (computer-based) simulations (Reigeluth & Schwartz, 1989).

The main goal of the instruction designed is to teach students to solve social-communicative problems. The results of learning are that students acquire knowledge and learn how to use the problem solving procedure effectively and efficiently, thus developing interpersonal skills. After explaining and modeling the tasks, the skills are developed through working on social-communicative problems. It requires the students to practice, not simply understand, the skill-structure and concepts. Instruction includes active participation of the students.

After practicing the problem-solving process with varied problems, the knowledge becomes cognitively represented and is stored as concepts and schemata (e.g., scripts). Further, the students become more or less skilled in executing the necessary steps. Supposedly, the execution of the steps is essential for the acquisition and storing of both the declarative and procedural knowledge.

In interpersonal skills training, students are seldom classified according to their level of skills experience. A common classification used here, is that of novices, beginners, intermediates, and experts (e.g., Chin, 1986). The students are characterized as adult novices being confronted with social-communicative problems that they must solve on the basis of the particular exigencies and constraints of the conversational situation.

In designing instruction, several strategies and tactics should be taken into consideration. These instructional strategies and tactics relate to the content and the presentation of this

content in a learning environment. For the content, the strategies and tactics are based on the structure of knowledge to be acquired and the tasks to be executed. In the instructional-design model for interpersonal skills learning, the presentation of the content originates from the components of role-play as described in Chapter 3. The instructional-design model describes the same systematic route: Introduction, instruction, run session, and debriefing. All have a purpose and are interdependent. The instructional-design model is presented in Table 4.1. Each one of the presented instructional strategies and tactics addresses ten different components of the design of the instruction. Four aspects (1-4) relate to the content of the learning environment, and six aspects (5-10) relate to the presentation of the content. However, there is some overlap between them.

Table 4.1.
The instructional-design model for interpersonal skills learning

1. Objectives

1A Formulate which category of social-communicative problems to be solved before designing role play.

2. Task analysis

2A Formulate the task to be trained, described in the steps to execute.

3. Generality and demonstration

3A Write a generality. Keep the nature of the task in mind and include a label for the task, a goal and the ordered set of steps (Leshin, Pollock & Reigeluth, 1992).

3B Write a generality that consists of a characterization of the main features of the task and the steps for solving the social-communicative problem

3C Make the information easily accessible in learning aids (Van Merriënboer, 1997).

3D Develop an expert demonstration that only focuses attention on critical aspects of the generality.

3E Ask an expert to evaluate the generality and demonstration.

4. Social-communicative problem generation

4A Selecting and phrasing the problems

4A1 Describe significant social-communicative problems. Meaningful issues are those that materially affect the preparation to the professional lives of the students at the time of role-play. The problems should be slightly separated from particular examples of real professional conversations to move away from irrelevant facts, from too strong identification and emotions with the problems (Van Ments, 1989).

4A2 Identify problems that suit the group. Age, sex, educational level, experience and interests are a few of the factors to consider in determining if a problem suits a group .

4A3 Identify problems with an incident or open-ended nature; the situation is a dilemma (see 2.3.4). The information about the problems must be changing the problems as they emerge and decisions must be made and actions taken in the absence of complete information.

4A4 Define the context and problem situation in which the problems occur.

4A5 Identify the characters. In interpersonal problems, the problems are situated between two characters so the identification of the characters is relatively simple. The main character is the protagonist and 'significant other' is the antagonist. Their names should be simple and not jokey and start with different letters of the alphabet (Van Ments, 1989).

Table 4.1: *Continued.*

4A6	Identify the roles to be played by the characters. The role of the protagonist should provide the central problem. The antagonist should provide resistance against the ideas and wishes of the protagonist and should offer an opportunity for the protagonist to practice the task (Van Ments, 1989).
4A7	Limit the problem to the role-play situation. The problem should be tailored to the time available. It should state limited aspects of a problem. The scope of the problem should be limited to the time available.
4B Writing the problem-descriptions	
4B1	Write the problem-description as clear as possible (Wohlking & Gill, 1980). The students are to form a representation of what they need to know about the interpersonal problem that should be solved. Write the problem-description so that the students can ‘understand’ the problems. The problem should not be stated ambiguously. It should be avoided that time is wasted on clarifying terms and understanding the problem involved.
4B2	Write the context and problem situation in which the problem occurs. This description should begin with a short introduction to the place of action. The first part of the description should mainly contain the problem situation and it describes the history of the problem (Wright, 1989). The second part is concerned with the immediate problem. This description should be written in the third person (Van Ments, 1989).
4B3	Write the role-description for each role-player. The description of the role should contain key features and intended actions (Van Ments, 1989). The players should be told what their goals are; they should be told what they are going to do, where, with whom, for how long. These features should be built in as a natural part of the role-description, should be short, sex neutral and should be written in the second person. In essence, the role should be developed so that the players are themselves but under certain constraints.
4B4	Write the role-descriptions as briefly as possible (about half A4). Role-descriptions cost reading and preparation time of the players, especially when they are long. Further, players have more data to remember during the acting out of their roles. Long role-descriptions may lead to more skip-outs of the roles, because players will not remember all details.
5. Introduction to the learning environment	
5A	Indicate how the instructional program will proceed, what sort of things will happen, under what circumstances and the form of learner- or system-control (Reigeluth & Schwartz, 1989).
5B	Present the goals and objectives of the program.
5C	Present directions and rules to describe how to use the program
6. Presentation of the generality and modeling	
6A	Use an expository approach to introduce the skill. The generality should be provided along with a prototypical demonstration of the task for the students to observe and model (Reigeluth & Schwartz, 1989).
6B	Teach the generality and demonstrate the task just before starting to practice the task (Van Merriënboer, Jelsma & Paas, 1992).
6C	Teach the generality as an integral whole when the generality is relatively simple and it involves a limited number of procedures (Gropper, 1983; Landa, 1983).
7. Presentation of social-communicative problems	
7A	Provide social-communicative problems which validly represent those existing in the real world to provide the width of experience needed to achieve accuracy in applying the skill to different interpersonal interactions.
7B	The presentation of a social-communicative problem should include the context and problem situation in which the problem occurs, role relations, and role-descriptions.
7C	Use an easy-to-hard progression of difficulty for presentation of the problems (Leshin, Pollock & Reigeluth, 1992).
8. Practice	
8A	Give students the opportunity to practice under ‘safe’ and realistic conditions the social behavior stated in the objectives (see 2.3.5).

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8B Use a group method of instruction (see 2.3.5).

Table 4.1: *Continued.*

8C	Provide a synchronous or 'real-time' communication involving live- or spontaneous- and thus no scripted contributions of both participants (see 2.3.4).
8D	The number of problems to practice increases with divergence and with the level of difficulty (4.2.9).
8E	Provide natural feedback (Alessi & Trollip, 1985) that is immediate and explicit during practicing.
8F	Provide natural feedback in terms of natural consequences of the students' behavior.

9. Reflection and articulation

9A	Conduct an immediate debriefing at the end of every problem that is being solved.
9B	Provide artificial feedback that gives students information after solving a problem. This should include information on whether the students' performance was correct or incorrect. If it was incorrect, what did the student do wrong and how can it be improved.
9C	Let the students articulate forward to the problem that will be solved (4.2.10).
9D	Let the students reflect after all the problems have been solved.

10. Assessment

10A	Use different assessment methods (Swanson, Norman, & Linn, 1995).
10B	Present new social-communicative problems as test-items which include the full range of divergence and difficulties. These problems should be interchangeable with practice-problems.
10C	Develop and use a scoring mechanism and a coding- form to assess the quality of the interaction conducted by the students.
10D	Develop and present written measures to test knowledge and insight in the skill.
10E	Develop and use a scoring mechanism for the written measures.

4.2.2 Training objectives

Objectives determine the direction the designer takes in planning and developing the learning environment. Objectives lead and guide the design (Wohlking & Gill, 1980). In chapter 2, a specification of objectives was given in section 2.3.6. A broad distinction was made between role-plays dealing with the practice of skills, relevant here, and those dealing with changes in understanding, feelings and attitudes. In these two situations, training efforts are helpful, but the design of the learning environment for both situations will be different. Table 4.1 presents the instructional-design strategy relevant here.

4.2.3 Task analysis

In designing a learning environment, an analysis is made of what task should be taught. The task is the procedure to solve social-communicative problems, which is described in section 2.2.1. Students learn from the information that is provided in advance and by their engagement in solving social-communicative problems. The solution of the problem leads to the (re-)construction of social-communicative knowledge and problem-solving procedures.

In doing this, the instructional designer combines the identification of the task with an analysis of the experts' use of this task. Identification of the task is a matter of expert statements of what is most important for students to learn. The task should be described in the

necessary steps to execute. The instructional-design strategy is presented in Table 4.1.

4.2.4 Generality and demonstration

The task should be applied and practiced. Therefore, a generality and a demonstration of the task should be presented in advance (e.g., Leshin, Pollock & Reigeluth, 1992; Merrill, 1983). The term modeling is used to describe a demonstration by an expert of the problem-solving process.

A generality consists of general statements about the skill (Merrill, 1983; Van Merriënboer, 1997). The generality furthermore contains the goal or outcome to be produced by the processes, the name of the procedure, identification of each of the steps involved, some device to indicate the order in which those steps occur, a distinction between process steps and decision steps, and some indication of alternatives (Merrill, 1983).

A demonstration of the task should be designed to illustrate the generality. An expert demonstration should consist of an indication of the outcome desired, the name of the task, and some actual execution of the steps involved (Merrill, 1983). A diversified model has more impact on students than a single model (Bandura & Menlove, 1968). The demonstration may be represented through a medium. Table 4.1. details the instructional-design strategies and tactics.

4.2.5 Social-communicative problem generation

The content for the learning environment depends largely upon the problems that are generated. Practice and test-items require the students to apply the generality to ‘new’ problems. There are two directions in designing social-communicative problems. Firstly, the problems must increase the knowledge as defined by the task analysis. Secondly, the problems must to some degree be ‘real’ and authentic to a real-life dialogue.

During the generation of problems the designer faces two design tasks: Selecting and phrasing the problem(s) and writing the problem-descriptions. The instructional-design strategies and tactics for these two sub-tasks are described in Table 4.1.

4.2.6 Introduction to the learning environment

The learning environment, preceded by an introduction to the instructional program as a whole, identifies goals and objectives, and presents directions and rules that will govern the instructional program. The instructional-design strategies and tactics are presented in Table

4.1.

4.2.7 Presentation of the generality and modeling

After an introduction to the instructional method, an introduction of the task should follow. Although the generality should be presented in advance, this is not suffice. An expert demonstration of the task should be given, live or on a video (Argyle, 1984).

Presentation of the generality helps the students acquire social-communicative knowledge and problem solving procedures in advance. During this stage, the students develop a meaningful understanding of the behavior in question. The development of the skill may be achieved by an expository presentation (Merrill, 1983). In an expository approach, the generality is presented by teachers, media, or textbooks (and their characteristics).

Modeling consists of a demonstration of the procedure of solving a social-communicative problem by an expert. The students should observe details of a modeled performance of the task. It allows students to obtain an overview in advance of the dialogue they are learning. The instructional-design strategies and tactics are described in Table 4.1.

4.2.8 Presentation of social-communicative problems

The students must learn to apply the skill to the full range of relevant social-communicative problems. It is important that the skill can be generalized to other problem situations. In order to acquire generalization, students must develop the ability to apply the skill to various social-communicative problems. The problems are presented as simulations of cases and acted out in plays. Cases refer to real-life dialogues with different goals. Increasing divergence refers to the variety in social-communicative problems and practice-contexts.

In the instruction phase, the students have to form a representation of what they need to know about the social-communicative problem to be solved. The presentation of the problem should include relevant information related to the problem, such as the context and problem situation in which the problem occur, role relations and role-descriptions. The instructional-design strategies and tactics are detailed in Table 4.1.

4.2.9 Practice

Once the necessary information about the task and the social-communicative problem is obtained, the students must practice the skill and meet their conversation partners. In running a session, the students have to solve the problem in a learning environment that involves

groups of players working together. Solving a social-communicative problem includes (a) gathering relevant information from the other, (b) analyzing the present circumstances, (c) reconstructing the problem-history, (d) setting goals for interpersonal interaction, (e) listing of possible solutions, (f) selecting the solution which is most satisfactory and (g) performing the interpersonal skill(s) by executing a sequence of steps to achieve those goal(s).

The main element of the application of the skill is *divergent practice* (e.g., Reigeluth & Schwartz, 1989; Van Merriënboer, 1997). The more divergence there is, the more social-communicative problems need to be solved. It is supposed divergence facilitates generalization to other problems. The higher the difficulty level, the more practice is needed.

An essential component of practice is the feedback which provides students with confirmatory or corrective information regarding their responses. Alessi and Trollip (1985) distinguish two forms of feedback for simulations: Natural and artificial feedback. Natural feedback is a real-life consequence of a response. Artificial feedback is a contrived consequence which would not occur in the real situation. According to Reigeluth and Schwartz (1989), natural feedback is usually sufficient for simple tasks but does not provide enough information for complex tasks. Artificial feedback may be used to provide the students with additional assistance which may be informational or motivational in nature. Both forms of feedback should be an integral part of the learning environment. The instructional-design strategies and tactics are described in Table 4.1.

4.2.10 Reflection and articulation

The key role of debriefing, or reflection as it is sometimes called, is to draw out the points of learning (Joyce & Weil, 1980; Nijkerk, 1988; Van Ments, 1989). To be effective, the debriefing session must follow immediately after the enactment itself and be allowed sufficient time (Van Ments, 1989).

During the debriefing, the meaning of the enactment needs to be clarified. Reflections are crucial in assisting students to make sense of their experiences. It should be left open for students to identify the important issues that have arisen from their experiences in the role-play. This may help them focus on what is happening during each dialogue and to monitor the effect of responses and decisions made. It may also help students begin to link their reflections with theories presented before the role-play began. Reflections may be facilitated by providing a short questionnaire or by encouraging the use of observation sheets (Armitage, 1993).

Reflections require the students to look back over their effort to complete tasks and analyze

their own performance. Reflections point back to tasks accomplished. It is also possible to have the students think ahead about their actions and give reasons for their future decisions and strategies. This is an articulation process (cf., Collins, Brown & Newman, 1989) during which members compare and contrast cases, forming cognitive connections to increase the utility of knowledge gained in specific contexts. Collins (1991) cites the benefits of added insight and the ability to compare knowledge across contexts. Articulation is like reflection, except that it points forward to future tasks. Table 4.1 gives the instructional-design strategies and tactics providing guidance for the design of articulation and reflection.

4.2.11 Assessment

The assessment-function of the learning environment determines whether the students have achieved mastery of the interpersonal skill being trained. Mastery is a specified criterion for the number of accurate solved social-communicative problems on a set of divergent and difficult, previous unencountered social-communicative problems to be solved. The solving of a social-communicative problem is accurate when it is considered as sufficient, moderate or good by the judges (e.g., training experts). The instructional-design strategies and tactics for assessment are detailed in Table 4.1.

4.3 Role-play; a Complex Learning Environment for Novices

4.3.1 Introduction

In Chapter 2, role-play is described as an instructional method for learning to solve a social-communicative problem that is represented as a simulation of a case and acted out in a play. A case refers to a real-life dialogue with a goal. Role-play is supposed to be a complex learning environment for novices to develop interpersonal skills.

The learning environment is complex due to two factors. First, the cognitive load is high during social-communicative problem-solving because the execution of all steps has to be taken immediately in a goal-directed dialogue (4.3.2). Moreover, social-communicative problem solving is acted out in a play. A play is complex for novices because the data to be considered for successful performance are overwhelming. Further, they may also fail to develop and practice the intended skills due to a lack of repeated exposures. Only few students can participate in any enactment in role-playing (4.3.3). It is supposed that the complex

learning environment confuses the novices and thus influences learning negative.

4.3.2 High cognitive-load during solving social-communicative problems

The students must learn to solve social-communicative problems. Problem solving refers to the activities that are performed by a student in a particular situation in order to reach a goal that deviates from the current situation (VanLehn, 1989). The cognitive-load is high during social-communicative problem-solving because (a) social communicative problems are ill-defined, (b) the execution of all steps has to start immediately and (c) the steps are executed in a goal-directed dialogue.

Firstly, most social-communicative problems are ill-defined problems (e.g., Greeno, 1978; Simon, 1973; Voss, 1990) because: (a) Defining the problem requires more information than what is initially available; (b) the nature of the problem unfolds over time; (c) there is not just one right way to get that information; (d) as new information is obtained, the problem changes; (e) decisions must be made in the absence of definitive knowledge; (f) there may never be certainty about having made the right decision; and (g) the problems have an ill-defined goal state (i.e., several acceptable solutions exist) and an ill-defined initial state (i.e., it is not clear which information is relevant to the solution of the problem).

Secondly, the main processes in most social-communicative problems share certain similarities (Chapter 2). The process of solving social-communicative problems includes a number of necessary steps in a certain sequence. These steps are (a) gathering relevant information from the other, (b) analysis of the present circumstances, (c) reconstructing the problem history, (d) setting goals for interpersonal interaction, (e) listing of possible solutions, (f) selecting the solution which is most satisfactory and (g) performance of the interpersonal skill(s) by executing a sequence of steps to achieve those goal(s). The last step (g) is an essential and complex step dominating all other steps. All steps have to be executed immediately. For example, in some instances, an open question ('Could you tell me more?') may be most appropriate, another time, it may be more useful to reflect feelings ('Looks like you feel terribly upset over the situation with Bob'). Again, there are other times when direct advice may be what is needed ('I suggest you try.').

Thirdly, in order to solve the problem, the steps are executed in a goal-directed dialogue. The novices are engaged in a conversation. Hargie (1986) describes a model of interpersonal interaction that provides insight into the dynamics of the interaction that takes place when one person communicates with another. This model is presented in Figure 4.1. Any interpersonal

interaction is regarded as a joint product of interdependent activities.

A dialogue involves two persons. The goals of the persons engaged in the dialogue are important. Not only the novices' own goals are pursued, but the goals of the other person participating as well. If these goals concur, this will facilitate social interaction, but if they conflict, interaction can become more difficult. The mediating factors, such as cognition, feelings and emotions, are also important in the interactions. They affect the way the other is perceived and responded to. There are three forms of perception in the interaction (Hargie, 1986): Firstly, the novice's own responses are perceived (e.g., the novice hears what he says and how he says it, and may be aware of his nonverbal behavior); secondly, the responses of the other are perceived. Thirdly, there is a field of meta-perception, observing the way the other is affected, and judgments are made on the influence the novice has thought to have made on the other. Once a response has been given, the novice will look for feedback in order to determine the effect of the response. This feedback enables the novice to alter subsequent responses. The feedback is stated in terms of awareness of his own actions and the reactions of the other towards him. Personal factors, like age, gender, physical appearance and dress, and social factors, as roles, social rules, cultural background, affect the interaction.

The dialogue takes place in a rich referential field. It encompasses the dense texture of human bodily orientation: Gestures, and facial expressions known to communicate and continually transform basic affective, cognitive, and social dimensions of relationships (Pea, 1994). Facial expression provides perhaps the most effective means of communicating emotions. The face of the conversational partner may differ by constant physical amounts, running from one emotional expression to another (Ectoff & Magee, 1992).

For this reason, Kass, Burke, Bleviss and Williamson (1993/1994) categorize interpersonal skills as complex. Their main criteria for such a label is that the task is not transparent (i.e., the important variables are not immediately observable). This is the case in most social-communicative problem-solving situations. Important variables, such as the (internal) mental state of participants, their emotions or status in a group, are usually deduced from unspecified indications. Furthermore, there are often many goals to achieve in one and they may be in conflict with one another. For example, selling may involve goals such as making money, satisfying the customer, spending as little time as possible, and being trustworthy.

In role-play, the cognitive load is high. The execution of all steps in the goal-directed dialogue has to start immediately.

Figure 4.1. A model of interpersonal interaction (according to Hargie, 1986).

4.3.3 The performance in a play

In role-play, as described in Chapter 2 and 3, students are quite literally ‘thrown into’ their first role-play with a long list of situation- and role-descriptions, caveats, and concepts of the problem involved. Students are expected to sort out all this information, take their roles and act effectively in the play. Novices are overwhelmed by data and therefore often find their first role-play confusing (Kessels & Smit, 1990). They frequently have trouble in defining their own role and in getting the ‘significant other’ (e.g., client, patient, other professional) to talk.

Further, the play may also fail to build the intended skills due to a lack of repeated exposures. Only a few students can participate in any enactment in role-playing (Potter & Andersen, 1976). The other students listen and observe the play. Playing a role a few times does not build up a skillful performance (Georges, 1989).

4.3.4 Conclusion

The details or complexity of the learning environment provide too many required guidelines for novices to generate the desired performance. If novices, in comparison to intermediates and experts, have little prior knowledge of solving social-communicative problems, then the training required is more complex and is more time consuming. Further, it was assumed in Chapter 2, that the human mind has a limited cognitive processing capacity (see section 2.2.2). The importance of preventing memory overload is emphasized (e.g., Schneider, 1985). Students can only process seven plus or minus two bits of new information at a time.

Simplification is seen as an efficient strategy for working with this complexity of the learning environment. It entails the development of expertise, firstly by simple yet representative kinds of social-communicative problems to solve. The issue is how to ‘simplify’ the learning environment. It is suggested to alter and simplify the solving of social-communicative problems more than done in conventional role-play, in order to facilitate learning. Another learning environment, computer-based role playing, is proposed. Two newly designed instructional strategies are introduced: (1) The use of a conversational model in which the necessary steps will be specified and (2) opportunities for reflection. It is assumed that a different representation of role-play could be more useful and possibly more effective for novices if they use a conversational model which focuses the attention on the necessary steps to solve social-communicative problems. Further, it is assumed that reducing the complexity of the problem situation and diminishing time constraints of real-life dialogue provide opportunities for reflection. The complexity of the problem situation is reduced by

stripping away irrelevant and relevant features of a real-life dialogue. The time constraints are diminished by making time available for writing and correcting messages.

4.4 Simplifying the Learning Environment

4.4.1 Introduction

Between the initial acquisition and expert performance of the interpersonal skills, three types of instructional methods are advised to provide gradual practice: Computer-based role playing, conventional role-play and role-play with actors. The use of these instructional methods should gradually decrease guidance and increase the complexity, fidelity, and divergence.

This section illustrates how a learning environment will be simplified by introducing two newly designed instructional strategies. Firstly, the instructional-design strategy, the use of a conversational model, focuses the attention on the necessary steps to solve social-communicative problems (4.4.2). Secondly, reducing the complexity of the problem situation and diminishing time constraints of a real-life dialogue provide opportunities for reflection. It is supposed that simplification will increase the possibilities for reflection. A computer network will be used to represent the problem situation (4.4.3).

4.4.2 The use of a conversational model

Adequate solving of social-communicative problems depends on the sequence of the execution of the necessary steps to solve the problem (see 4.3.2). The instructional-design strategy, the use of a conversational model, focuses the attention on the necessary steps to solve social-communicative problems. To adequately solve an social-communicative problem, role-play should incorporate a heuristic that, to a certain degree, guides the problem solving processes. A heuristic should explicitly specify the problem solution. It will globally describe the path from the initial state through some intermediate state to arrive at a state that satisfies the goal (Anderson, 1993).

Heuristic knowledge can be made explicit and be represented in a teachable form (e.g., Chi, Glaser & Farr, 1988; Mettes, Pilot, & Roossink, 1981; Schoenfeld, 1979). A heuristic may help novices acquire knowledge (e.g., schemata and scripts) of the problem space at very early stages of learning. Through presentation and modeling of this heuristic, novices will

understand the goals of the activities as well as how the heuristic relates to the solution(s). Once they have acquired knowledge of the problem-space, the heuristic may primarily help to integrate new knowledge with knowledge that already exists. This increases the chance that the information can be helpful to the performance of the skills (Van Merriënboer, Jelsma, & Paas, 1992). Guidance will facilitate the development of experts' knowledge of the problem space. Helping students to acquire knowledge of the problem-space may be the most effective way to turn a 'poor' novice problem-solver into a 'good' novice problem-solver (Redding, 1990).

In this thesis, the heuristic is labeled as a conversational model. It is based on a SAP-analysis (Mettes, Pilot & Roossink, 1981). A SAP-analysis offers a specification of actions and methods that ensure a Systematic Approach to Problem Solving. The goal is to state the necessary steps of the task to give guidance in performing the skill. A conversational model therefore should contain: (1) The main characteristics of the interpersonal skill and (2) action statements for solving the social-communicative problems.

4.4.3 Opportunities for reflection

The second instructional-design strategy 'Opportunities for reflection' is realized by the reduction of the complexity of the authentic problem situation and diminution time constraints of a real-life dialogue. It causes a lower fidelity of the problem situation. A computer network will be used to represent the problem situation.

The fidelity of the problem situation should imitate an authentic problem situation, but to what degree? Alessi (1988) suggests that a maximum fidelity of the problem situation does not facilitate learning. Often the effective design is one which begins with low fidelity and progresses by levels to high fidelity at the end of the instruction (Reigeluth & Schwartz, 1989). It is supposed that a design that facilitates learning begins with only one or two performance variables to consider and progresses by levels to include all important variables in the program at the end of the instruction.

The supposed effect of fidelity on learning is non-linear (Alessi, 1988). Learning varies with fidelity as an inverted U-shaped curve for beginning students. As students progress they will benefit from increasing fidelity. Figure 4.2 shows the learning results as a function of the degree of fidelity.

Figure 4.2. Hypothesized relationship of fidelity and learning (according to Alessi, 1988).

The effect of fidelity on transfer is more complicated. Increasing fidelity, which theoretically should increase transfer, may inhibit initial learning which in turn will inhibit transfer. Decreasing fidelity may increase initial learning, but the result may not transfer to the real problem situation if it is too dissimilar. Alessi (1988) solves this dilemma by emphasizing the need to ascertain the correct level of fidelity based on the students' current knowledge. As a student progresses, the appropriate level of fidelity should increase. Thus, for novices initial learning is emphasized, and for intermediates (advanced students) transfer is emphasized. The limited capacity theories of attention (e.g., Norman & Bobrow, 1975), and the elaboration theory of instruction (Reigeluth, 1983) also support this approach of fidelity.

The fidelity of the problem situation should be low in order to improve initial learning. This implies the need for a different representation of the problem situation. Computers in a local network can be used to reduce the complexity that is characteristic of a particular domain (Levonen & Tukiainen, 1996). To realize this, a computer network will be introduced.

A computer network will help decrease the fidelity of the problem situation because of (a) presenting of an electronic communication medium; (b) reducing the complexity of the authentic problem situation by stripping away irrelevant and also relevant features of a real-life dialogue; (c) diminishing time constraints of a real-life dialogue by making time available for writing and correcting messages and (d) registering of the dialogue.

The electronic communication medium

The use of computers in a local area network introduces four characteristics into the dialogue which the majority of previous available media did not provide.

Firstly, a network has the capability of supporting the dialogue between the participants. A computer network can combine the permanent nature of written communication with the dynamics of oral communication. The possibilities for interaction, being a function of the creativity and personal involvement of the participants, are adequate. Flexible interactions are possible with the help of a network.

A network can also support a multi-way interaction. At the very least, the interaction is two-way, as in the case of interpersonal skills development. Multi-way interaction is found in intergroup skills development (see Chapter 1).

Thirdly, the interaction in role-play is synchronous. Synchronous interaction is the actual interaction between two persons reacting to one another. It is possible to use a network as a synchronous interaction medium.

Finally, a network provides novices with more task experiences. As described in Chapter 2, novices learn the interpersonal skills because the solutions of social-communicative problems lead to the (re-)construction of knowledge and problem-solving procedures. The need for many trials to learn the critical skills (e.g., Schneider, 1985) can be met by offering each novice individually repeated practice. The network easily provides novices to play more than one protagonist's role in a training session.

Reduction of the complexity of the authentic problem situation

The reduction of the complexity of the authentic problem situation is possible by stripping away irrelevant and relevant features of real-life dialogue. A computer network can prevent seeing, hearing, and feeling one another. Thus, it can reduce cues conveyed by appearance, nonverbal signals and features of the physical context. It affects anonymity and lack of socio-emotional information, because gender, race, physical appearance and voice are absent. With these personal and social factors removed, there is only the content of the dialogue (i.e., verbal behavior) to be focused on. Simplification will therefore increase the possibilities for reflection.

Diminishing time constraints

The time constraints of a real-life dialogue are diminished by making time available for writing and correcting messages with the help of a computer network. It is supposed that more time to (re-)consider the messages sent and received will increase the possibilities for reflection.

Chapter 4

Reflection is an essential part of the learning process (e.g., Dewey, 1933; Hatton & Smith, 1995). In making reflections, students can reconsider their approach of solving the social-communicative problem. Completing tasks and solving problems are necessary but not sufficient for learning. Adult students should be encouraged to reflect on the problem and its solution, in order to facilitate the construction of schemes or scripts (Wheatley, 1992). The reflection involves active chaining and sequencing of knowledge (Kremer-Hayon, 1988; Waxman, Freiberg, Vaughan & Weil, 1988; Sparks-Langer & Colton, 1991). Adult students who reflect, control their thinking, and can decide which solution path to take. It is possible that adult students are too active in solving the problem that they fail to reflect, which inhibits learning.

More recently, it has been suggested that it can be helpful to ‘build in’ opportunities for reflection while practicing. Thus, merge reflecting and taking steps. This process of ‘reflection-in-action’ (Schön, 1983, 1987) may be a key mechanism in learning (Boud & Walker, 1991). Most reflections in role-play theories involve ‘looking back’ upon action some time after it has taken place (Joyce & Weil, 1980; Kessels & Smit, 1990; Nijkerk, 1988; Van Ments, 1989). During role playing there is no time for reflection because students experience a push forward to the next element of the exchange. Winograd and Flores (1986) call this characteristic of real-life dialogue ‘thrownness’. Thrownness hampers students to think consciously about what is taking place and stimulates them to modify actions almost instantaneously. A network offers the possibility of reflection-in-action *during* role playing by reducing the ‘pace’ of the dialogue. It makes time available for writing and correcting messages. It allows for a dialogue which exhibits thrownness, but it also allows for a dialogue slow enough for reflection on the exchange. This part of the provided opportunities for reflection should offer students enough time to consider their actions by conscious use of analytic reasoning and planning.

Registration of the dialogue

Finally, to register and print-out the dialogue, the computer can facilitate administration of the actions taken place as well as the debriefing of the dialogue afterwards.

4.4.4 Conclusion

This section illustrates the way in which a learning environment will be simplified by introducing two newly designed instructional strategies. Firstly, the instructional-design

strategy, the use of a conversational model, is described. This strategy includes the presentation and application of a heuristic, to focus the attention on the necessary steps to solve social-communicative problems. Secondly, the instructional-design strategy, providing opportunities for reflection, leads to a lower fidelity of the problem situation with the help of a computer network. A computer network will help decrease the fidelity of the problem situation because of (a) presenting of an electronic interaction medium; (b) reducing the complexity of the authentic problem situation by stripping away irrelevant and relevant features of a real-life interaction; (c) diminishing time constraints of a real-life dialogue by making time available for writing and correcting messages and (d) registering of the dialogue.

This section proposes computer-based role playing for novices. The authenticity of the problem situation is reduced. This might be seen as artificial, and might lack realism. The face-to-face confrontation of role-players is temporarily prevented in order to provide novices more task-experience in solving simpler-yet representative social-communicative problems. The use of a computer network should be regarded as a supporting element and utilized with a well planned and structured instructional overlay (Reigeluth & Schwartz, 1989).

4.5 Discussion and Research Implications

This chapter emphasizes the notion that the most widely practiced instructional method for the development of interpersonal skills is an elaborated version of role-play (Argyle, 1984). An instructional-design model for interpersonal skills learning is described. Ten components of role-play are described and prescriptions are provided for the implementation of each of them in a learning environment. These prescriptions are related to learning theories. Research is needed to provide information necessary for both conformation and revision of the various aspects of the model.

The instructional-design model supposes role-play to be a complex learning environment for novices to develop interpersonal skills. The learning environment is complex because of two factors. Firstly, the cognitive load is high during social-communicative problem-solving because the execution of all steps has to be taken immediately in an goal-directed dialogue. Moreover, social-communicative problem-solving is acted out in a play. A play is complex for novices because the data to be considered for successful performance are overwhelming. Further, they may also fail to develop and practice the intended skills due to a lack of repeated

exposures. Only a few students can participate in any enactment in role-playing.

Simplification is seen as an efficient strategy for working with this complexity. It entails the development of expertise, beginning the instruction with a simple-yet representative kind of social-communicative problem-solving. To provide gradual practice (in which guidance decreases and fidelity, complexity and divergence increases), three types of instructional methods are advised: Computer-based role playing, role-play with other students, and role-play with actors until the desired level of expertise is reached.

The issue is how to simplify novices' interpersonal skills training. It is suggested to alter and simplify social-communicative problem solving more than done in conventional role-play, in order to facilitate learning. Two newly designed instructional strategies, the use of a conversational model and opportunities for reflection, are introduced. It is assumed that a different representation of the problem situation could be more useful and possibly more effective for novices, if novices use a conversational model which focuses the attention on the necessary steps to solve social-communicative problems. Further, it is assumed that providing opportunities for reflection can be realized by reducing the complexity of the authentic problem situation and diminishing time constraints of a real-life dialogue. The complexity of the authentic problem situation is reduced by stripping away irrelevant and relevant features of a real-life dialogue. The time constraints are diminished by making time available for writing and correcting messages.

A first concern for research should be the tracing, formulating and confirming of the two newly designed instructional strategies, the use of a conversational model, and opportunities for reflection. Both strategies were presented in this chapter. As described in Chapter 1, the choice is made to compare alternative forms of computer-based role playing. In such studies, the instructional strategies can be varied while most other factors remain constant. By making a comparison between learning processes and learning outcomes in the program designed according to the presented framework, it will be possible to gather more information about the effect of both instructional-design strategies.

The instructional-design strategies described in this Chapter led to the construction of computer-based role playing. This learning environment will be described in Chapter 5. The effects of computer-based role playing are studied in Chapter 6. The data from this study led to refinement and improvement of computer-based role playing.

After having made the necessary changes in computer-based role playing, a study, described in Chapter 7, will be conducted to examine the effects of the use of a conversational

model and opportunities for reflections.

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COMPUTER-BASED ROLE PLAYING FOR THE TRAINING OF THE SKILL 'TELLING BAD-NEWS'

This chapter centres on a specific application of the instructional-design model for interpersonal skills learning as presented in Chapter 4. The instructional-design model involving the two new instructional-design strategies, the use of a conversational model and opportunities for reflection, are implemented in a computer network. Efforts and criteria for constructing computer-based role playing for the development of the skill 'Telling Bad-News' are described. The instructional program is discussed to illustrate how a computer-based representation of the problem situation can be constructed for novices if they use a conversational model which focuses the attention on the necessary steps of social-communicative problem-solving. The complexity of the problem situation is reduced by stripping away irrelevant and relevant features of real-life dialogue. The time constraints are diminished by making time available for writing and correcting messages. In computer-based role playing, the synchronized interaction between the role-players takes place on two physically separated but electronically joined computers. The processes of sending and receiving messages occur through typewritten text in a text- window and bubbles on the computer screen. The messages are exchanged by Local Talk Network after clicking on a send-button.

5.1 Introduction

5.1.1 Purpose of this chapter

This chapter discusses the construction of computer-based role playing. In this learning environment, it is suggested to alter and simplify social-communicative problem solving more than is done in conventional role-play, to provide a less complex situation for practicing the skill. It is assumed that computer-based role playing will facilitate learning.

Several aspects of computer-based role playing need to be clarified. The two instructional-design strategies developed in Chapter 4, the use of a conversational model and opportunities for reflection, are implemented in computer-based role playing. In the use of a conversational model, attention is focused on the necessary steps of social-communicative problem-solving. Opportunities for reflection are realized by reducing the complexity of the problem situation by stripping away irrelevant and relevant features of the real-life dialogue. The time constraints of the real-life dialogue are diminished by making time available for writing and correcting messages.

The chapter gives an overview of the instructional program on students' development of interpersonal skill 'Telling Bad-News'. This chapter also introduces the experimental studies to be described in Chapters 6 and 7. An introduction to the program (5.1) includes a discussion about the subject matter (5.1.2) and the computer-based learning environment (5.1.3). Then, the construction of computer-based role playing is described (5.2) according to the ten components of the instructional-design model for interpersonal skills learning involving the two new instructional strategies. Section 5.3 describes the construction of the antagonists' scenario. The chapter ends with conclusions and the technical implementation of computer-based role playing (5.4).

5.1.2 Subject matter

Communicating bad-news is an unpleasant and a complex, difficult task. To understand the nature of telling bad-news, first a rough sketch of the different contexts for telling bad-news is given.

In the fields of practice, occupations differ in the frequency with which their professionals must communicate bad-news (McClenahan & Lofland, 1976). In countless conversations, bad-news is communicated in companies (e.g., Best & Boertien, 1990), lawyer's offices (e.g., Smilde, 1992; Smilde & Hanekroot, 1992), hospitals (e.g., Bouwkamp, 1990), police stations

Table 5.1
Examples of situations in which bad-news must communicated

Field of practice	Examples
Business	A manager must tell an employee that his temporary employment is not converted into a permanent one.
Law	A lawyer must tell his client that the case is lost.
Medicine	A physician must tell his patient that he has an incurable disease.
Police	A policeman must tell a man that he has lost his wife by a traffic accident.
Teaching	A supervisor of practical training must tell a student about a negative assessment for his period of work experience.

(e.g., McClenahan & Lofland, 1976), and schools (e.g., Janssen, 1989). Within each field of practice there are corresponding descriptions of telling-bad-news-behaviors. Skillfully telling bad-news in one field is almost the same as in any other field of practice. In Table 5.1 for each field of practice, instances of difficult situations in which bad-news must be communicated are given.

A bad-news conversation is an interactive process in the course of which bad-news is delivered and the recipient of bad-news is shored up. A bad-news conversation is about (a) two parties (a bearer and a recipient) and (b) a ‘nasty’ announcement (Voorendonk, 1988). A necessary condition for the announcement is that the news is irrevocable. The recipient can not wriggle out of the bad-news. Negotiations are not possible. Up to this point, bad-news conversations are identical. Variations in bad-news conversations occur in (a) the ‘severity’ of the message for the recipient (for example, a negative assessment for a period of work-experience has less weight than to be informed of an incurable disease), (b) the role argumentation and backgrounds play in the conversation as well as in the form and contents of the information, (c) the way the bearer helps the recipient to come to terms with the bad-news (a bearer can deal with the task by telling bad-news and further wish the recipient all the best), and (d) in the extent solutions are searched for problems that arise as a result of the bad-news.

A bad-news conversation is, in comparison with other conversations, difficult because of its emotional character (Voorendonk, 1988; Soudijn, 1994). Bad-news means the loss of an ‘object’ which is of value for the recipient; e.g., a job, a part of the body, friendship, or hope of improvement. The recipient may become emotionally distressed reacting in mourning. The emotional reaction may vary depending on the kind of bad-news and the depths of influence on personal life.

Chapter 5

Table 5.2

Selected literature on telling bad-news

Field	Contribution	Article/Book
Business	techniques	Best & Boertien, 1990
Business managers/ Building contractors	techniques	Gramsbergen-Hoogland & Van der Molen, 1992
Business & Government	techniques	Voorendonk, 1986, 1988
Higher education	techniques	Janssen, 1989
Higher education & non-profit organizations	techniques	Vrolijk, 1982, 1984, 1985
Non-profit organizations	history, techniques, situational & personal factors of dialogues	Gevers, Kapsenberg & Straatman, 1980
Non-profit organizations; psychotherapeutic	techniques	Soudijn, 1994
Nursing	techniques	Bouwkamp, 1990
Police	techniques	McClenahen & Lofland, 1976
Psychology: Laboratory study	reluctance to communicate bad-news (the MUM effect)	Rosen & Tesser, 1970; Tesser, Rosen & Batchelor 1972; Tesser & Rosen, 1975

The available literature concentrates on the conversation techniques: ‘How to tell bad-news’. Practitioner-manuals without empirical reports and without any specification of references dominate the market. Manuals are necessary in the form of advice, anecdotes, and assertions about strategies, skills, tactics, techniques, and the effect of each of those on any receiver of bad-news. Most authors (Best & Boertien, 1990; Gramsbergen-Hoogland, 1992; Voorendonk, 1986, 1988; Vrolijk, 1982, 1984, 1985) state that their description of the skill ‘telling bad-news’ is based on try-outs. Table 5.2 provides an overview of the literature.

Hardly any literature can be found on theoretical and experimental research solving this kind of problem or on the skill ‘telling bad-news’. Descriptive studies and experimental studies are lacking both overall, and in many, specific fields as well. This severely restricts the grounds available for supporting generalizations and recommendations for the practice of telling bad-news.

5.1.3 Computer-based learning environment

The instructional program is developed in HyperCard 2.1 on a Macintosh II and LC computer, using a screen of 640*480 pixels with no use of color. Hypercard is an authoring environment and based on the principles of selecting, adapting, instantiating, and connecting building blocks from predefined libraries (Goodman, 1987; Shafer, 1988). Hypercard is based on a metaphor; the metaphor of stacks. All stacks are stored in Hypercard. Each stack consists of

cards. A card can be seen as an information unit and contains graphics and texts.

The instructional program is located within a network of three computers. Two computers are intended for students practicing the skill. The students are called protagonists. A protagonist is the main character in role playing (Van Ments, 1989). The third computer is intended for the antagonist. The antagonist is the 'significant other', who provides resistance against the protagonist (Van Ments, 1989). For research purposes, the antagonist in this case is an experimenter. A large part of the instructional program consists of computer-based role playing. Computer-based role playing combines elements of role-play and comic strip-creation in the form of text-bubbles on the computer-screen. It is used by groups in a dyadic (two-person) interaction. Both protagonists interact with the same antagonist. The antagonist has two conversations at the same time.

Computer-based role playing is considered an example of 'open' software because students and teachers can fill in the content of the conversation by freely interacting and outlining the social situations and the role-briefs. 'Open' software is distinguished from 'closed' software in that 'open' software is largely empty of content, but designed to be flexible enough to fit within the objectives, context, content and means of assessment of the user and open to simple and timely customization (Language Development and Hypermedia Research Group, 1992a; 1992b; McMahon & O'Neill, 1991; McMahon, O'Neill & Cunningham, 1991). Closed software communicates knowledge to individual learners, provides the objectives to be mastered, the context, content, and the means of assessment.

5.2 Construction of Computer-Based Role Playing

5.2.1 Introduction

For the construction of computer-based role playing, the instructional-design model for interpersonal skills learning will be applied. The discussion on how to construct computer-based role playing is restricted to the ten components involving the two new instructional-design strategies, the use of a conversational model and opportunities for reflection, as described in Chapter 4. These components relate to the content (1-4) and the presentation of the content (5-10) in the learning environment. In the next sections, each component is discussed in more detail.

The ten components are mainly discussed from the protagonists' points of view. The

protagonists' scenario follows students as protagonists who work with the program. The antagonists' scenario is discussed in the section 5.3. This scenario follows experimenters as antagonists.

The instructional-design model is used as a heuristic aid for construction, not as an absolute linear path. Many aspects of design influence each other and are meant to be used simultaneously.

5.2.2 Formulation of the training objectives

Firstly, the training objectives are formulated before constructing the program. The main objective is that students will be able to solve 'telling bad-news' problems. So, the program should enable students to identify and practice the task of 'telling bad-news' by offering a free interaction between players, in natural language and of responding intelligently to messages sent, no matter how phrased. Further, it should enable students to apply a conversational model of 'telling bad-news' and should provide large and varied opportunities for reflections while practicing the skill.

5.2.3 Formulation of the task

Secondly, the task is formulated in terms of the activities of the students. The task includes the execution of three steps. These steps are (1) deliver the bad-news straight away, (2) deal with responses, and (3) search for solutions. Of course, these steps include many techniques which are used in other steps too; they can be and are used in all steps. Here, the first usage is emphasized.

Deliver bad-news straight away

All practitioner-manuals recommend to deliver the bad-news straight away after a short introduction. For instance, 'I have an unpleasant messages for you'. After delivering the bad-news, short background information is given on which the bad-news is based. For instance, 'your temporary employment is not converted into a permanent one because in our view your qualifications for the job are not up to the mark'. This explanation should be short and clear, to reduce the recipient's state of suspense. Then the bearer of bad-news should be quiet and give the recipient opportunities for a first reaction.

Deal with responses

Usually, the recipients express emotion. The bearers should not oppose this. The bearers can reduce emotions by making reflections, i.e., to put thoughts and feelings of the recipients into words and pull down their emotional involvement (be calm and serious). Besides, the bearers stimulate the recipients to express their emotions to enable them to get over the shock of the bad-news. In the first half of the second step, the bearers restrict themselves to making reflections, summing up, and repeating the bad-news.

The length of the second step depends on the ‘severity’ of the message and the personal reactions of the recipients. Only after the emotions have faded, are the recipients willing to hear further arguments and search for alternative solutions. After the delivering of the bad-news and after rational information processing, the intensity of emotions will sharply increase. The reasoning-power of the recipients is temporarily decreased. By making reflections, the possibility of rational information processing can gradually increase. The recipients calm down and soon open up for (new) information. They might become receptive to supplementary information about the bad-news. Often the recipients themselves ask for further explanation. For instance, ‘yes, but tell me why that decision was made?’ or ‘yes, but what am I to do?’ In this stage of the second step, the bearers can explain the arguments one by one. After each argument the bearers should give the recipients opportunity for response. Each argument again can provoke an emotional response. Again and again, the bearers should make reflections, give clear information if necessary. Then, the next step will be made.

Search for solutions

When the news has been somewhat dealt with, the bearers may help the recipients search for solutions in such a way that the bearers guide the recipients in finding a solution. The bearers do not make proposals but can restrict themselves summarizing and asking open-ended questions. Only when this is not possible, the bearers may give some advice. To complete the conversation, appointments can be made, which need to be clear, concrete, and attainable.

5.2.4 Writing a generality, a conversational model and developing demonstration

A generality is a statement that describes or explains the task to be learned. This will not suffice unless the task should be demonstrated. An expert demonstration of the task should be given, live or on a video (Argyle, 1984). The generality and the conversational model, are based on the formulation of the task (5.2.3).

The generality is written and consists of a characterization of the main features of the task

and the steps to execute.

The conversational model consists of the goal, the name of the procedure, identification, and order of each of the steps involved. The conversational model is based on a SAP-analysis (Mettes, Pilot & Roossink, 1981). A SAP-analysis offers a specification of actions and methods that ensure a Systematic Approach to Problem Solving. In formulating a heuristic, six actions are identified for the bearer to perform in solving the social-communicative problem. These six actions form the core of the conversational model for 'telling bad-news' (see Table 5.3). To see how the conversational model works, each action is more closely examined through an example.

The last step here is to develop an expert demonstration to model the task to be learned. For reasons of development time, personnel, and other related costs, the task is demonstrated by an existing videotape with three examples of the task, played by two professional actors (a bearer and a receiver of the bad-news).

5.2.5 Writing social-communicative problems

Then, the next part of the content, the problems to be solved, is written. The problems are written in such a way that the protagonists and antagonists can 'understand' the problems. The writing of problem-descriptions starts with a problem that is relevant and fits the experience and background of the protagonists. Irrelevant facts, strong identification of the target group, and emotions are left out. The problems contain different real-life conversations to realize a variable performance, and are arranged from simple to complex.

The problem-descriptions include (a) the creation of a context; the description of the problem situation, (b) the identification of the characters involved and (c) the writing of role-briefs for each role-player; the description of the role (Van Ments, 1989). The description of the situation begins with a short introduction to the place of action. The first part of the description of the situation is mainly filled with the broad background. 'Every two years, the Faculty of Educational Sciences organizes...'. The second part concerns with the immediate problem. 'A selection committee organizes the exchange'' The description of the situation is written in the third person.

In social-communicative problems, the problems are situated between two characters so the identification of the characters is relatively simple. The main character, the protagonist, provides the central problem. The antagonist provides resistance against the ideas and wishes

Table 5.3

A conversational model for telling bad-news; six actions for the protagonist more closely examined through an example.

To tell bad-news, the protagonist must:	An Example
1. Tell the bad-news straight away after a short introduction STOP and wait for the receiver's reaction.	<p>Peter: Brenda, you wanted to see me.</p> <p>Brenda: Yes Peter, let's sit over there.</p> <p>Uh Peter, I have to tell you something you will certainly dislike. Your application for group manager has been dismissed. (wait)</p> <p>Peter: What?</p> <p>Brenda: The reason for the dismissal is that the staff has decided that we should get someone well-educated in computerization.</p>
2. Listen and reduce frustration - by reflections, - repeat the bad-news.	<p>Peter: Just a moment, Brenda. You are telling me that I am not an eligible group manager, whereas I have been a substitute for ten years.</p> <p>Brenda: Peter, I can understand your indignation very well. The decision to dismiss you has been taken after much deliberation.</p> <p>Peter: Yes?</p>
3. Give necessary background information.	<p>Brenda: But, let me explain why this decision has been taken, what the backgrounds are.</p> <p>Peter: Uhum.</p> <p>Brenda: Peter, it is very urgent for our department to become computerized. The longer we ignore this, the more our monthly backlog increases. We need a manager with practical experience; very much experience in the field of computerization. Well, this job-requirements have priority over seniority or familiarity with the current job. They choose Sylvia van der Meer of the main office.</p>
4. Listen and reduce frustration again.	<p>Peter: You can't be serious! It was almost certain that I would get the job.</p> <p>Brenda: I get your reaction very well because you did well in running for the appointment. That's true. I myself have nominated you, but the staff has decided on someone else.</p> <p>.....</p> <p>Peter: Yes, and sorry to have troubled you, Peter and pick up your current job in a motivated way. Now, I have had enough and I quit. There now!</p> <p>Brenda: Yes Peter, I understand your reaction. You are angry, disappointed. Your prospects are at stake. You have doubts about your motivation to carry on.</p> <p>Peter: Yes, yes, yes, are you surprised?</p> <p>Brenda: But I really hope you do not turn into a sulk or become frustrated or unmotivated. Peter, our teamwork is close and good. I would like to continue in spite of this adversity.</p> <p>Peter: Well now, that is easy to say.</p> <p>Brenda: Yes, you are right. But I mean what I say. (Silence)</p>

Table 5.3: *Continued.*

To tell bad-news, the protagonist must:	An Example
5. Try problem-solving.	<p>Brenda: Peter, fact is you won't become the group manager. You keep your current job as substitute. That is a new situation for you, for me and for Sylvia.</p> <p>Peter: Whichever Sylvia?</p> <p>Brenda: Sylvia van der Meer, the new group manager. It is a new situation for the three of us. Sylvia van der Meer needs to settle in and for that your assistance is essential. Can we discuss how to handle this?</p> <p>Peter: You're asking too much of me, Brenda. Are you thinking of my colleagues' reactions? Now, I will constantly be told that I am passed over. Do you realize that?</p>
6. Stick to a concrete agreement.	<p>Brenda: Yes, you are right, that's an important point. Now, we have two points to discuss; the training period of Sylvia and the communication to the colleagues. I will talk about this at the end of the week, ten o'clock on Friday?</p> <p>Peter: Uhum, yes.</p>

of the protagonist and offers an opportunity for the protagonist to practice the skill. Their names are simple and neutral (not joked) and start with different letters of the alphabet (Van Ments, 1989).

The description of the role contains key features and intended actions (Van Ments, 1989). The players are told what their goals are; they are told what they are going to do, where, with whom, and how long. These descriptions are built in as a natural part of the role-description, they are short, sex neutral, and written in the second person. For example, 'you are D. Stuart, chair of the selection-committee and one of the initiators..'. In essence, the role is developed in such a way that the player is himself but with certain limitations.

The choice has been made to offer the protagonists four problems to practice the skill 'telling bad-news'. The four problem-descriptions have to fit the characteristics of telling bad-news: (a) Two parties (a bearer and a recipient), (b) a 'nasty' announcement which is irrevocable (Voorendonck, 1988), (c) the 'severity' of the message for the recipient (d) the role of argumentation and backgrounds, (e) the help of the bearer to come to terms with the bad-news, and (f) to what extent solutions are searched.

The problem-descriptions also should meet problem-progression. To realize problem-progression, two aspects in the problem-description are explicitly changed: (a) The familiarity with the situation and (b) the confrontation with causes of the bad-news. Other characteristics like 'severity' are equally matched.

Firstly, it is assumed that a problem in a familiar situation is easier to solve than a problem

in an unfamiliar situation. Problem-descriptions one and two are designed to gear the students' perception of their university environment. Problem-descriptions three and four represent a different social setting.

Secondly, a variation is made in the confrontation with causes. The argumentation of bad-news can vary from external to internal (personal) causes. An example of an external cause of bad-news may be a reorganization. Personal disfunctioning such as insufficient computer-knowledge is an example of an internal cause. It is assumed that problem-solving is more difficult when the bad-news is internally caused. The recipients of the bad-news themselves then feel a strong responsibility for the bad-news. In this type of bad-news- conversations, the recipients will want to justify themselves which can result in more discussion and more chance on conflicts. The solving of such a social-communicative problem is more difficult.

Table 5.4 gives an overview of the problem-descriptions, the core of the bad-news, and the reasons given for the bad-news. Appendix B describes the original four social-communicative problems in detail; four protagonist- and four antagonist- roles.

Table 5.4
Overview of the problem- descriptions 'Telling bad-news'

Core of the bad-news	Reason(s)
1. no trip to Australia	eliminated by drawing lots (external)
2. report is rejected	unsatisfactory reporting (internal)
3. accept another (lower) position	reorganization (external)
4. accept another (lower) position	personal disfunctioning (internal)

5.2.6 Introduction to the training program 'Telling bad-news'

The introduction of the program as a whole is presented, followed by the pre-test. Figure 5.1 shows how protagonists gain access to the program by clicking on a button from a general introductory computer (Figure 5.1 (a)) to reach the general content screen (Figure 5.1 (b)).

The navigation within the program is organized by a navigation bar which appears at the bottom of all screens after the general content screen, so that the protagonists always know where to find it. Navigational buttons are only added when really needed. Standard control buttons such as help, pause and stop remain constant in the same form and place on the navigation bar. The routing of the program is linear. The protagonists can read their progress on the navigation bar shown in Figure 5.2. The black parts of the bar indicate completed and working-on parts. The white ones indicate yet-to-be done parts.

The protagonists also find a written hand-out next to their computers. The hand-out contains a list with all the buttons used in the program.

Figure 5.1. The general introductory computer screen (a) and the general content screen (b) for computer-based role playing.

Note: In this example, the protagonist has completed the pre-test and the theory and is playing the first role-play.

Figure 5.2. The navigation bar for the program as a whole.

5.2.7 Presenting of the generality, the conversational model and the video

In designing screens to present the generality as information-unit, the generality is mapped onto the screen as a 'page' with a fixed size. Screen size is the same as the page size. The information continuously flows from page to page. A new topic appears on a new page. As shown in Figure 5.3, the protagonists can simply click the Next, Previous, First- or Last Screen button for moving through the theory.

The conversational model as a whole is presented just before starting practice of the skill. During practice, the conversational model is also available at all times (Van Merriënboer, Jelsma & Paas, 1992). This is described in section 5.2.9.

Instruction to start the video 'Telling bad-news' is mapped to a computer-screen after the first presentation of the conversational model. In approximately 10 minutes, a functional wrong and right conversation is shown on a television screen with headphones by manual control.

5.2.8 Presenting 'Telling bad-news' problems

The four social-communicative problems have to be solved in the computer-based role-plays. As shown in Figure 5.4, the problem description of each role-play for the protagonists consists of (a) an introductory screen with a picture of the building where the conversation should take place, (b) a text screen with a description of the social situation, and (c) a text screen with a description of the role.

Figure 5.3. A theory- screen with navigation buttons.

5.2.9 Developing a dialogue-screen for practice

A dialogue-screen is developed for protagonists to run a dialogue and apply the conversational model. Therefore, computer-based role playing involves groups of players working on different (but connected) processors. This screen-design forms the central part of the program. An example of a dialogue-screen, for the second role-play to practice, is depicted in Figure 5.5. Appendix B shows the design of all dialogue-screens used in the experiments reported in Chapters 6 and 7.

The protagonists must practice the skill and meet their antagonists. The dialogue-screen makes the appearance of the antagonist possible. The protagonists meet their antagonists in a picture on the screen. The dialogue-screen maintains a consistent screen-design during all the role-plays in the program. Only the pictures change because other bad-news are told to other antagonists. The dialogue-screen is as large as possible (the screen-diagonal is about 25 cm) and fits one screen.

Figure 5.4. The problem description of each role-play for the protagonists consists of (a) an introductory screen with a picture of the building where the conversation is to take place, (b) a text screen with a description of the social situation, and (c) a text screen with a description of the role.

Opportunities for a synchronized dialogue and an unlimited exchange of messages are offered. The protagonists can read, send messages, and end entire conversations. Their messages appear in the (scrolling) text-bubbles next to the heads of the antagonists. The protagonists start with reading the opening-message by the antagonists and formulate their messages by typing them. Their messages appear immediately in the (scrolling) text-window below. When the messages are complete, the protagonists can send the messages to the antagonists by clicking on the send-button, marked with an envelope. The antagonists react. The protagonists can read these reactions from the same text-bubble next to the antagonists' heads, and formulate new messages and so on. Gradually the bad-news conversation develops.

Figure 5.5: The dialogue-screen with a conversational model for the second role-play to practice.

The protagonists can end the conversation by clicking on the button 'end of this conversation'.

Further, the protagonists must be able to refer to the conversational model and use the model at the same time (see 5.2.7). A dialogue-screen also contains the conversational model that informs protagonists about the steps to be executed in conducting a bad-news conversation. The conversational model appears in the smallest possible section at the bottom right-hand corner of the dialogue-screen. The conversation model is in view at all times and is shown next to the current section the protagonists are working in.

5.2.10 Developing articulation and reflection

The program should provide protagonists enough time to consider their actions before and after analyzing the situation and planning a reply. The possibility of reflection-in-action *during* role playing should be provided. It is supposed that computer-based role playing provides a design-through-dialogue process which exhibits thrownness: Slow enough for reflection on the exchange to be effective but fast enough to keep the conversation going.

Opportunities that probably will enhance reflections are constructed in several ways. The protagonists should (a) fill in a reflection-stimulating questionnaire before and after 'running a computer-based role-play', (b) have the opportunity to determine when their messages are exchanged, (c) have the opportunity to read back the whole or parts of the conversation, (d) have the opportunity to consult the description of the situation and the description of the role and (e) have the opportunity to consult the theory.

To design these 'opportunities for reflection', the design-task has been broken into two tasks: (a) Designing reflection-stimulating questionnaires and (b) selecting options provided by icons, i. e., picture representations.

Within this instructional program, it is possible to provide opportunities for articulation and reflection with one restriction. The articulation and reflection processes are restricted to individual thinking-processes. Considering the attempt to reduce the complexity of the problem situation and diminishing time constraints for novices, the possibility of comparing and contrasting role-plays with other students is excluded.

Constructing reflection-stimulating questionnaires

The reflection-stimulating questionnaires should activate the thinking process of the protagonists so as to consider their actions by conscious use of analytical reasoning and planning. Two questionnaires are constructed: A reflection-stimulating questionnaire before,

and a reflection-stimulating questionnaire after running a computer-based role playing. All original questions are presented in Appendix C.

The reflection-stimulating questionnaire *before* running a role-play contains questions which are essential for preparation to practice the skill in the role-play. The form of the questions is open. In preparation of the skill 'telling bad-news', four questions are chosen. The lay-out of the screen for the 'questions before' is depicted in Figure 5.6. The protagonists can type their answer in the scrolling text-window and click on the OK-button.

Figure 5.6. The lay-out of the screen for the 'reflection-stimulating questions before'.

The reflection-stimulating questionnaire *after* running a role-play contains fourteen questions. These questions are essential to consider and evaluate the sequence and content of actions to be taken in the role-play. Six questions are centred on the application of the conversational model and eight questions focus on the inappropriate techniques of the interpersonal skill in question. The lay-out of the screens for both 'question types after' are depicted in Figure 5.7.

ILOSBubble

1. The way upon which (direct, concrete and short) I have given the bad news , I will

☐ a. not change, because

☐ b. improve by

PretestTheoryRole PlayPosttest

1231234123

ILOSBubble

Finally some questions to check if you have fallen in to one of the pits of the bad-news conversation.

7. In the conversation I have shown evasive reactions.

Yes

No

PretestTheoryRole PlayPosttest

1231234123

Figure 5.7. The lay-out of the screen for the ‘reflection-stimulating questions after’.

The form of the questions about the conversational model consists of keep-improve-questions, followed by open questions. The protagonists are asked to evaluate an action. The protagonists can decide to keep their actions as they are and click on the 'not change (a)' button or decide to improve their actions and click on the 'improve by (b)' button. In both cases, a full-in screen appears such that the protagonists can type their arguments in the scrolling text-window and click on the OK-button when ready. The form of the questions about the inappropriate techniques is yes-no to reduce skipping effects when the questionnaire is too long. The protagonists only click on the yes or no button.

Selections of Options

The protagonists have access to the other opportunities for reflection through selections of buttons provided by icons, i. e., picture representations. The different buttons are added only if they are really needed and fit on the smallest possible sections right across all of the dialogue-screens. Figure 5.6 shows a dialogue-screen with the buttons used. The protagonists are free to revise their messages by deleting and correcting, and are free to choose the moment of sending the message by clicking on the send-button (b). They can read back the conversation by clicking on the overview-button (c). The description of the social situation and the description of the role can be consulted by clicking on button (e) with the factory. Finally, the protagonists can consult the theory by clicking on button (d) with the cap.

5.2.11 Developing assessment

For the development of the assessment methods, different assessment-methods are used (Swanson, Norman & Linn, 1995). Three tests are constructed. Learning outcomes are measured using three computer-based post-tests with logfile registration. A registration program is installed on each computer. It stores the students' actions, start and finish times of program sections in a logfile. The logfile of each student is saved electronically or printed and is thus available for data analysis. The first post-test should be performed by couples and the other two post-tests should be performed individually.

The first post-test, *the Performance in a Computer-based Role Playing*, consists of two social-communicative problems. The problems are to tell another person that he/she (a) has to move from The Hague to Maastricht to keep his/her job, and (b) has to move to Atlanta for a year to keep his/her position. The students both play a protagonist- and an antagonist role.

A coding plan is developed based on the technique of protocol analysis (Ericsson & Simon,

1980, 1984; Nisbett & DeCamp Wilson, 1977) and the Maastricht History-taking and Advice Checklist (Kraan & Crijnen, 1987). The coding plan consists of 31 dichotomous items on the presence or absence of concrete typed messages in the printouts of the dialogue. An item is for instance, ‘announces the bad-news after a short introduction: Yes or no’. Scores on 31 items are added together for each student, so the maximum possible score obtainable on the conversation test is 31. High scores represent high conversation skills. Two raters will ‘blindly’ assess the printouts of the dialogues and work independently.

The second post-test, *the Knowledge Test*, contains six open questions about essential characteristics of the interpersonal skill. For instance, ‘although the variability of reactions on bad-news is large, it is possible to give an enumeration of the most often described behaviors. Which are these? Name three. Give the answers and click the ‘OK’-button. The individual answers to each item will be checked against a scoring key and points are assigned for each correct response. Each item equals one point. The maximum possible score obtainable on the knowledge test is 6.

The third post-test, *a Classification Test*, consists of ten yes-no questions. The students have to classify whether a conversation is a bad-news conversation or not. For instance, Els expects to make an enjoyable business trip to Mexico. It is decided that her colleague will take this trip. You tell Els. In the case of a bad-news-conversation, click on yes. In the case of another conversation-type, click on no. The answers to each item can be checked against a scoring key and one point is assigned for each correct response. The maximum possible score, the sum over the ten items, obtainable on the classification test is 10.

5.3 Constructing the Antagonists’ Scenario

The construction of the antagonists’ scenario is based on the tasks the antagonists have to perform in computer-based role playing. These tasks are only partly the tasks antagonists have in conventional role-play. For example, in a conventional role-play an antagonist plays one role. In the program described, one antagonist has two conversations at the same time. The antagonist plays each role twice at the same time for reasons of efficiency. Table 5.5 shows the relationship between the tasks experimenters have who play the role of the antagonist and the functional features of computer-based role playing. These tasks are discussed in more detail.

Table 5.5

Relationship between antagonists' tasks and computer-based role playing features

Antagonists' Tasks	Computer-based Role Playing Features
1. Gaining access to the program and navigating from one role-play to another. The antagonists attempt to get access to two independent networks and find their way between these two networks.	Visibility and availability of access to and progress of both protagonists.
2. Run two computer-based role-plays. The antagonists have to provide resistance against which the protagonists push their ideas and wishes.	What is the most effective way to send and receive messages to two protagonists?

The way the program is accessed is considered first. The access to the program was complicated because the experimenters had to join their computers to two other computers. They have to make two independent connections by the Local Talk Network. For this task, the experimenters have to work with the Macintosh environment and will be trained in the experimenter-training before.

Directly after connecting the three computers, the experimenters are exposed to the antagonist's screen. This antagonist's-screen supports *both* conversations; therefore, the screen is divided into two parts. The section on the left forms the dialogue-screen with the first protagonist. The section on the right is the dialogue-screen with the second protagonist.

The lay-out of both sections is identical. In the top windows in both sections, the experimenters are able to control the progress of both protagonists. In the middle windows, a text script of each conversation appears. In the bottom text-window, the antagonists formulate their messages.

Figure 5.8 shows the main screen the antagonists are working on.

The top windows depict the progress of both protagonists. Protagonist one works in role-play one and protagonist two works in role-play two. The progress of both protagonists can be the same but this is not necessarily so. The protagonists can determine their own pace. The messages sent by the protagonists appear in the scrolling middle-window on the left or right.

The experimenters can send their messages. The message immediately appears in the bottom (scrolling) left or right text-window which is activated by a mouse-click. The experimenters can make revisions by deleting and correcting the message. When the message is completed, they can send their message to the protagonists by clicking on the send-button

Figure 5.8. An antagonist screen.

left or right.

The antagonists go into experimenter-training to practice the instructional program, the computer use and to study the antagonists roles beforehand. Appendix B describes the four antagonists' roles. In the revised version of the program, used in the experiment described in Chapter 7, the role of the experimenters is taken over by students.

5.4 Conclusions and Technical Implementation

In this chapter, the implementation of the instructional-design model for interpersonal skills learning in a computer-based learning environment is described. The chapter gives an overview of the instructional program on students' development of the interpersonal skill 'Telling Bad-News'. The first version of computer-based role playing is introduced by presenting the protagonists' scenario (the main character in role-play whose task is it to solve social-communicative problems) and the antagonists' scenario.

In the course of this research-project, the roles of the protagonists will be subject to extensive evaluation. Protagonists' behaviors and achievements will be tested in the

experimental studies to be described in chapters 6 and 7. The program is evaluated with a larger number of students in an experimental study to be described in Chapter 6. Another experimental study with a revised version of the program is described in Chapter 7.

The program was developed iteratively. As part of the technical implementation, a pilot test has been performed with six instructional technology experts who reviewed a concept version of the program and the concept manual. In addition, a pilot test was run with the experimenters. These pilot tests revealed some minor problems students may encounter in computer-based role playing and its manual. For instance, the interval between the buttons should be enlarged and opening words were added to the program for the antagonists. The first edition of the program and the manual were refined on the basis of these tests.

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THE EFFECT OF COMPUTER-BASED ROLE PLAYING ON THE DEVELOPMENT OF INTERPERSONAL SKILLS¹

This study examines the design of computer-based role playing. For novices, a conventional role-play is a complex learning environment. Computer-based role playing is designed to simplify the learning environment such that students can more effectively develop interpersonal skills. It is a gradual lead-in to, not a replacement of role-play. An experiment is reported in which 41 students participated. The students were randomly distributed over two groups. Two instructional programs were compared, one with and one without computer-based role playing. One major finding is that computer-based role playing fosters the development of interpersonal skills by: (a) practicing the use of a conversational model, (b) realizing opportunities for reflection, (c) performing four protagonist roles, and (d) capturing individual contribution and learning.

¹ Holsbrink - Engels, G. A. (1997). Computer-Based Role Playing for Interpersonal Skills Training. *Simulation & Gaming*, 28 (2), 164-180. (with minor modifications)

6.1 Introduction

An important and popular part of interpersonal skills training designs is the use of role-play (e.g., Baker & Daniels, 1989; Hollin & Trower, 1986; Ivey, 1971, 1983; Ivey & Authier, 1978; L'Abate & Milan, 1985; Marshall & Kurtz, 1982). Table 6.1 provides a sketch of the main phases and factors in role-play (Holsbrink-Engels, 1994).

Table 6.1
Specification of variables in role-play based on a review of literature (Holsbrink-Engels, 1994)

Variables in role-play
<p>1. <i>Introduce</i></p> <ul style="list-style-type: none"> a. objectives b. method and procedures (fish-bowl or multiple) c. situation (background, context) d. 'props' or additional material like a telephone e. arouse interest/motivation f. warming up
<p>2. <i>Instruction</i></p> <ul style="list-style-type: none"> a. choice of players b. instruction of players c. instruction of observers
<p>3. <i>Running the role-play</i></p> <ul style="list-style-type: none"> a. start of the actual role-play (give a starting signal) b. interruption c. provide information d. control time e. stop the actual role-play when it is justified
<p>4. <i>Debriefing</i></p> <ul style="list-style-type: none"> a. Clear up role-play <ul style="list-style-type: none"> 1. ask main protagonist(s) for his/her reactions 2. ask subsidiary characters for their reactions 3. ask observers for observations 4. agree on what happened and final decision reached b. Draw conclusions <ul style="list-style-type: none"> 5. analyze causes of behavior 6. draw conclusions about the way people behave 7. decide on what can be done to improve situation 8. re-run (amended) role-play 9. debrief repeated role-play; step 5-7 c. Draw general conclusions and extrapolate

For novices, a role-play is a very complex learning environment. Especially, the stage of *running the role-play* is (too) complex for beginners because they must pay attention to verbal

and non-verbal aspects of the conversation and, in addition have to control emotions and deal with 'pace' of the exchange. There is little or no time to reflect on the main moments and actions in conducting a conversation. For novices, a role-play may also fail to build the intended skills due to a lack of repeated exposures (Georges, 1989), and due to the fact that students can not keep track of what is learned and the order in which it is learned (Van Ments, 1989).

The study presented here explores how the learning environment can be simplified and adjusted so that students can more effectively develop the skills in training. More specifically, will the design of computer-based role playing be capable of complying with or overcoming the obstacles found in the use of role-play for training novices? The design of computer-based role playing passes through two general phases: (1) The development of the interpersonal skills (analysis of what should be learned) and (2) instruction (design of computer-based role playing).

6.2 Design of Computer-Based Role Playing

6.2.1 The development of interpersonal skills

Interpersonal skills are seen as complex cognitive skills (Van Merriënboer, Jelsma & Paas, 1992). They also do not stand alone, they interact with many other interpersonal skills and emotions. This creates a high (cognitive) burden for anyone who likes to develop these skills.

One of the factors that affects the complexity is that some interpersonal skills require 'shift adaptations'. For instance, in the stage 'running the role-play', the application of the skills requires variable performances for different conversations. The skills vary greatly because of unknown, new, atypical and unexpected conversational demands. The sequence and content of the skills are never laid down for once and for all. Moreover, the patterns of applicability between skills and conversations are irregular and amorphous.

One of the ways to analyze complex cognitive skills is to specify them, at a general level, in such a way that the outcome describes an optimal approach (a heuristic), indicating a sequence and content of actions (Mettes, Pilot & Roossink, 1981). This could lead to the following heuristic for 'Telling Bad-News' shown in Table 6.2. In this study, this heuristic is labeled as a conversational model.

Table 6.2

A conversational model for 'Telling bad-news'; six actions for the student

To tell bad-news, the student must:
<ol style="list-style-type: none"> 1. Tell the bad-news straight after a short introduction STOP: wait for the receiver's reaction. 2. Listen and reduce frustration - by reflections, - repeat the bad-news. 3. Give necessary background information. 4. Listen and reduce frustration again. 5. Try problem-solving. 6. Stick to a concrete agreement.

6.2.2 Computer-based role playing

The central question for the second phase of design is: How to design a simplified learning environment? A simplified learning environment may involve four strategies and tactics: (a) Practicing the use of a conversational model (Mettes et al. 1981; Schoenfeld, 1979), (b) providing opportunities for reflection (Dewey, 1933; Hatton & Smith, 1995), (c) offering individual training and (d) capturing individual contribution and learning. These strategies and tactics address the obstacles for effective role-play for novices.

In a simplified learning environment, students should pay attention only to the application of the conversational model. They should be 'freed' from emotions and from handling pace. The instruction should also enable and stimulate reflection. Students should be given the time and the opportunity to think back earlier actions and to plan forward of what to do next.

The last two strategies can be afforded by a computer network. More specifically, it enables individual training by running as many simultaneous role-plays for each student as possible. It provides also opportunities to control what is learned and the order in which it is learned by offering record-keeping facilities for monitoring and recording the contributions of individual students (logfile registration).

A computer-based training program for developing the skill 'Telling Bad-News' tested in this study, is based of the four strategies and tactics described above. In this studied computer-based role playing, the conversational model is presented next to the current section the students are working on. By clicking a theory-button students can ask for an explanation of the conversational model.

One of the ways which the program offers students opportunities for reflection is by allowing revisions of messages (delete and correct) and no 'pressure' to respond. In addition, students can read back the dialogue, the descriptions of the social situation and the description of the role. Further, students have to answer questions before and after running a computer-based role-play to stimulate reflection. The questions before are about how they intend to apply the conversational model. For example, the students are asked how they intend to tell the bad-news. The questions after are about debriefing their performance. For instance, the students are asked whether they made typical conversational mistakes e.g. like avoidance reactions. In this way, students are asked to formulate learning points.

The program simultaneously provides each student with four different role-plays. These plays involve different conversations which allow students to practice. Students have access to the printouts of the dialogues of each role-play.

To explore and evaluate the possibility of simplification for introducing students to role-play, an experiment was conducted in which one group received a instructional program with the use of computer-based role playing. This role-play group was studied with regard to their effects on learning processes, learning outcomes, and appreciation of the training. A control group also received a instructional program without computer-based role playing and was accordingly studied with regard to the learning outcomes.

6.3 Method

6.3.1 Design and subjects

A pretest-posttest control group design (Cook & Campbell, 1979) was used to evaluate learning outcomes. Both groups received a pre- and post-test.

All 41 subjects were students at the University of Twente and were paid for their participation in the present experiment. The students were studying Educational Science ($N = 26$) and Technical Science ($N = 15$). There were 24 females and 17 males with a mean age of 21 years (ranging from 18 to 28 years of age). Students were randomly assigned to one of both groups and individually tested. The distribution of gender was recorded. There were 12 females and 9 males (21 students) in the role-play group and 12 females and 8 males (20 students) in the control group.

Chapter 6

6.3.2 Materials

Instructional materials used in this study were two types of instructional programs about the skill 'telling bad-news'. Both programs included the following identical stages which were based on the model of cumulative microcounseling (Lang & Van der Molen, 1992): (a) A pre-test, (b) study theory, (c) watch two video-examples (the skill was demonstrated by an existing videotape; a bad and a good conversation-example), and (d) a post-test. The computer-based programs varied only with regard to the practice stage. The practice stage was added between (c) the video-examples and (d) the post-test.

The instruction in the practice stage included a set of four social-communicative problems. These problems involved four conversations; tell another person that (a) he/she has been turned down for a trip to Australia, (b) his/her report is rejected, (c) he/she has to accept another (lower) position because of reorganization, and (d) he/she has to accept another (lower) position because of personal disfunctioning. These problems had to be solved in computer-based role-plays. It takes place on two physically separated but electronically joined computers. The dialogue between the students and the trained experimenters occur through typewritten text in conversation bubbles on the computer display (See Chapter 5). The communication messages are exchanged by a Local Talk network after clicking on a send-button.

For each role-play, the following six stages occurred: (a) An introductory computer-screen with a picture of the building where the conversation should take place, (b) a text-screen with a description of the social situation, (c) a text-screen with the description of a role, (d) screens with four questions about how they intend to apply the conversational model, (e) a dialogue-screen for role playing and (f) screens with 14 questions about their performance. In each role-play, the students performed the protagonist role (Van Ments, 1989).

Both instructional programs were developed in HyperCard 2.1 on a Macintosh II and LC computer. The program was developed on a screen of 640*480 pixels with no use of color.

6.3.3 Procedure

All students were given a verbal introduction to the task and an explanation sheet (two pages) which provided an introduction to the program and the meaning of the buttons on the screen. The students were told to work individually, in their own way, and at their own pace. The students had four (role-play group) and two hours (control group), respectively, to work

through the program. After the post-test, the students of the role-play group completed the appreciation questionnaire.

All sessions took place in a computer class equipped with a network of six (two groups of three) Macintosh personal computers (See Figure 6.1). A registration program was installed on each computer. It stored the students' actions in a logfile, so it was possible to record text typed and time spent in the stages of the program, and so forth.

Figure 6.1. Experimental setting.

The same two experimenters, final-year students in Instructional Technology who had attended interpersonal skills training, conducted all sessions. They had two conversations at the same time. Before the experiment they had received an experimenter-training. They had practiced the programs and the six role-plays (pre- & post-test & four role-plays for practice). Special attention was paid to giving similar responses to the messages of the students.

All procedures were identical for both groups. The experiment consisted of eleven session of four students and two experimenters. Separate seating prevented interactions between the two groups.

Chapter 6

6.3.4 Criterion measures

Criterion measures used in this study were learning processes, learning outcomes, and appreciation of the program.

Learning processes

The description of learning processes was split up for activity level and time spent on different activities. Information on activity level was gathered from logfile registration of: (a) The number of messages sent by the students; (b) the typed text in the reflection-stimulating questionnaires; (c) the frequency of consultation of the description of the situation and the description of the role; and (d) the frequency of consultation of the theory. Information on time spent on different activities was gathered from logfile registration of: The time on performances in computer-based role playing and the time on the reflection-stimulating questionnaire before (b) and after (c).

Learning outcomes

Learning outcomes were measured by three pre- and post-tests with logfile registration. All tests were performed individually. Tests two and three were identical in the pre- and post-tests. The individual answers given in these tests were checked against a scoring key and one point was assigned for each correct response.

The first pre-and post-test, *the Performance in a Computer-Based Role-Playing*, consisted of two social-communicative problems. The problems were to tell another person that he/she (a) has to move from The Hague to Maastricht to keep his/her job, and (b) has to move to Atlanta for a year to keep his/her position. The two problems were counter-balanced, so that half of each group received problem (a) and the other half problem (b) in the pre-test and reversed in the post-test.

Prior to the experiment, a coding plan was developed based on the technique of protocol analysis (Ericsson & Simon, 1980, 1984; Nisbett & DeCamp Wilson, 1977) and the Maastricht History-taking and Advice Checklist (Kraan & Crijnen, 1987). The coding plan consisted of 31 dichotomy items concerning the presence or absence of concrete typed messages in the printouts of the conversation. An item was for instance, ‘announces the bad-news after a short introduction: Yes or no’. Scores on 31 items were added together for each student, so the maximum possible score obtainable on the first tests were 31. High scores

represented high conversation skills. To avoid the possibility of researcher bias, two (other) final-year-students in Instructional Technology who had also attended interpersonal skills training, 'blindly' assessed the printouts of the conversations. To establish reliability of judgment, they did not know which the printouts belonged to which group, whether the printouts were pre-or post-test. The two raters worked independently. Reliability of judgment was based on both raters having similar totals on the coding list. The inter-rater reliability was on the pre-test 0.47 and on the post-test 0.69 (Weighted kappa; Fleiss & Cohen, 1973).

The second pre-and post-test, *the Knowledge Test*, contained six open questions about essential characteristics of the interpersonal skill. For instance, telling bad-news is called a closed conversation. Why? Give the answer and click on OK. The maximum possible score obtainable on the knowledge test was six.

The third pre-and post-test, *a Classification Test*, consisted of ten yes-no questions. The students had to classify whether a conversation is a bad-news conversation or not. For instance, Els expects to have a business trip to Mexico. It is decided that her colleague will take this trip. You tell Els. In the case of a bad-news-conversation, click on yes. In the case of another conversation-type, click on no. The maximum possible score obtainable on the classification test was 10.

Appreciation questionnaire

A questionnaire assessed students' appreciation of the quality of the program. The students passed judgment on 33 quality items on a 5-point satisfied-dissatisfied scale. An overall judgment (1 item) and three aspects of quality (Carroll & Rosson, 1984) were considered: The effectivity (12 items), the usefulness (2 items) and the manageability (18 items). The effectivity has to do with the quality and extension of the manual, the information, the subject matter, and the feedback. The usefulness is related to the motivational effects and the suitability of the program in interpersonal skills training for novices. The manageability is focused on the way students handle the program. There was also the opportunity to formulate suggestions for refinements of the training.

6.3.5 Data analysis

Because of computer registration problems, there were incomplete data from three students. This resulted in a sample of 19 students in both groups.

The data concerning the learning processes were analyzed with one-way analyses of variance (ANOVAs). The data concerning the learning outcome (three pre-and post-tests) were analyzed by non-parametric statistical tests. The assumptions of parametric tests, that data should be normally distributed or that sample variances should be equal, could not be fulfilled. Alpha was set at .05 for all these statistical tests.

6.4 Results

6.4.1 Learning processes

The learning processes were analyzed for the students of the role-play group. The description of the learning processes was split up for activity level and time spent on different activities. Table 6.3 summarized the data for the learning processes as a function of role-plays.

Activity level

The number of messages sent differed across the four role-plays, $F(3,71) = 3.26, p < .05$. The students sent more messages in the first role-play ($M = 7.2$) and the third ($M = 7.1$) than in the second role-play ($M = 6.0$) and the fourth ($M = 5.9$).

The percentage pertaining to the students who complete the reflection-stimulating questionnaires differed across the four role-plays, on the questionnaire before $F(3,72) = 40.55, p < .001$ and on the questionnaire after $F(3,72) = 64.14, p < .001$. All students (100%) completed the reflection-stimulating questionnaires (before and after) by the first role-play. There was a significantly decrease in completing the questionnaires after the second role-play. Students to an increasing extent skipped the questionnaires.

The frequency of consultation of (a) the description of the social situation and the description of the role and (b) the theory differed significantly across the role-plays: $F(3,72) = 5.73, p < .01$ and $F(3,72) = 5.06, p < .01$ respectively. The students consulted the description of the situation and the description of the role more during the third role-play ($M = 5.8$) and the fourth ($M = 4.1$) than during the first role-play ($M = 1.2$) and the second role-play ($M = 2.4$). The theory was mostly consulted during the first role-play ($M = 0.9$).

Time spent on different activities

The times spent on (a) performance in role-plays and (b) the questionnaires differed across the role-plays: $F(3,71) = 7.27, p < .001$, and $F(3,72) = 36.47, p < .001$ respectively. The students spent most of their times for the conversations. They spent less and less time for the reflection-stimulating questionnaires.

Table 6.3

The learning processes of the students in the role-play group ($N= 19$)

Dependent variables	Role-play in practice stage			
	One	Two	Three	Four
<i>Activity Level</i>				
Number of messages				
M	7.2	6.0	7.1	5.9
(SD)	(1.7)	(1.2)	(1.7)	(2.2)
Subjects who completed the reflection-stimulating questionnaire				
BEFORE				
percentage %	100	100	31.6	15.8
AFTER				
percentage %	100	90	15.8	5.3
Frequency consultation situation and role				
M	1.2	2.4	5.8	4.1
(SD)	(1.7)	(2.6)	(5.9)	(2.9)
Frequency consultation theory				
M	0.9	0.1	0.2	0.2
(SD)	(1.3)	(0.3)	(0.5)	(0.4)
<i>Time spent on different activities (in minutes)</i>				
Time on performance				
M	21.6	16.6	23.6	18.7
(SD)	(6.9)	(3.1)	(4.2)	(4.8)
Time on reflection-stimulating questionnaires				
BEFORE				
M	8.4	4.5	2.4	1.2
(SD)	(3.2)	(1.2)	(2.5)	(1.7)
AFTER				
M	8.2	6.7	1.6	1.1
(SD)	(3.0)	(2.6)	(1.3)	(1.0)

6.4.2 Learning outcomes

Figure 6.2 showed the mean scores on the three pre- and post-tests. The differences on the pre-test scores were not statistically significant.

The medians and ranges for pre- and post-tests are displayed in Table 6.4. Wilcoxon Signed-Rank scores on the *Performance Test* for the role-play and the control groups were $Z = -2.4$ and $Z = -2.6$, both $p \leq .01$, and on the *Knowledge Test* $Z = -3.6$ and $Z = -3.1$, both $p \leq .01$. This shows that both groups improved significantly on the Performance Test and the Knowledge Test. The role-play group improved on the *Classification Test* ($Z = -1.9$, $p \leq .05$), but the control group cannot be shown to have done so ($Z = -0.9$, $p \leq .35$).

Table 6.4

Medians and ranges for pre-test and post-test as a function of treatment group

	Treatment group			
	Role-play (N= 19)		Control (N= 19)	
	Median	Ranges	Median	Ranges
<i>Pre-test</i>				
Performance	11	12 (18-6)	11	8 (14-6)
Knowledge	1	2 (2-0)	1	3 (3-0)
Classification	8	5 (10-5)	9	5 (10-5)
<i>Post-test</i>				
Performance	15	11 (18-7)	13	9 (18-9)
Knowledge	3	4 (6-2)	2	5 (5-0)
Classification	9	4 (10-6)	9	5 (10-5)

Note. The range = maximum - minimum score. Maximum and minimum scores are in parentheses.

The difference score (score post-test minus scores pre-test) for both groups were analyzed by Mann-Whitney U-tests. The students of the role-play group performed better on the Knowledge- and Classification Tests. The difference on the *Knowledge Test* is significant, $U(38) = 94.5$, $p < .01$. The *Classification Test* showed a trend in the same direction, $U(38) = 121$, $p < .10$. The *Performance Test* had no significant effect on the condition ($U(38) = 165.5$). The content of the exchanged messages contained factual information, reflections, several types of questions, expressions of emotions (mostly expressed between parentheses) and jokes.

6.4.3 Appreciation of the quality of computer-based role playing

The appreciation of the quality of the computer-based role playing was analyzed for the students of the role-play group. The mean judgment scores are displayed in Table 6.5. The

students were satisfied with computer-based role playing. They appreciated most the manageability of the program and appreciated least the reflection-stimulating questionnaires.

Table 6.5

Mean judgment scores of the role-play group for the quality of the instruction program.

Judgment	Role-play Group (N= 19)	
	M	sd
<i>Effectivity</i>		
manual	2.1	0.9
procedural information	2.5	0.8
lesson	2.2	1.0
feedback	2.3	0.9
reflection stimulated questionnaires	3.1	0.7
<i>Usefulness</i>		
motivational effects	2.5	1.2
suits in interpersonal skills training	2.1	0.7
<i>Manageability</i>		
aspects for use	1.8	0.8
technical realization	1.8	0.7
<i>Overall judgment</i>	2.0	0.6

Note: 1= very satisfied, 2= satisfied, 3= neutral, 4= dissatisfied, 5= very dissatisfied.

6.5 Discussion

The study indicates that computer-based role playing fosters the development of interpersonal skills by four instructional-design strategies and tactics; (a) practicing the use of a conversational model, (b) offering opportunities for reflection, (c) performing four protagonist roles, and (d) capturing individual contribution and learning.

Results for *learning processes* revealed significant differences across the role-plays for each variable. Each role-play has its own unique effect on student learning. The learning processes for the role-play group were split up for activity level and time spent on different activities.

Results for *activity level* indicated that the role-plays affected the number of messages sent. Students sent more messages in the first and the third role-play than in the second and fourth role-play. This finding does not agree with the view that a linear relationship exists between the number of messages sent and complexity (which increased from the first role-play on).

Another noteworthy outcome is the difference in the number of messages students sent in computer-based role-plays ($M = 6.6$) opposed to the number of messages sent in conversation on the two video-examples (13 and 17 messages respectively). In computer-based role-plays these messages are half as frequent, suggesting that written and oral communication are two different types of communication and two different domains.

The present results for activity level also indicate that the students to an increasing extent skipped the questionnaires. These questionnaires, intended to stimulate students' reflection, thus seemed unfit for this purpose. The students may have found their own judgment failing; they may need feedback from the trainer. Students also consulted the description of the situation and of the role more often during the last two role-plays. This agrees with their higher complexity. Theory was consulted mainly during role-play one. This is to be expected as theory is seen as an advance organizer instruction, which teaches a few fundamental and representative ideas to practice computer-based role playing.

With regard to the *time spent on different activities*, students spent more time on their performances in the first and the third role-play than in the second and the fourth role-play. This corresponds with the number of messages spent in these role-plays. The time spent on the questionnaires corresponds with the percentage pertaining to the students who complete the reflection-stimulating questionnaires.

The results indicate that both programs are beneficial for *learning outcomes*. The role-play group performed significantly better on the Knowledge Test and tended also to do so in the Classification Test. It, therefore, appears that this practice leads to multiple perspectives and representations needed to capture the complex nature of interpersonal skills. An intervening factor may be the unequal amount of time both groups spent on the instructional program. In future studies, it should be considered to present a placebo treatment to the control group to minimize this effect.

The Performance Test showed no difference between treatments. Unfortunately, this test suffers from low inter-rater reliability (.47 and .69, respectively, on the pre-and post-test) notwithstanding an extensive training of the raters. An explanation may be (1) a (too) low expertise-level of the raters, (2) a low number of raters and (3) too many (31) assessment-items in the coding-plan.

Turning to the *appreciation of the program*, the program was favorably received. The students judged computer-based role playing as effective, useful and manageable.

Some other limitations of the study should also be addressed. One problem concerns the reduction of the conversation reality. Increasing skills development asks for increasing conversation reality. In continuation of the training, role-play with other participants and actors is indispensable. Another problem is the use of written instead of oral communication. Computer-based role playing, therefore, can be seen as a graduate lead-in to, or a preparatory activity (Van Ments, 1989) to role-playing. The use of written communication in exercises and games is an accepted part of such a stage.

Future studies are needed to explore the relation between the effect of different training strategies (computer-based role playing, role-play with other participants and actors) and the level of expertise by the students. Another concern of future research should probably focus on how a conversational model and opportunities for reflections affect skills development. In addition, such studies might want to look more closely into the design of feedback. Literature (e.g., Ivey, 1971; Ivey & Authier, 1978; Lang & Van der Molen, 1992; Van Ments, 1989) suggests that debriefing is vital for learning. In computer-based role playing, debriefing can be stimulated by printing out the dialogue, and the trainer and/or other participants can react to these.

Clearly, there is still much work ahead for those who would like to use technology to assist in realizing effective interpersonal skills development. This study has shown that even in the exploratory phase in which this endeavor currently is, significant contributions can already be detected. As such, it offers hope for even more improvements in the future.

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THE EFFECTS OF THE USE OF A CONVERSATIONAL MODEL AND OPPORTUNITIES FOR REFLECTION IN COMPUTER-BASED ROLE-PLAYING¹

This chapter examined the effects of an instructional program on 2- years-old students' interpersonal skills development (N=104). The HyperCard 2.1 program 'Telling Bad-News' could contain a conversational model that informed students about the main moments and actions in conducting a bad-news conversation. In addition, the program could realize the students' opportunities for reflection by reducing the complexity of the problem situation and by diminishing time constraints of a real-life dialogue. It was expected that the conversational model-present groups and the high reflection groups would show more effective interpersonal skill development, knowledge acquisition, and a more complete understanding of the skill (better tests results) than the conversational model-absent groups and the low reflection groups. Both elements were found to affect the students' interpersonal skill development. The presence of a conversational model significantly improved the students' role-play, $F(1,94) = 8.79$, $p < .01$, and their performance on the knowledge test, $F(1,94) = 115.28$, $p < .001$. When also given opportunities for reflection the students' performance in a role-play and on the knowledge test improved even more, $F(4,91) = 2.69$, $p < .05$. The instruction program with the presence of a conversational model in combination with opportunities for reflection is therefore considered as having the potential to assist in realizing effective gradual lead- into interpersonal skills development and instruction for novices.

¹ Holsbrink-Engels, G. A. (1997). The Effects of the Use of a Conversational Model and Opportunities for Reflections in Computer-based Role-Playing. *Computers in Human Behavior*, 13 (3), 409-436. (minor modifications)

7.1 Introduction

In recent years, the role of technology for realizing effective interpersonal skills development has received increased attention from educational technologists. For example, it is possible to build a Guided Social Simulation (GuSS), a simulated social world, in which social skills can be practiced (Kass, Burke, Blevis & Williamson, 1993-1994). The main question is how advisable is it to realize effective interpersonal skills development by support of technology. Studies conducted to investigate this, have reported benefits for students and staff. Students benefit from increasing performance when technology is used (Alliger, Serbell & Vadas, 1989; Alpert, 1986; Campbell, Lison, Borsook, Hoover & Arnold, 1995; Schroeder, Dyer, Czerny, Youngling & Gillotti, 1986) and benefit from a saving in 20%-30% in learning time (Orlansky & String, 1977; Fletcher, 1990). Staff benefits from a saving in 50%-67% in instructor time (Campbell, Lison, Borsook, Hoover, & Arnold, 1995) and saving 100% branch personnel time (Alliger, Serbell & Vadas, 1989).

Despite these benefits, research on support of technology to realize effective interpersonal skills development can be characterized as limited and hard to conduct, to evaluate performance, and to provide feedback (Campbell, Lison, Borsook, Hoover & Arnold, 1995). Some researchers have not found a positive significant effect for student performance when technology is used (Martin, Jones, & Hearn, 1994). Thus, research has provided mixed and divergent results. There appear to be significant instructional benefits but the absence of a comprehensive theory to explain the results and the methodological weakness of some studies ask for a critical review (Cronin & Cronin, 1992).

To focus this research problem, the purpose of the current study is to investigate new instructional prospects for interpersonal skills development with the help of a computer network. The study concentrates on interpersonal skills practice in role-plays, an important part of interpersonal skills training designs (e.g., Baker & Daniels, 1989; Goldstein, 1973, 1981; Hollin & Trower, 1986; Ivey, 1971; Ivey & Authier, 1978; L'Abate & Milan, 1985; Marshall & Kurtz, 1982). Interpersonal skills are seen as skills to deal with interactive processes involved in a dyadic (two-person) interaction (Hargie, 1986). They are seen as ill-defined skills in which hard-and fast principles are lacking and heuristic rule of thumb must be relied on (Kass, Burke, Blevis & Williamson, 1993-1994). Role-play is seen as a simulation of a case in which students play a situation from reality. The situation concerns a dialogue with a goal. A specification of variables in role-play based on a literature review is

given by Holsbrink-Engels (1994).

For novices, a conventional role-play is a very complex learning environment. In particular, the stage of 'running the role-play' is (too) complex for beginners because they must pay attention to verbal and non-verbal aspects of the conversation and in addition have to control emotions and deal with 'pace' of the exchange. There is little or no time to reflect on the main moments and actions in conducting a conversation. For novices, a role-play may also fail to build the intended skills due to a lack of repeated exposures (Georges, 1989), and due to the fact that students can not keep track of what is learned and the order in which it is learned (Van Ments, 1989). Computer-based role-playing is designed to simplify the learning environment such that students can more effectively develop interpersonal skills. It is a graduate lead into, not a replacement of, conventional role-playing (Holsbrink-Engels, 1997).

Within computer-based role-playing, the effects of two newly designed instructional strategies, the use of a conversational model and opportunities for reflection, on learning outcomes, learning processes and appreciation of the training are studied. For explorative reasons, the effect of sex as independent variable will be studied.

The first instructional-design strategy under study is the use of a conversational model. In a conversational model, a heuristic sequence and content of actions is described that characterizes an optimal approach to solve interpersonal problems. Based on a SAP-analysis (Mettes, Pilot, & Roossink, 1981), one possible approach to analyze ill-defined skills, a heuristic procedure is formulated to model performance of the skill. For instance, the conversational model of the interpersonal skill 'telling bad-news' used in the current study is as follows. To tell bad-news, the student must:

1. Tell the bad-news straight
after a short introduction
STOP: wait for the receiver's reaction.
2. Listen and reduce frustration
 - by reflections,
 - repeat the bad-news.
3. Give necessary background information.
4. Listen and reduce frustration again.
5. Try problem-solving.
6. Stick to a concrete agreement.

With regard to the teaching of heuristics, most researchers agree that it is helpful to present heuristics to students (e.g., Mettes et al. 1981; Schoenfeld, 1979). Researchers have indicated that the presentation of heuristics primarily focuses on the prior availability of this information in memory in such a way that it is highly integrated with knowledge that already exists. This increases the chance that the information can be helpful to the performance of the skills (Van Merriënboer, Jelsma, & Paas, 1992). Theorists who are primarily concerned with giving guidance in problem-solving situations have suggested that guidance should be used to aid the novice in developing an expert's awareness of problem space in which problem solving takes place. Teaching students problem space representational skills may be the most effective way to turn a 'poor' novice problem-solver into a 'good' novice problem-solver, thereby facilitating the development of expertise (Redding, 1990).

The second instructional-design strategy under study is opportunities for reflection. Reflection is seen as an essential part of the learning process (e.g., Dewey, 1933; Hatton & Smith, 1995). Reflection refers to the possibility to consider on the chosen personal approach of the conversation problem. Completing tasks and solving problems is a necessary but not sufficient condition for learning. Adult students must be encouraged to reflect. In the process of reflection, schemes of schemes are constructed (Wheatley, 1992). This thought process involves active chaining (Kremer-Hayon, 1988; Waxman, Freiberg, Vaughan & Weil, 1988; Sparks-Langer & Colton, 1991), and careful ordering of interconnected ideas which take into account underlying beliefs and knowledge (Dewey, 1933). Adult students who reflect have greater control over their thinking and can decide which of several solution paths to take, rather than simply being in action. It is possible that adult students may be so active that they fail to reflect and, thus, do not learn.

More recently, it has been suggested that it may be fruitful to 'build in' further opportunities for reflection which involves simultaneous reflecting and doing. The process of 'reflection-in-action' (Schön, 1983, 1987) may be a key mechanism in learning (Boud & Walker, 1991). Most kinds of reflections in role-play theories involve looking back upon action some time after it has taken place (Joyce & Weil, 1980; Kessels & Smit, 1990; Nijkerk, 1988; Van Ments, 1989). During role-playing there is no time for reflection because students experience a forward push to the next element of the exchange. Winograd and Flores (1986) call this characteristic of real-life dialogue 'throwtness'. The students are not able to think consciously about what is taking place and modify actions virtually instantaneously. With the use of computer-based role-playing, the possibility of reflection-in-action *during* role-playing

is offered. Computer-based role-playing offers a design-through-dialogue process which exhibits thrownness, slow enough for reflection on the exchange to be effective but fast enough to keep the conversation going.

The current study was conducted to determine the effects of the use of a conversational model and opportunities for reflection in a computer-based training program for the development of an interpersonal skill. According to the line of reasoning, it was expected that the conversational model- present groups would show more effective interpersonal skill development, knowledge acquisition, and a more complete understanding of the skill (better tests results) than the conversational model- absent groups. In addition, it was hypothesized that students in the high reflection groups would show more effective interpersonal skill development, knowledge acquisition, and a more complete understanding of the interpersonal skill (better tests results) than students in the low reflection groups. There were no specific expectations with regard to the interaction between conversational model and reflection- opportunities and with regard to sex. These hypotheses and several learning processes were investigated in this study.

7.2 Method

7.2.1 Design and subjects

In the current study, variations in computer-based role-playing were made. A 2 x 2 factorial design was used, with Conversational Model (present (C^+) versus absent (C^-)) and Reflection- Opportunities (high (R^+) versus low (R^-)) as independent variables. The dependent variables were learning outcomes, learning processes, and appreciation of the training.

Subjects were 120 students (67 females and 53 males) and five substitute students (three females and two males, explained later) from the University of Twente with a mean age of 21 years. Students were stratified by gender to ensure proportional representation and randomly assigned to couples of two in one of four instructional treatments ($R^+C^+ = 30$ (17 females and 13 males), $R^+C^- = 30$ (17 females and 13 males), $R^-C^+ = 30$ (17 females and 13 males), $R^-C^- = 30$ (16 females and 14 males)) and tested individually. The students were paid for their participation in the experiment (30 Dutch guilders, approximately \$18).

7.2.2 *Experimental conditions*

Experimental conditions constituted in this study were four types of training programs with computer-based role-playing. All training programs included a set of four interpersonal problems which were identical in each training. The problems provided different real-world conversations to realize variable performance. The following interpersonal problems were presented. Tell another person that (a) he/she has been turned down for a trip to Australia, (b) his/her report is rejected, (c) he/she has to accept another (lower) position because of reorganization, and (d) he/she has to accept another (lower) position because of personal disfunctioning.

The problems had to be solved in a computer-based role-play. Computer-based role-playing took place on two physically separated but connected computers. The dialogue between the students occurred through typewritten text in conversation bubbles on the computer-screen (See Figure 7.1d). The communication-messages are exchanged by a Local Talk network after clicking on a send-button.

For each role-play the following six stages occurred: (1) an introductory computer-screen with a picture of the building where the conversation should take place; (2) a text-screen with a description of the social situation; (3) a text-screen with a description of the role; (4) a dialogue-screen for role-playing (typing and reading messages); (5) a print-screen to make a printout of the dialogue, and (6) debrief the dialogue by the printout. After finishing the first role-play, the same six stages occurred for the second role-playing and so forth. Figure 7.1 shows an example of a presented problem.

The training program varied with regard to the use of a conversational model and opportunities for reflection. The instructional-design strategy regarding the use of a conversational model indicates that instruction should offer practice in the solving of interpersonal problems under guidance of a conversational model. The instructional-design strategy regarding opportunities for reflection indicates that instruction should offer students enough time to consider their actions by conscious use of analytical reasoning and planning.

The use of a conversational model was realized in two ways. First, before role-playing each student studied a paper that described the interpersonal skill either with a conversational model or not. The papers were further identical. Second, during computer-based role-playing, the conversational model was either in view at all times and was shown next to the current section the student was working on or was absent.

Figure 7.1: First practice interpersonal problem of all treatment groups.

1

2

3

1

2

3

Role description

You are D. Stuart, chair of the selection committee and one of the initiators of the student exchange program with Australia. From the Dutch are 50 students interested. From the Australians only 10 students show an interest in exchange. For this reason and for reasons of offering enough accommodation to the students, only 10 Dutch students are allowed to visit Australia. The 10 'lucky' students are selected by drawing lots. You have to tell one of the students with high expectations that he/she is eliminated by lottery. It is absolutely impossible that the student will have an opportunity to visit Australia. He/she is also not selected for a substitute place.

Task

You tell the bad news to Van Tol in a personal talk.

1

2

3

1

2

3

1

2

3

1

2

3

Hello, may I come in for a talk about the student exchange program?

Yes, take a seat. I have bad news

1. Tell the bad news straight after a short introduction
- STOP
2. Listen and reduce frustration
- by reflections
- repeat the bad news
3. Give background information
4. Listen and reduce frustration again
5. Try problem-solving
6. Stick to a concrete agreement

1

2

3

1

2

3

Figure 7.1: Continued.

Opportunities for reflection were realized in several ways. Students can revise each message (delete and make corrections) and determine when the next messages is exchanged (no or less pressure to respond quickly). Further, it is possible to read back the dialogue, the descriptions of the social situation, and the description of the role. Students can answer questions on the application of the conversational model (reflection-stimulating questionnaire before 'running the computer-based role-play') and their performances (reflection-stimulating questionnaire after 'running the computer-based role-play').

To sum up, variations in the materials occurred in the papers and in the computer-based role-plays. These variations were based on the training strategies (conversational model and reflection-opportunities) under study. Figure 7.2 shows the variation (in detail) in the four training programs.

The four training programs were developed in HyperCard 2.1 on a Macintosh II and LC computer. The programs were developed on a screen of 640*480 pixels with no use of color.

7.2.3 Measures

There were three dependent measures used in this study. These measures included learning outcomes, learning processes, and appreciation of the training program. A registration program was installed on each computer. It stored the students' actions, starting and ending times by program sections in a logfile. The logfile of each student was printed and so available for data analysis.

Learning outcomes

Learning outcomes were measured using four computer-based post-tests with logfile registration. The first post-test was performed by groups of two and the other three post-tests were performed individually. One person scored all of the items on these last three tests.

The first post-test, *the Performance in a Computer-Based Role-Play*, consisted of two social-communicative problems. The problems were to tell another person that he/she (a) has to move from The Hague to Maastricht to keep his/her job, and (b) has to move to Atlanta for a year to keep his/her position. The students played once a protagonist- and a antagonist role. The two problems were counter-balanced, so that half of each group received problem (a) and the other half problem (b).

CONVERSATIONAL MODEL

Figure 7.2: The variation in the four training programs in detail.

Prior to the experiment, a coding plan was developed based on the technique of protocol analysis (Ericsson & Simon, 1980, 1984; Nisbett & DeCamp Wilson, 1977) and the Maastricht History-taking and Advice Checklist (Kraan & Crijnen, 1987). The coding plan consisted of 15 dichotomy items concerning the presence or absence of concrete typed messages in the printouts of the dialogue. An item was for instance, ‘Announces the bad-news after a short introduction: yes or no’. Scores on 15 items were added together for each student, so the maximum possible score obtainable on the conversation test was 15. High scores represented high conversation skills. Two interpersonal skills trainers ‘blindly’ assessed the printouts of the dialogues; they did not know which printout belonged to which group. The

two raters worked independently. Reliability of judgment was based on both raters having similar totals for performance of each student in computer-based role-playing. The inter-rater reliability (kappa) was .83.

The second post-test, *the Knowledge Test*, contained six open questions about essential characteristics of the interpersonal skill. For instance, 'Although the variability of reactions on bad-news is large, it is possible to give an enumeration of the most described behaviors. Which are these? Name three. Give the answers and click on OK'. The individual answers to each item were checked against a scoring key and points were assigned for each correct response. An item was worth one point unless it required a multiple response. For example, the item given above was worth a maximum of three points; it was scored by providing one point for each described behavior listed in the student's response. The maximum possible score obtainable on the Knowledge Test was 15. The Cronbach's internal consistency reliability of the scale was .69 for subjects in the present study.

The third post-test, *a Classification Test*, consisted of ten yes-no questions. The students had to classify whether a conversation is a bad-news conversation or not (e.g. 'Els expects to make an enjoying business trip to Mexico. It is decided that her colleague will take this trip. You tell Els. In the case of a bad-news-conversation, click on yes. In the case of another conversation-type, click on no.'). The answers to each item were checked against a scoring key and one point was assigned for each correct response. The maximum possible score, the sum across the ten items, obtainable on the Classification Test was 10. The Cronbach's internal consistency reliability of the scale was .73 for subjects in the present study.

The fourth post-test, *Conversation-Sequence Test*, contained an social-communicative problem. The problem was to tell another person to stay in Bolivia instead of returning to the Netherlands to keep his job. This test asked students to place six pronounced sentences of the protagonist in a right conversation sequence. The number of sentences each sentence correctly proceeded was counted. One of the 15 items was for instance, 'Are the sentences six-four-two correctly ordered'. Each item was worth one point. So, the maximum possible score obtainable on the Conversation-Sequence Test was 15. The Cronbach's internal consistency reliability of the scale was .79 for subjects in the present study.

The *Typing-Test* was an existing test from a temp agency. This test asked the students to type over a letter. The letter and the time were registered in a logfile. For each student, the typing tempo was expressed in the number of touches per minute.

Chapter 7

Learning processes

The description of the learning processes was split up for activity level and time spent on different activities. For activity level, the logfile registration program was assigned to count for each role-play: (a) the number of messages sent by the protagonist; (b) the total number of words used by the protagonist; (c) the frequency of consultation of the description of the social situation and the description of the role, (d) the frequency of consultation of theory; and (e) the frequency of the use of reflection-stimulating questionnaires. For time spent on different activities, the logfile registration program was assigned to index the starting and ending times of: (a) performances in computer-based role-plays; (b) consultation of the description of the social situation and the description of the role; (c) consultation of theory; and (d) the use of reflection-stimulating questionnaires. The starting time subtracted from the ending time was the time spent. The sum of each dependent variable (in practice role-play one to four) was counted and divided by the number of practice role-plays (= four). So, the description of learning processes was based on calculation of the average 'activity' and average 'time' variables for the practice phase. The average of each dependent variable was taken into account for reasons of central tendency (to avoid fluctuations of chance).

Appreciation questionnaire

A questionnaire assessed students' appreciation of the quality of the training program. The students passed judgment on 33 quality items on a 5- point satisfied-dissatisfied scale (one is very satisfied, two is satisfied, three is neutral, four is dissatisfied, five is very dissatisfied). A final judgment (1 item: 'my judgment about the total program is') and three aspects of quality (Caroll & Rosson, 1984; the effectivity, 12 items; the usefulness, 2 items; and the manageability, 18 items). The effectivity has to do with the quality and the extension of the manual, the information, the subject matter, and the evaluative feedback. For instance, 'How satisfied are you with the step-size of the subject-matter?'. The usefulness pertains to the motivational effects and the suitability of the computer-based program in interpersonal skills training for novices. For instance, 'How satisfied are you with the way you learn to conduct a bad-news conversation through this program?'. The manageability is focused on the way students handle the program. For instance, 'How satisfied are you with the clearness of the choice-menu and commands ?'. There was also an opportunity to formulate suggestions for refinements of the training. The Cronbach's internal consistency reliability of the scale was .88 for subjects in the present study.

7.2.4 Procedure

In a mailing to all first year students from the University of Twente, students were asked to participate in social and management skills training and earn 30 Dutch guilders before the holidays. At the beginning of each session students were told about the task 'telling bad-news', about the procedure of the experiment, about computer-based role-playing and to read the paper (three pages) about the skill (total approximately 20 minutes in a classroom). The paper was different for half of the groups, depending on assignment to one of the two conversational model groups (present or absent). They were told to raise their hands when they were ready to begin the videotape. When all students indicated that they were ready, two video-examples were presented (the skill was demonstrated by an existing videotape with a wrong and a right conversation-example, approximately 10 minutes in a classroom).

After the video presentation, the students were randomly assigned to groups of two, received a computer number and an audio-room number. They were told to go to the computer class. When they arrived they were told to sit at the computer that corresponded with their computer number. The computer class was equipped with a network of ten (five groups of two) Macintosh personal computers. Next to the computer, the students found an explanation sheet (two pages) which provided an introduction to computer-based role-playing and the functions of the buttons on the screen. The explanation sheet was different for each group. The couples were told to start the computer program by mouse clicks, to work in their own way and at their own pace. They played the first practice role-play. After completing the first role-play, they made a printout of the dialogue and were told to go to the audio-room that corresponded with their audio-room number. They were told to start the tape recorder and record their conversation during the debriefing of the dialogue on the basis of the printout. Similar procedures were followed for the other three practice role-plays.

Each student performed the protagonist (the main character) and the antagonist role (the 'significant other' who provides resistance; Van Ments, 1989) twice in balanced order. The elements of computer-based role-playing were different, depending on assignment to one of the four groups. The students spent approximately two and a half hours in the computer class and the audio rooms.

After all four computer-based role-plays were practiced, the students completed four post-tests and a typing-test (approximately one hour in a computer room). The students worked in couples on the first test and individually on the three other tests and typing-test. Finally, the

Chapter 7

students completed the appreciation questionnaire. The students were paid after handing in the questionnaire.

All procedures were identical for the four groups. The experiment consisted of twelve sessions of six to ten students and the same experimenter conducted all sessions. The conditions were randomly assigned to the sessions.

7.2.5 Data analysis

A 2 (conversational model present vs absent) X 2 (reflection opportunities, high vs low) multivariate analysis of variance (MANOVA) was used to analyze the data concerning learning outcomes, learning processes, and appreciation. If significant, MANOVA was followed by univariate analyses on the C, R and sex portions of those data. Correlation- and regression-analysis were used to determine whether the typing tempo expressed in the number of touches per minute (independent variable) has effect on the time spent on conversations and post-tests (dependent variables). Alpha was set at .05 for these statistical tests.

7.3 Results

The dependent variables were learning outcomes, learning processes and appreciation of the training. Because of experimental loss (21 subjects completed with five substitute subjects), there were no data from 16 subjects. This resulted in a sample of 104 students (57 females and 47 males); 30 students in the R^+C^+ group (17 females and 13 males), 24 students in the R^+C^- group (14 females and 10 males), 26 students in the R^-C^+ group (16 females and 10 males), and 24 students in the R^-C^- group (10 females and 14 males).

7.3.1 Learning outcomes

The mean scores for the learning outcomes are displayed in Figure 7.3.

MANOVA revealed a significant interaction between Conversational Model and Reflection Opportunities, $F(4,91) = 2.69, p < .05$. Univariate analyses revealed that the interaction was significant for the Knowledge Test of the learning outcomes, $F(1,94) = 9.55, p < .01$. As shown in Figure 7.4, in the C^+ condition, students receiving the R^+ treatment attained more knowledge from the training program than the R^- treatment. In the C^- condition,

Figure 7.3: The mean scores for the learning outcomes as a function of the presence or absence of the conversational model and opportunities for reflection.

Figure 7.4: Effects of the presence or absence of the conversational model and opportunities for reflection on the knowledge test scores.

there were no apparent difference in knowledge acquisition when the R^+ and R^- treatment were compared.

Scheffé multiple comparison tests revealed that students in the C^+R^+ group ($M = 10.9$) and students in the C^+R^- group ($M = 9.8$) obtained significantly more knowledge than those in the C^-R^+ group ($M = 5.7$) and than those in the C^-R^- group ($M = 6.5$). No other differences were found.

In addition to the interaction, MANOVA indicated a significant main effect for

Conversational Model, $F(4,91) = 29.38, p < .001$. Univariate analyses revealed that the main effect was significant for two tests of the learning outcomes; Performance in a Computer-Based Role-Play, $F(1,94) = 8.79, p < .01$ and the Knowledge Test, $F(1,94) = 115.28, p < .001$. Students in the C^+ groups ($M = 9.8$) performed significantly better in a computer-based role-play than the C^- groups ($M = 8.6$). Also on the Knowledge Test, students in the C^+ groups ($M = 10.3$) performed significantly better than students in the C^- groups ($M = 6.1$).

MANOVA indicated an other significant main effect for Sex, $F(4,91) = 3.31, p < .01$. Univariate analyses revealed that the main effect was significant for two tests of the learning outcomes; Performance in a Computer-Based Role-Play, $F(1,94) = 7.26, p < .01$, and the knowledge test, $F(1,94) = 6.35, p < .05$. Females ($M = 9.7$) performed significantly better in a computer-based role-play than males ($M = 8.7$). Also on the Knowledge Test, females ($M = 8.9$) performed significantly better than males ($M = 7.7$). MANOVA did not reveal other interactions ($C \times \text{Sex}$, $R \times \text{Sex}$, $C \times R \times \text{Sex}$) and nor a significant main effect for Reflection Opportunities was found.

Typing-test. No significant effects were found for the typing tempo on the time spent on conversations and post-tests. There was no indication of covariation.

7.3.2 Learning processes

The description of the learning processes was split up for activity level and time spent on different activities. The students practiced four computer-based role-plays; two in the role of protagonist and two as antagonist. The analysis of subject data is based on the average of the scores on the two practice role-plays as protagonist. Table 7.1 shows the mean scores and standard deviations for the learning processes.

Activity Level

MANOVA revealed a significant interaction between Conversational Model and Reflection Opportunities, $F(3,94) = 5.95, p \leq .001$. Univariate analyses revealed that the interaction was significant for the average number of messages sent by the protagonist, $F(1,96) = 17.42, p < .001$. As depicted in Figure 7.5, students in the R^- groups sent more messages when they received C^- treatment rather than C^+ treatment. However, in the R^+ groups, there was no apparent difference in the number of messages sent when the C^- and C^+ groups are compared.

Scheffé multiple comparison tests revealed that students in the C^-R^- group ($M = 14.0$) sent significantly more messages than those in the C^+R^- group ($M = 11.2$). Both R^- groups sent

significantly more messages than those in the C⁺R⁺ group ($M = 6.7$), and those in the C⁻R⁺ group ($M = 6.8$). No other difference were found.

Table 7.1

The Mean Scores and Standard Deviation for the Learning Processes as a Function of the Presence or Absence of the Conversational Model and Opportunities for Reflection

Dependent variables	treatment group			
	C ⁺ R ⁺	C ⁻ R ⁺	C ⁺ R ⁻	C ⁻ R ⁻
<i>Activity Level (averages)^a</i>				
Number of messages				
M	6.7	6.8	11.2	14.0
(SD)	(1.7)	(1.6)	(1.5)	(2.1)
Number of used words				
M	287	305	281	293
(SD)	(62)	(69)	(74)	(88)
Frequency consultation situation and role				
M	3.4	1.8	- ^c	-
(SD)	(3.0)	(2.2)	(-)	(-)
Frequency consultation theory				
M	0.2	0.2	0.2	0.4
(SD)	(0.3)	(0.3)	(0.4)	(0.7)
Frequency reflection-simulating questionnaires				
M	0.1	0.3	-	-
(SD)	(0.3)	(0.4)	(-)	(-)
<i>Time spent on different activities (averages in minutes)^b</i>				
Time on performance				
M	29.5	27.6	21.3	23.9
(SD)	(6.0)	(3.0)	(4.3)	(4.6)
Time on consultation situation & role				
M	1.0	0.5	-	-
(SD)	(0.8)	(0.7)	(-)	(-)
Time on consultation theory				
M	0.04	0.02	0.03	0.10
(SD)	(0.12)	(0.04)	(0.05)	(0.25)
Time on reflection-stimulating questionnaires				
M	0.03	0.08	-	-
(SD)	(0.07)	(0.14)	(-)	(-)

Note: ^a The average 'activity' is presented. The average on the four practice role-plays in the practice phase is stated to measure central tendency (e.g. the sum of the number messages sent during the practice phase divided by the number of practice role-plays (= four)).

^b The average 'time spent' is presented. The average time spent on the four practice role-plays in the practice phase is stated (= the sum of the time spent divided by the number of practice role-plays).

^c The '-' means 'not available' because of fixing the variable for the R- groups.

Figure 7.5: Effects of the presence or absence of the conversational model and opportunities for reflection on the average number of messages sent by the protagonists.

In addition to the interaction, MANOVA indicated a significant main effect for Conversational Model, $F(3,94) = 5.16, p < .005$ and for Reflection Opportunities, $F(3,94) = 97.45, p < .001$. For the average number of messages sent by the protagonists, ANOVA indicated a significant main effect for Conversational Model, $F(1,96) = 12.58, p < .001$, and a significant main effect for Reflection Opportunities, $F(1,96) = 285.55, p < .001$. The C^- groups ($M = 10.4$) sent more messages than the C^+ groups ($M = 8.9$). The R^- groups ($M = 12.6$) sent more messages than the R^+ groups ($M = 6.7$). MANOVA did not reveal other

interactions (C x Sex, R x Sex, C x R x Sex) nor a significant main effect for Sex.

MANOVA was not possible for the variables 'frequency consultation situation and role' and 'frequency reflection-stimulating questionnaires' because of fixing both variables for the R^- groups. For R^+ groups, t-tests were used. These t-tests revealed a significant difference on the average frequency of consultation, $t(52) = 2.14, p < .05$. The C^+ group ($M = 3.4$) consulted the description of the social situation and the description of the role significantly more than the C^- group ($M = 1.8$). No other significant differences were found for activity level.

Time spent in different activities

MANOVA revealed a significant interaction between Conversational Model and Reflection Opportunities, $F(2,95) = 6.37, p < .005$. Univariate analyses revealed that the interaction was significant for the average time spent on performance in computer-based role-plays, $F(1,96) = 8.71, p < .005$. Figure 7.6 depicts this significant interaction. In the high reflection mode, students receiving the C^+ treatment spent more time on performance than the C^- group. However in the low reflection mode, the obverse was true, students in the C^- group spent more time on performance than the C^+ group.

Scheffé multiple comparison tests revealed that students in the C^+R^+ group ($M = 29.5$) spent significantly more time than those in the C^+R^- group ($M = 21.3$) and those in the C^-R^- group ($M = 23.9$). Students in the C^-R^+ group ($M = 27.6$) spent significantly more time than those in the C^+R^- group ($M = 21.3$). No other differences were found.

In addition to the interaction, MANOVA indicated a significant main effect for Reflection Opportunities, $F(2,95) = 21.07, p < .001$ and for Sex, $F(2,95) = 4.67, p < .05$. Univariate analyses revealed that both main effects were significant for the average time spent on performance in computer-based role-plays. The univariate main effect for Reflection Opportunities was $F(1,96) = 45.32, p < .001$, and for Sex was $F(1,96) = 4.72, p < .05$. The R^+ groups ($M = 28.6$ minutes) spent more time on performance in computer-based role-plays than the R^- groups ($M = 22.6$ minutes) and females ($M = 28.6$ minutes) spent more time on performance in computer-based role-plays than males ($M = 22.6$ minutes). MANOVA did not reveal other interactions (C by Sex, R by Sex, C by R by Sex) nor a significant main effect for Conversational Model.

For the same reason as mentioned above, MANOVA was not possible for the variables 'time on consultation situation and role' and 'time on reflection-stimulating questionnaires'.

Figure 7.6: Effects of the presence or absence of the conversational model and opportunities for reflection on the average time spent on performance.

For R^+ groups, t -tests were used. A t -test performed on the average time on consultation of the description of the social situation and the description of the role revealed a significant difference, $t(52) = 2.00, p < .05$. The C^+ group ($M = 1.0$ minute) spent significantly more time on the description of the social situation and role than the C^- group ($M = 0.5$ minute). No other significant differences were found for time spent on different activities.

7.3.3 Appreciation questionnaire

Table 7.2 provides the mean judgment scores of the quality of the training program for the four groups. Data for 101 out of 104 subjects were included in the MANOVA analysis, since three subjects did not complete all items of the questionnaire.

Table 7.2

Mean judgment scores and standard deviation of the four groups for the training programs

Judgment	Treatment group ^b			
	C ⁺ R ⁺	C ⁺ R ⁻	C ⁻ R ⁺	C ⁻ R ⁻
Effectivity	2.4 (.53)	2.3 (.62)	2.3 (.48)	2.7 (.43)
Usefulness	2.7 (.82)	3.0 (1.1)	2.8 (1.0)	2.9 (1.0)
Manageability	2.2 (.43)	2.1 (.48)	2.4 (.48)	2.4 (.43)
Final judgment	2.2 (.77)	2.5 (1.1)	2.5 (.95)	2.6 (.99)

Note: ^a 1 = very satisfied, 2 = satisfied, 3 = neutral, 4 = dissatisfied, 5 = very dissatisfied.

^b C⁺R⁺ = high reflection-opportunities, presence of the conversational model,
C⁻R⁺ = high reflection-opportunities, absence of the conversational model,
C⁺R⁻ = low reflection-opportunities, presence of the conversational model,
C⁻R⁻ = low reflection-opportunities, absence of the conversational model.

MANOVA indicated that Sex significantly affected the appreciation of the quality of the training program, $F(4,89) = 2.71, p < .05$. Follow-up univariate analyses indicated no significant effect on each of the four portions of the questionnaire, nor other significant effects were found for the appreciation of the quality.

7.4 Discussion

This study examines the effects of the use of a conversational model, opportunities for reflection, sex, and combinations of these variables on interpersonal skills development with the help of a computer-network. Subjects, assigned to groups of two in four treatment groups, received an interpersonal skills training; information, (video-) examples, practice with computer-based role-playing, and feedback. Each training included the presence (C⁺) or absence (C⁻) of a conversational model and opportunities for reflection (high (R⁺) or low (R⁻)).

Results for learning outcomes indicate that knowledge acquisition is influenced by a combination of the use of a conversational model and opportunities for reflection. The C⁺

groups performed better on the Knowledge Test when they were provided with high opportunities for reflection rather than low opportunities for reflection. For the C^- groups, there were no apparent difference in knowledge acquisition when the high and low opportunities for reflection were compared.

Providing high opportunities for reflection to groups that received the conversational model may have guided students to reflect on, and remind the availability of relevant information in memory they already knew and relate these information to performance of the skill. This attention on information that is relevant to skills development, in combination with reflection (active chaining, careful ordering of interconnected ideas), should result in knowledge that is deeper rooted and more flexible than knowledge that is obtained otherwise. Providing high or low opportunities for reflection to groups that received no conversational model did not lead to apparent difference. A possible explanation for this finding may be that the reflections are too diverse, loose, and not effective without guidance that focuses the attention of the students on the availability of relevant information.

This finding results in a suggestion for refinement of the hypotheses about influence of the opportunities for reflection on the learning outcomes. It is expected that, only in combination with the use of a conversational model, the R^+ groups would show more effective interpersonal skill development, knowledge acquisition, and more complete understanding of the skill than the R^- groups. This refinement has consequences for the training strategy reflection opportunities: instruction should *only* offer opportunities for reflection in combination with the use of a conversational model that offers a general heuristic that reflections may refer to.

The present results also indicate that the use of a conversational model only affects the learning outcomes. C^+ groups performed significantly better than C^- groups on a computer-based role-play and on the Knowledge Test. This finding supports one of the hypotheses of this study: it was expected that the C^+ groups would show more effective interpersonal skill development, knowledge acquisition and a more complete understanding of the skill (better tests results) than the C^- group. A conversational model accommodates the students' need for 'guidance', for 'direction' in solving social-communicative problems. The guidance may direct students attention to relevant information in memory they already know and which is highly integrated with knowledge that already exists. These information can be helpful to the performance of the skill. These results also provide support for researchers who have suggested that it is helpful to present heuristics to students (e.g., Mettes et al. 1981;

Schoenfeld, 1979; Van Merriënboer, Jelsma & Paas, 1992) and for researchers who are concerned with giving guidance in problem-solving situations (Redding, 1990). Guidance seems to be an effective way to turn a 'poor' novice problem solver into a 'good' novice problem solver, thereby facilitating the development of expertise. The results also provided support for real-life training and education where numerous conversational models for different conversation types do yield good results (DeBest & Boertien, 1990).

It is also likely that sex affects the learning outcomes. Females performed significantly better than males in a computer-based role-play and on the Knowledge Test. Research findings suggest that males and females differ in their communication styles (e.g., Coates, 1993; Cowan, Wilcox & Nykodym, 1990; Penly, Alexander, Jernigan & Henwood, 1991; Smith & DeWine, 1991; Tannen, 1994) which indicate that females are more competent on some communication items (Luketich, Colliver & Galofré, 1992; Stillman, Regan, Swanson & Haley, 1990). The sex of the students in the current study may have influenced their skill development, but future study is needed to interpret this finding.

In the current study, opportunities for reflection during role-playing were realized in several ways; revision of the message, respond time, and read back the dialogue, social situation and role. R⁺ groups were given time to think consciously about what is taking place and modify actions virtually instantaneously. Here reflection refers to 'reflection-in-action' (Schön, 1983, 1987); simultaneously reflecting and doing. Another approach of reflection is that thoughtful and critically questioning novices will develop expertise (Korthagen, 1985; 1992; Korthagen & Verkuyl, 1987). This operationalization was not made in this study. In literature, there is a considerable difference in defining and interpretation of reflection, debriefing and evaluative feedback in which reflections are made. Further, there is no reported research that specifically examines reflective thought in relation to skills improvement (Gipe & Richards, 1992).

In this study it has been chosen to manipulate opportunities for reflection *during* role-playing and to make no combination with potential opportunities for reflection *after* each role-play. Arguments for this choice are that, with the help of a computer-based tool, a unique possibility is offered to promote reflection during the role-play. Other arguments are reasons of standardization and better experimental control.

In addition to learning outcomes, the training programs have influence on learning processes. The learning processes were split up for activity level and time spent on different activities. Results for activity level indicated that the average number of messages sent was

influenced by a combination of the use of a conversational model and opportunities for reflection. R^- groups sent more messages when the conversational model was absent rather than present. A possible explanation may be due to the operationalization of opportunities for reflection and the guidance given by the conversational model. R^- groups were given one minute to formulate an answer. The formulated answers had to be short because of this time restriction. R^- groups needed to send more messages to 'tell' the same content as R^+ groups. The C^- groups sent more messages than the C^+ groups because of lack in guidance. The C^- group had to solve interpersonal problems by trial-and-error which costed more attempts and, thus, more messages.

The present results for activity level also indicate that the C^+R^+ group consulted the description of the social situation and the description of the role significantly more than the C^-R^+ group. As stated before, the use of the conversational model gives guidance to solve the social-communicative problems. This guidance focuses the students on relevant aspects of the problem. These relevant aspects are mentioned, for example, in the description of the social situation and the description of the role. The students consulted these descriptions to find these relevant aspects. Students who have no conversational model to their disposal and thus no guidance, lose focus on the relevant aspects and consulted less these descriptions to find relevant aspects.

With regard to the time spent on activities, results indicated that R^+ groups spent more time on performance in computer-based role-playing than R^- groups. This result may have occurred because students make reflections during role-playing which are time-consuming. Results also indicate that the C^+ groups, compared to C^- groups, spent much more time on performance in computer-based role-playing when they were provided with high rather than low opportunities for reflection. This finding was not expected because students who worked without a conversational model or guidance are left to trial-and-error which is time-consuming. A possible explanation of the use of more time by the C^+ groups may be due to motivational factors. The C^+ groups were more engaged in the tasks than C^- groups. C^+ groups made more corrections and deleted more text to improve their messages than C^- groups. This was time-consuming. Unfortunately, the registration of the number of corrections in the logfile was not easy to implement and so not done.

In accordance with more consultation of the description of the social situation and the description of the role by the C^+R^+ group, the results indicated that this group also spent significantly more time on consultation than the C^-R^+ group.

Turning to the appreciation of the quality of the training programs, results suggest that, in general, students judged the quality of the training programs as equally effective, useful, and manageable.

The current study has some limitations that should be addressed. First, the assignment to groups of two heightened the experimental loss. If a student did not show, another could not participate. To overcome this problem, substitute students were brought into action. This was not always possible, so lots were drawn which student had to leave the experiment. Experimental loss complicated the stratified random sampling procedure and lead to haphazard cell frequencies and gender disproportionality in the C'R' cell.

Second, the number of corrections made by the students in the high reflection-opportunities groups were not registered. This registration may give more insight in the time spent on different activities and the kind of corrections made in the learning process.

Third, another operationalization of opportunities for reflection during and after computer-based role-playing may have another impact than those used in this study.

Fourth, the role of the antagonist is not taken into consideration. The role of antagonist is interpreted as a constant whereas this need not be the case.

Fifth, the actual research was carried out in an environment that was 'unnatural' in that it attempted to control as many variables as possible. To test the reliability of the research, other studies should be done in a more 'natural' environment, in real-life training, using the same program as a graduate lead into conventional role-play with other participants and actors. The different combinations of training strategies (computer-based role-playing, role-play with other participants and role-play with actors) need to be studied. Also, the relation between the effect of different training strategies and the level of expertise by the trainees need to be explored.

Future studies are needed to explore other possible applications of the program. As far as possible to judge now, the program can be used in a wide variety of ways depending on how the characters are represented graphically, how the context of their exchange is introduced and how roles are allocated to users. The program could be used in the training of other professionals involving development of interpersonal skills. Thus, the program can not be used for skills to deal with interactive processes involved in an interaction larger than a dyadic one (two-persons). Examples of professional training are doctor and nursing education (a trainee talking to a very ill patient) and vocational training of novice lawyers (a lawyer has to tell bad-news to his client). Applications of the program seem also possible for individual

populations who have failed to develop adequate communication skills for several reasons (e.g., in a social skills training program for psychiatric clients). A precondition is a sufficient level of reading and writing skills.

The issue of measuring interpersonal skills (Smit, 1995) and the lack of assessment instruments have not been addressed in this study. Future studies could explore ways to use computer-based role-playing for skills assessment; for instance, it offers the possibility to capture individual contributions and learning processes. Research is also needed to examine reflective thought in relation to skills development and improvement (Gipe & Richards, 1992).

To leave no doubt, there is quite a lot work to do for those who would like to use technology to assist in realizing effective interpersonal skills development. This study has shown that technology can be used to assist in realizing effective gradual lead into interpersonal skills learning and instruction. Results substantiate the notion that computer-based role-playing with the use of a conversational model in combination with opportunities for reflections may improve interpersonal skill training for novices.

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GENERAL DISCUSSION

This chapter presents a summary of the work and a general discussion of the effects of the instructional- design on solving social-communicative problems. Three implications of the study are discussed. Firstly, the main implication for the instructional-design model is change of the instructional-design model. Two newly designed instructional-strategies: The use of a conversational model in combination with providing opportunities for reflection during practice will be included in the instructional-design model to facilitate learning. The instructional-design strategies, implemented in computer-based role playing, are therefore considered as having the potential to assist in realizing effectively introducing parts of interpersonal skills learning and instruction for novices. Secondly, research implications which relate to future research are discussed. The main research implication is the replication of the study to investigate the effects of the two instructional-design strategies on other categories of interpersonal skills in different settings. The chapter ends with a discussion of the practical implications related to the training of interpersonal skills. For training purposes, it is suggested to use computer-based role playing in combination with role-play with other participants and with actors.

8.1 Summary

The main research question of this thesis was: ‘What instructional methods should be applied in effectively developing interpersonal skills by novices?’ All chapters addressed the development of an instructional-design model for interpersonal skills learning. A three-stage approach was used to provide directions toward the development of such an instructional-design model. The three stages were exploration, model extension, and experimentation.

Chapter 1 introduced the study. A general introduction to interpersonal skills was given. Interpersonal skills formed a sub-category of communication skills, and their structure was described. Role-play was described as the most widely practiced instructional method for developing of interpersonal skills. Role-play had established its role in interpersonal skills training, since the dynamic qualities lend themselves to training students to deal with interpersonal interactions in a safe environment.

Two explorations of role-play were presented in Chapter 2 and 3. Chapter 2 provided a literature review, in which the development of interpersonal skills and the method of role-play were described. In order to develop interpersonal skills, students had to solve social-communicative problems. The nature of the task, performed by experts, had been described in order to determine what to teach novices. The problem-solving process had the following components: (a) Developing awareness of a social-communicative problem, (b) describing and exploring the problem and (c) solving the problem. The difference between novices’ and experts’ performance of interpersonal skills was explained. The learning of interpersonal skills was supposed to be learning by observation which begins at an early age, categorization, and schema acquisition. The human cognitive processing-capacity restricted the development of these skills. Next, consideration was given to answering the question of how to teach social-communicative problem-solving to the students. A brief historical sketch of role-play was given. The relation between role-play, simulation, gaming and case studies was clarified. Role-play was described as an instructive method for learning to solve a social-communicative problem that was presented as a simulation of a case and acted out in a play. A case referred to a real-life dialogue with a goal. The conditions that were necessary for effective role-play, an instructional management plan, and variations in role-play were reviewed. A tendency was found toward uncritical acceptance and use of role-play without empirical evidence.

Chapter 3 explored the use of role-play in theory and practice. In this survey, the instructional variables and the situation in which role-play was used were outlined. A written questionnaire about the use of role-play was constructed. The questions referred to (a) trainers' education, their jobs and labor conditions; (b) advantages and disadvantages of role-play; (c) introduction and instruction; (d) a run of a role play session, and (e) debriefing. The questionnaire was mailed to 201 corporate trainers. Of the 175 respondents only 68 questionnaires (34%) were suitable for data processing. Reviewing the results of the study, it was stated that role-play is a complex instructional method with different instructional variables. The theory for role-play use is poor. The conditions on the use role-play needed to be specified in more detail. There were several opinions on how to use role-play, but for these there was not much empirical evidence and no instructional-design model was available. More emphasis had been put on what to do and not enough on why to use it. The theoretical foundation of role-play needed to be extended and detailed.

In Chapter 4, an attempt was made to develop an instructional-design model for interpersonal skills learning. Ten components of role-play were described and provided prescriptions for the design of this instructional method. Role-play was seen as a complex learning environment for novices to develop interpersonal skills because of high cognitive load of solving social-communicative problems and the performance in a play. Simplification entails the development of expertise, firstly by simple yet representative kinds of social-communicative problems to solve. Another learning environment, computer-based role playing, is proposed. It was suggested to alter and simplify the solving of social-communicative problems more than done in conventional role-play in order to facilitate learning. Two newly designed instructional strategies, the use of a conversational model and providing opportunities for reflection, were introduced. It was assumed that a computer-based representation of the problem situation can be more useful and possibly more effective for novices, if they use a conversational model which focuses the attention on the necessary steps to solve social-communicative problems. Further, it was assumed that opportunities for reflections can be realized by reducing the complexity of the problem situation and diminishing time constraints of a real-life dialogue. The complexity of the problem situation was reduced by stripping away irrelevant and relevant features of a real-life dialogue. The time constraints were diminished by making time available for writing and correcting messages. Directions for research to study computer-based role playing to develop interpersonal skills effectively were identified.

Chapter 5 centred on a specific application of the instructional-design model for interpersonal skills learning. The ten components involving the two new instructional-design strategies, the use of a conversational model and opportunities for reflection, were implemented in computer-based role playing. Efforts and criteria for constructing computer-based role playing for the training of the skill 'telling bad news' were described. The instructional program was discussed, to illustrate how a computer-based representation of role-play can be constructed for novices, if they use a conversational model which focuses the attention on the necessary steps of social-communicative problem-solving. The complexity of the problem situation was reduced by stripping away irrelevant and relevant features of the real-life dialogue. The time constraints were diminished by making time available for writing and correcting messages. In computer-based role playing, the synchronized interaction between the role-players took place on two physically separated but electronically joined computers. The processes of sending and receiving messages occurred through typewritten text in a text- window and bubbles on the computer screen. The messages were exchanged by Local Talk Network after clicking on a send-button.

The conducted experiments were described in the Chapters 6 and 7. The experiment presented in *Chapter 6*, examined the effect of computer-based role playing on the development of interpersonal skills. An experiment was reported in which 41 students participated. The students were randomly distributed over two groups. Two instructional programs were compared, one with and one without computer-based role playing. One major finding was that computer-based role playing fosters interpersonal skills development by: (a) Practicing the use of a conversational model, (b) offering opportunities for reflection, (c) performing four protagonist roles, and (d) capturing individual contribution and learning.

In *Chapter 7*, the effects of two newly designed instructional strategies were tested on 21-years-old students (N= 104). The instructional program 'Telling Bad News' could contain a conversational model that informed students about the main moments and actions in conducting a bad-news conversation. In addition, the program could vary the students' opportunities for reflection by reducing the problem situation and diminishing the time constraints. It was expected that the conversational model-present groups and the high reflection-groups would show more effective interpersonal skill development, knowledge acquisition, and a more complete understanding of the skill (better tests results) than the conversational model- absent groups and the low reflection groups. Both factors were found to affect the students' interpersonal skill development. The presence of a conversational model

significantly improved the students' performance of the skills, and their performance on the knowledge test. When also given 'opportunities for reflection' the students' performance in a role-play and on the knowledge test improved even more. The instructional program containing a conversational model in combination with opportunities for reflection was therefore considered as having the potential to assist in introducing parts of interpersonal skills learning and instruction for novices.

In the next sections, the work in this thesis is discussed. Three kinds of implications are distinguished. Firstly, the implications for the instructional-design model are discussed (8.2). Secondly, the research implications are discussed in relation to future research (8.3). Finally, a discussion of the practical implications related to the training of interpersonal skills in the training practice is presented (8.4).

8.2 Implications for the Instructional-Design Model

The main implications of this work is change of the instructional-design model. Two newly designed instructional-design strategies, the use of a conversational model and opportunities for reflection, will be included to facilitate learning. There is substantial support for the extension of the instructional-design model.

These instructional-design strategies are supposed to support schema-construction. The availability of schemata is relevant to experts' performance of the skill. Novices may be hindered in schema-construction by conventional role-play. The hindrance might be caused by high cognitive load, time constraints, and the overwhelming amount of data in the play. The complexity of the learning environment hinders the acquisition of knowledge and problem-solving procedures. The novices are neither able to develop an adequate cognitive construct (schema) of the problem situation nor able to develop an adequate schema of the problem-solving procedure. Two newly designed instructional strategies are proposed to facilitate schema-construction by providing a heuristic to acquire knowledge about the problem space, reducing the complexity of the problem situation and diminishing the time constraints. The data of the experiments support these assumptions.

Though the instructional-design model is detailed, the instructional-design theory should be extended and integrated with existing cognitive-psychological theories of learning and information processing. In recent years, cognitive psychologists have shown a growing

interest in instructional-design and have tested out their ideas by developing prototype teaching models. These teaching models differ from most educational innovations in that they are well grounded in cognitive learning theory (Wilson & Cole, 1996). Relevant examples, which might inspire and draw implications for future design of computer-based role playing, include (a) the teaching models of goal-based scenarios and (b) the teaching models of problem-based learning.

Firstly, Schank, Fano, Bell, and Jona (1993/1994) have developed an architecture for the design of learn-by-doing courses and simulations. Goal-based scenarios constitute an approach to the design of intelligent tutoring systems (ITS) that combine elements of simulation, case-based reasoning, and ITS modeling techniques. They are designed for individual learners. The students are given a role to play. The students engage in a simulation in order to solve a well-defined problem or achieve the goal. They interact with simulated agents and -objects within a simulated environment. A goal-based scenario differs from a simulation in a number of respects. For example, when a student gets into trouble, a tutor, in video form, appears to offer advice, tells stories, and so on. The stories come from a multimedia archive of texts and video interviews of experts in that domain. These stories are also organized for browsing in a structure called ASK-networks (Riesbeck, 1996). ASK networks are systems for indexing and archiving stories in a way that makes them useful within the goal-based scenarios. Stories are brought into the simulation as the need arises, with the indexing sensitive to the students' progress and other local conditions.

Secondly, the teaching models of problem-based learning address ill-structured problems and ill-structured domains. Problem-based learning integrates knowledge acquisition and skills development, utilizes a collaborative learning environment, and emphasizes 'learning to learn' by placing most of the responsibility for learning on the learner rather than providing a pre-designed instructional system. Koschmann, Myers, Feltovich and Barrows (1994) have proposed six principles of effective learning and instruction which they see as critical features of learning in complex and ill-structured fields. Based on these principles, they are designing computer-based programs that use groupware, hypertext/hypermedia, database technologies and electronic mail. The design of computer-based role playing is quite linear now. Both teaching models may inspire and have theoretical implication for the development of a more appropriate instructional-design model.

A standard instructional-design model is missing in the literature. Chapter 3 has shown that the use of role-play varies. Role-play is designed for different target populations, for different

subject matters, for various sizes of teams, number of players and so on. The variation in structure, content, duration and objectives provides an array of permutations which differentiate the role-play format. Such heterogeneity is not necessarily a weakness in the method of role-play. Indeed, the flexibility, open ending, spontaneity and uncertainty of the outcome may be the fundamental strength of this method. Nevertheless, it is clear that research on learning and instruction is fragmented. Therefore, research should focus on the development of the instructional-design theory for interpersonal skills learning in order to identify which components of role-play are likely to influence specific types of learning. More needs to be known about the contribution of the components of role-play, particularly when the sequence is rearranged.

Given the simplified form of role-play within computer-based role playing, it would seem to be a setting both for further theory-based exploration of how students learn to develop interpersonal skills. Computer-based role playing is founded on the notion that computer-support can be used to facilitate, and even refine interpersonal interactions between students. Students are encouraged to formulate answers and questions more formally and reflectively than might have been the case in a face-to-face interaction. Efforts should be made in beginning to identify differences between experts' and novices' ways of thinking about the performance of the skill and to determine the deficiencies in the novices' performance. Computer-based role playing provides a medium both for the examination and identification of experts' theories about skills performance and for the detailed examination of the way novices think about skills performance in settings of reduced complexity.

8.3 Research Implications

Chapter 6 and 7 revealed that the combinations of two newly designed instructional strategies, the use of a conversational model in combination with opportunities for reflection during practice, facilitate learning. The presented study in Chapter 7 should be replicated with other categories of interpersonal skills in different settings. The general issue of the instructional effectiveness of both instructional-design strategies implemented in computer-based role playing, is too complex to be solved in just a few studies. Future studies are needed to explore the learning effects of both instructional-design strategies on other types of interpersonal skills in different settings.

It is easier to adapt the program for other interpersonal skills than to 'telling bad news'; where only the content has to be changed. The program can be used in a wide variety of ways depending on how the characters are represented graphically, how the context of their exchange is introduced and how roles are allocated to users. After specifying the content, the only task is pasting another text on the cards in the Hypercard stacks. Then, the program can be used in the interpersonal skills training of other professionals. Examples of professional training are medical- and nursing education (a trainee talking to ill patient) and professional training of novice lawyers (a lawyer has to tell bad news to his client). Application of the program seems also possible for other target-groups. For example, in a social skills training program for psychiatric clients. A precondition is sufficient reading and writing skills. Of particular concern in future research is the potential differences in ability and motivation to learn between students and employed individuals. Furthermore, research should focus on the possible application of computer-based role playing in different contexts, e.g., business training contexts, instead of concentrating on the application in the higher education, as was done in this thesis.

Interpersonal skills should be transferable to new situations. As stated in Chapter 4, fidelity and transfer are closely connected (Alessi, 1988). It was emphasized to assess the correct level of fidelity based on the students current competence. As a student progresses, the appropriate level of fidelity should be adjusted. This study did not examine the increasing fidelity of the learning environment. The effects of increasing fidelity of the interpersonal interaction in different learning environments (in computer-based role playing, role-play with other participants and role-play with actors) needs further study. Also, the relation between the effect of increasing fidelity and the students' level of expertise needs to be explored. In the present study, computer-based role playing was not followed by role-play with other participants and with actors. This is subject to future research.

Little is known about the effects of computer-based role playing in stages of learning. For example, is computer-based role playing more effective in the initial stages of learning than in later stages of learning? Researchers should study the effects of computer-based role playing in successive stages of learning. Research is also needed to examine reflective thought in relation to skills development and improvement (Gipe & Richards, 1992).

Further, it is unclear whether the content of the case contributes to students' learning. Some may argue that the power of the simulated cases is based on the content of the case, and not in whether it is role played, discussed or simply read. Others may argue that the key to the role-

play method lies in the instructional process itself. There is a need to study how the content of the cases, the level of experience with use of cases, and the level of experience with the use of role-play affect students' learning.

Computer-based role playing might also reduce problems of embarrassment and eliminate the 'Observers effect'. A related need for research concerns the study of improvements in the quality of students' expression transmitted in computer-based role playing. Research suggests that typed text tends to be more concise and carefully edited than spoken discourse (Chapanis, 1988), and that committing ideas and concepts to writing, forces the author to state clear messages (Koschmann, Myers, Feltovich & Barrows, 1994).

The instructional program can only be used for a dialogue involving two-persons. The experiments were done with teams of two persons, but communications skills often involve a group of persons. The implications of what happens to the effectiveness and efficiency of the instructional-design strategies and tactics as the number of communicators increases, are not known. Future studies can explore the effects of the instructional strategies implemented in computer-based role playing for more than two persons.

In the experiment described in Chapter 6, two undergraduate students served as judges. The judges were trained by rating example interactions (generated in a pilot study) until they agreed on 90% of their ratings. These results differ from those found in previous research, which showed that peer-ratings were as good in discriminating the level of social skill as trained judges' ratings of specific behavioral indices (Firth, Conger, Kuhlenschmidt, & Dorsey, 1986). In most studies reported, naive raters have served as raters because it was assumed that they approach to the scaled dimensions as taught, rather than to their intuition (Arnhoff, 1954; Cronbach, 1960). For the experiment, reported in Chapter 7, two changes are made. Undergraduate students were replaced by experienced trainers and the number of items of the rating-scales were reduced (from 36 item to 15 items) because it is easier to obtain high interrater agreement on a global scale. It is still an unanswered question whether the raters should be experienced trainers or naive persons trained specifically for the purpose. The presented studies are far from exhaustive. No evidence was found for one of the categories of raters to be superior to the other. The question which type of scale to be used in this research is still not solved. Consideration needs to be given to improvement and diversification of measurement techniques.

The issue of measuring the level of skills (Smit, 1995) and the lack of assessment-instruments have not been addressed in this study. Future studies will explore ways to use

computer-based role playing for skills-assessment (for instance in facilitating the administration of the actions taken place). Computer-based role playing can monitor performances which may prove useful for providing feedback, both for students and trainers. Especially within the realm of self-assessment (in the experiment reported in Chapter 6) and peer-assessment (in the experiment reported in Chapter 7), information can be provided for the purpose of debriefing. It is perhaps more productive to consider assessment and evaluation as parts of the debriefing.

8.4 Practical Implications

Although there are arguments for the use of computer-based role playing in developing interpersonal skills by novices, it should be recognized that it is undesirable as the sole method for instruction. The computer-based role playing can be an aid and an enrichment for the group process. It may reduce embarrassment and uneasiness of novices. For training purposes, however, the choice to use only computer-based role playing is not advisable. In section 7.4, it was suggested to use the program as a gradual lead-in to role-play with other participants and actors. This suggestion is based on the assumption that the skills developed by computer-based role playing have probably not yet reached the stage of acquisition and construction of cognitive schemata relevant to the performance of experts. Such schemata are expected to be useful for generating behavior in new, unfamiliar problem situations. Inductive processing (Van Merriënboer, 1997) should be promoted. This is the abstraction of schemata on the basis of concrete experiences. This will require the conscious attention and mindful abstraction of the learner during extensive and repeated practice of high quality that increases the difficulty of the problems to be solved. Role-play with other participants and with actors may promote such a mindful abstraction.

The introductory part of interpersonal skills training may be delivered by a medium other than a network of two or three computers. A future issue to examine is how to get high-quality experiences and effective learning from networked role-play systems. Though quite speculative, the focus can be on the implementation of role-play in electronic telecommunications networks, like Internet. Internet can be used for seminar preparation. The development of telecommunications and digital data transmission is changing the way education and training are performed. Persons are working and communicating more by

means of computer-based workstations that support databases, electronic mail and Internet. These electronic communication networks become easier to use, and are more powerful, and the trend toward electronic communications will grow rapidly (Romiszowski & Mason, 1996). As a result, persons will spend an increasing amount of their time at workstations and proportionately less at live- meetings (Vallee, 1982; Zuboff, 1988). There is less known about the implementation of the instructional-design model for interpersonal skills learning at distance. Also of interest is (inter)national on-line connections, for example, co-operation of students studying similar courses at different workplaces or institutions and a database with simulated cases for the development of several interpersonal skills.

Concluding, future research should continue on how to solve and how to learn to solve social-communicative problems. The theoretical and practical underpinnings that make empirically-based recommendations towards an instructional-design theory for interpersonal skills learning should be especially extended. This study has shown that a computer network can be used to assist in realizing introductory parts of interpersonal skills learning and that this is effective. The results substantiate the notion that computer-based role playing with the use of a conversational model in combination with opportunities for reflections may improve interpersonal skill training for novices.

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Chapter 8

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Samenvatting (Dutch Summary)

Het onderzoek waarvan in deze dissertatie verslag wordt gedaan heeft tot doel het ontwikkelen en beproeven van een instructieontwerpmodel voor het leren van professionele gespreksvaardigheden. De realisatie van het doel heeft plaats gevonden door het uitvoeren van een literatuurstudie, een inventariserend onderzoek naar het gebruik van rollenspel in theorie en praktijk, het formuleren van een model en de uitbreiding ervan. De opzet van de dissertatie volgt de opzet van het project.

In hoofdstuk 1 wordt een omschrijving van gespreksvaardigheden gegeven, die worden opgevat als een subcategorie van communicatieve vaardigheden. In het hoofdstuk wordt eveneens aandacht geschonken aan rollenspel dat als de meest toegepaste en gebruikte instructiemethode voor het trainen van gespreksvaardigheden wordt beschouwd. De methode van het rollenspel leent zich goed voor het trainen van gespreksvaardigheden in een veilige leeromgeving.

In hoofdstuk 2 wordt verslag gedaan van een literatuurstudie, die is uitgevoerd om de verwerving van gespreksvaardigheden alsmede het gebruik van het rollenspel zo nauwkeurig mogelijk te kunnen beschrijven. Mede op grond van deze studie wordt als uitgangspunt genomen dat voor de verwerving van gespreksvaardigheden, studenten sociaal-

communicatieve problemen moeten leren oplossen. Het probleemoplossingsproces kent de volgende onderdelen: (a) de herkenning van een sociaal-communicatief probleem, (b) het beschrijven en exploreren van het probleem, (c) het oplossen van het probleem. De verschillen tussen de gespreksvaardigheden van beginners en experts worden verklaard door het optreden van leerprocessen. De leerprocessen zoals, observerend leren hetgeen al op jonge leeftijd begint, categorisatie, en schemaverwerving worden geïdentificeerd en verondersteld de centrale leerprocessen te zijn bij het verwerven van sociaal-communicatieve probleemoplosvaardigheden. De cognitieve informatie-verwerkingscapaciteit beperkt de verwerving van gespreksvaardigheden.

Vervolgens wordt de vraag beantwoord hoe sociaal-communicatief probleemoplossen getraind kan worden opdat gespreksvaardigheden kunnen worden verworven en expertise kan worden ontwikkeld. Er wordt een korte historische schets van het rollenspel gegeven en de onderlinge samenhang tussen rollenspel, simulaties, spelen en case studie wordt uiteengezet. Het rollenspel wordt beschouwd als een instructiemethode voor het leren oplossen van een sociaal-communicatieve probleem dat gepresenteerd wordt als een casus en uitgevoerd in een (rollen)spel. Een casus verwijst naar een doelgericht gesprek. De eisen, waaraan moet worden voldaan opdat het rollenspel zo effectief mogelijk is, en de verschillende varianten van het rollenspel, zijn verzameld. De niet kritische bejeging van het gebruik van het rollenspel en het gebrek aan onderzoek naar de effectiviteit ervan, is als een tendens beschreven.

Hoofdstuk 3 beschrijft een inventariserend onderzoek naar het gebruik van het rollenspel in theorie en praktijk. Voor dit onderzoek is een schriftelijke vragenlijst over het gebruik van het rollenspel geconstrueerd. In de vragenlijst komen de instructievariabelen en de situatie waarin het rollenspel wordt gebruikt aan de orde. Er worden vragen gesteld over (a) de opleiding van de trainers, de kenmerken van hun werk, (b) de voor- en nadelen van het rollenspel, (c) de introductie en instructie van het rollenspel, (d) het spelen van het rollenspel, en (e) de nabespreking van het rollenspel. De schriftelijke vragenlijst is verstuurd naar 201 trainers. Van de 175 teruggestuurde vragenlijsten zijn 68 vragenlijsten (34%) geschikt bevonden voor dataverwerking. Uit de resultaten blijkt dat het rollenspel een complexe instructiemethode is met verschillende instructievariabelen. Daarna wordt ingegaan op de theoretische onderbouwing van het gebruik van het rollenspel. Er blijkt nauwelijks van onderwijskundige theorievorming sprake te zijn. Het blijkt dat de eisen, waaraan moet worden voldaan om het rollenspel te gebruiken, nader gespecificeerd en onderzocht dienen te worden. Er zijn verschillende mogelijkheden gevonden om het rollenspel te gebruiken maar hiervoor is weinig

empirische onderbouwing gevonden en er is geen instructieontwerpmodel beschikbaar.

In hoofdstuk 4 wordt de ontwikkeling en de uitbreiding van een instructieontwerpmodel beschreven. De uitgevoerde exploraties in hoofdstuk 2 en 3 worden bijeengebracht om tot een beschrijving van een instructieontwerpmodel voor het leren van gespreksvaardigheden te komen. Het rollenspel wordt beschreven in tien componenten, waarbinnen voorschrijvende richtlijnen gegeven worden voor het ontwerp van deze instructiemethode. Voor beginners wordt het rollenspel beschouwd als een te complexe leeromgeving voor de verwerving van gespreksvaardigheden vanwege de hoge cognitive belasting tijdens het oplossen van sociaal-communicatieve problemen en de uitvoering hiervan in een (rollen)spel. Op grond van dit gegeven wordt een vereenvoudiging voorgesteld ter bevordering van het leren. De instructie dient te beginnen met een vereenvoudigde echter wel representatieve wijze van sociaal-communicatief probleemoplossen. Een nieuwe instructiemethode, computerondersteund rollenspel, wordt voorgesteld. Het oplossen van sociaal-communicatieve problemen wordt, in vergelijking met het gangbare rollenspel, veranderd en vereenvoudigd opdat het leren wordt vergemakkelijkt. Twee nieuw ontworpen instructiestrategieën, het gebruik van een gespreksmodel en het bieden van reflectiemogelijkheden, worden geïntroduceerd. Er wordt verondersteld dat een computerondersteunde representatie van de probleemsituatie het leren vergemakkelijkt door de gebruikmaking van een gespreksmodel dat de aandacht vestigt op de vereiste stappen voor het kunnen oplossen van een sociaal-communicatief probleem. Verder wordt verondersteld dat, door het reduceren van de complexiteit van de probleemsituatie en het verminderen van de tijdsdruk die aanwezig is in werkelijke gesprekken, mogelijkheden voor reflectie worden geboden. De complexiteit van de probleemsituatie wordt gereduceerd door het weglaten van irrelevante en ook relevante kenmerken van een werkelijk gesprek. De tijdsdruk wordt verminderd door het vrijmaken van tijd voor het schrijven en corrigeren van (gespreks-) boodschappen. De doelen voor onderzoek naar computerondersteund rollenspel voor de verwerving van gespreksvaardigheden worden geïdentificeerd en er worden voorspellingen gedaan over de effectiviteit.

Hoofdstuk 5 richt zich op een specifieke toepassing van het instructieontwerpmodel voor het verwerven van gespreksvaardigheden. De tien componenten van het rollenspel inclusief de twee nieuw ontworpen instructieontwerpstrategieën zijn geïmplementeerd in een computernetwerk. De constructie van het instructieve programma voor het trainen van het slecht-nieuwsgesprek wordt beschreven. Het instructieve programma bevat verschillende computerondersteunde rollenspelen. De gesynchroniseerde interactie tussen de spelers vindt

plaats op twee verbonden computers die fysiek gescheiden zijn opgesteld. Het proces van versturen en ontvangen van boodschappen geschiedt door het versturen van getypte teksten. De te versturen tekst van de ene speler verschijnt in het eigen tekstvenster en na verzending op het computerscherm van de andere speler in de daarvoor beschikbare tekstballon naast het hoofd van de fictieve gesprekspartner (op de foto) en visa versa. Het verzenden van de boodschappen geschiedt door het klikken op een verzend-button.

De hoofdstukken 6 en 7 beschrijven een tweetal uitgevoerde experimenten. In hoofdstuk 6 wordt een experiment beschreven naar het effect van computerondersteund rollenspel op het verwerven van gespreksvaardigheden. De effectiviteit van een tweetal instructieve programma's worden vergeleken. De effectiviteit van een programma dat computerondersteunde rollenspelen bevat wordt vergeleken met een programma waarin dit niet het geval is. De belangrijkste bevinding is dat computer-ondersteunende rollenspelen het verwerven van gespreksvaardigheden bevorderen door: (a) het gebruik van het gespreksmodel, (b) de geboden mogelijkheden voor reflectie, (c) het spelen van vier protagonisten rollen en (d) mogelijkheden voor registratie van het individuele leerproces.

In hoofdstuk 7 wordt verslag gedaan van een experiment dat een vervolg is op het onderzoek uit hoofdstuk 6. In dit onderzoek wordt de effectiviteit van het gebruik van het gespreksmodel en de mogelijkheden voor reflectie in computerondersteunde rollenspelen nader onderzocht. De studenten (N= 104) met een gemiddelde leeftijd van 21 jaar zijn willekeurig verdeeld over vier computerondersteunde rollenspelgroepen (C^+R^+ groep, C^-R^+ groep, C^+R^- groep en de C^-R^- groep). Er wordt verwacht dat de studenten die gebruik maken van het gespreksmodel en van de mogelijkheden voor reflecties betere testresultaten zullen behalen en dat zij kwalitatief betere gespreksvaardigheden en meer kennis en inzicht verwerven. De resultaten van het experiment ondersteunen de verwachtingen. Beide instructiestrategieën blijken van invloed op het verwerven van gespreksvaardigheden en op het verwerven van kennis en inzicht. De aanwezigheid van een gespreksmodel verbetert de verwerving van de gespreksvaardigheid en van de kennis van de probleemsituatie. Als het gespreksmodel wordt gecombineerd met mogelijkheden voor reflectie verbetert de verwerving van de vaardigheid en van de kennis in nog grotere mate. Het instructieve programma dat zowel het gebruik van het gespreksmodel aanbiedt, alsmede mogelijkheden voor reflectie, wordt beschouwd als een effectieve instructiemethode waarbinnen het leren van gespreksvaardigheden door beginners kan worden gerealiseerd.

Hoofdstuk 8 bevat een algemene discussie over de dissertatie als geheel. Er wordt een

samenvatting van de dissertatie gegeven en de belangrijkste implicaties van het onderzoek worden beschreven. Het instructieontwerpmodel wordt uitgebreid met de toevoeging van beide nieuw ontworpen instructiestrategieën: het gebruik van het gespreksmodel in combinatie met de mogelijkheden voor reflectie. Er bestaat substantiële steun voor de uitbreiding van het instructieontwerpmodel.

Er wordt verder voorgesteld het onderzoek te repliceren voor een andere categorie van communicatieve vaardigheden in andere instructieve leeromgevingen.

Tenslotte, de belangrijkste praktische implicatie is dat voor het trainen van gespreksvaardigheden aan beginners wordt geadviseerd om het computerondersteund rollenspel te combineren met het gangbare rollenspel en rollenspel met acteurs.

APPENDIX A

The original questionnaire for the survey of Chapter 3

Deze vragenlijst heeft betrekking op welke manieren u gebruik maakt van het rollenspel in sociale en managementtraining. Op deze vraag willen wij graag een antwoord.

Geef u s.v.p. aan hoe u werkelijk werkt en niet hoe u vindt dat het in het meest ideale geval zou moeten (tenzij u een ideaal geval bent natuurlijk).

Wilt u steeds per vraag één alternatief of getal omcirkelen of het antwoord invullen.

Tenzij het om een volgorde gaat, of er een opsomming genoemd wordt waarvan aangegeven dient te worden of de mogelijkheden wel of niet van toepassing op uw situatie zijn.

De vragenlijst bestaat uit 50 items, die u in ongeveer 20 minuten kunt invullen.

I KENMERKEN VAN UW WERK EN ALGEMENE GEGEVENS

- 1 Wat voor soort trainingen geeft u:
 - A communicatieve
 - B management / leidinggevende
 - C anders, namelijk
- 2 Welke vaardigheden traint u momenteel (hoe vaak per maand):
 - effectief luisteren
 - adviesgesprek
 - slecht nieuwsgesprek
 - functioneringsgesprek
 - effectief leiderschap
 - besluiten nemen
 - onderhandelen
 - conflicthantering
 - anders, namelijk
- 3 Aan welke doelgroep(en) geeft u training(en):
 - A cursisten uit de profit sector
 - B cursisten uit de non-profit sektor
 - C anders, namelijk
- 4 Wat is de gemiddelde duur van de door u gegeven training: dagdelen.
- 5 Wat is de gemiddelde prijs van de door u gegeven training(en): F
- 6 Maakt u voor de training van deze vaardigheden gebruik van andere werkvormen dan het rollenspel: nee (ga naar vraag 8) Ja (ga naar vraag 7)
- 7 Van welke andere werkvormen maakt u gebruik:
 - A schriftelijke oefeningen
 - B interactieve video
 - C simulatiespelen
 - D anders, namelijk
- 8 Bent u:
 - A in loondienst voor het bedrijf/trainingsbureau waarvoor u werkt

Appendix A

- B freelance in dienst van een of meerdere bedrijven/trainingsbureaus
C eigenaar van een bedrijf/trainingsbureau
D anders, namelijk
- 9 Hoeveel uur per maand geeft u in totaal trainingen: uur.
- 10 Wat is (zijn) uw vooropleiding(en):
.....
.....
.....
- 11 Hoeveel jaar werkervaring als trainer heeft u (in totaal): jaar.
- 12 Hoeveel jaar werkervaring heeft u met het verzorgen van communicatie en managementtrainingen: jaar.
- 13 Bent u een: A vrouw B man
- 14 Hoe oud bent u: jaar.

[Op de volgende pagina's volgen vragen over de wijze waarop u tijdens trainingen gebruik maakt van het rollenspel.]

II DE VOORBEREIDING VAN HET ROLLENSPEL

- 15 Hoe komt u aan de casus voor het schrijven van rollenspellen:
A door u zelf of uw bedrijf
B door cursisten ingebracht
C uit boeken
D anders, namelijk

III ALGEMENE VRAGEN OVER HET ROLLENSPEL

- 16 Het grootste voordeel van het rollenspel vind ik:
.....
.....

- 17 In welke mate ziet u de volgende aspecten als voordeel van het gebruik van rollenspel in sociale en managementtraining?
(Wilt u bij deze vraagvorm het desbetreffende hokje aankruisen.)

	nooit	zelden	soms	vaak	altijd
cursisten worden in staat gesteld hun eigen gedrag te analyseren					
het rollenspel biedt de mogelijkheid om verschillend gedrag uit te proberen					
het rollenspel verandert attitudes					
cursisten worden in staat gesteld problemen bijv. met hun sociaal functioneren ter discussie te stellen					
het rollenspel biedt de mogelijkheid om het belang van non-verbaal gedrag en emoties te benadrukken					
het rollenspel biedt de mogelijkheid om snel feedback te geven op gedrag van de cursisten					
cursisten worden in staat gesteld anderen beter te begrijpen/ beter in te voelen					
cursisten worden in staat gesteld groepsgedrag te analyseren					
het rollenspel is een goede afbeelding van de werkelijkheid					

- 18 Het grootste nadeel van het rollenspel vind ik:

.....

.....

- 19 In welke mate vormen de onderstaande punten volgens u nadelen voor het gebruik van rollenspel in sociale en managementtraining?

	nooit	zelden	soms	vaak	altijd
Rollenspel simplificeert de werkelijkheid hetgeen misleidend kan werken					
Het rollenspel kost teveel tijd					
Het rollenspel wordt gezien als een gezellig vermaak en wordt niet serieus genomen					
Het rollenspel kost te veel inzet van trainers					
Het rollenspel is niet trainer/cursist onafhankelijk het rollenspel is te sterk afhankelijk van de kwaliteit van de trainer en cursisten					
Als trainer verliest u controle over wat er wordt geleerd en de volgorde waarin wordt geleerd					
Bij de cursisten ontstaat verwarring of zij nu een "rol" of "zichzelf" moeten spelen					
Het rollenspel is te afhankelijk van wat de cursisten al weten					

Appendix A

20 In welke mate vervult u als trainer de volgende rollen?

	nooit	zelden	soms	vaak	altijd
(als) facilitator van het rollenspel					
(als) informatieverstrekker (uitleggen, verklaren wat er gebeurt)					
(als) degene die de beslissingen neemt					
(als) degene die corrigeert					
(als) tijdbewaker/planner					
(als) motivator					
(als) veroorzaker van energie/enthousiasme bij trainees					
(als) therapeut					

21 Hoeveel rollenspellen biedt u gemiddeld per dagdeel aan, waarin het trainen van communicatieve en managementvaardigheden centraal staat: rollenspellen.

22 Van welk type rollenspel maakt u het meest gebruik tijdens de training:

- A demonstratie, d.w.z. het gaat om het tonen van een bepaalde interactie
- B voorgeprogrammeerd rollenspel, d.w.z. er is sprake van een gegeven situatie met vaststaande personages, met als doelstelling het oefenen van nieuwe vaardigheden
- C interactiedrama, d.w.z. geen sprake van voorgeprogrammeerde casussen met beschreven rol-instructies. Het uitgangspunt vormt een probleemsituatie of een specifiek leerdoel van een cursist.
- D anders, namelijk

23 Indien u veelal gebruik maakt van een voorgeprogrammeerd rollenspel hanteert u dan:

- A open benadering, d.w.z. de nadruk ligt op ervaringsleren, de trainer laat geen of weinig theorie voorafgaan aan de training, de cursist wordt in de gelegenheid gesteld van zijn/haar eigen gedrag te leren..
- B gesloten benadering, d.w.z. de gewenste vaardigheid is reeds vooraf bepaald door theoretische modellen of richtlijnen. Er wordt een (video) voorbeeld getoond. Vervolgens trachten de cursisten dit gedrag op basis van een case toe te passen in een rollenspel.
- C anders, namelijk

24 Hoe vindt het trainen van complexe sociale en managementvaardigheden plaats (bijvoorbeeld onderhandelen of conflicthantering):

- A de gehele vaardigheid wordt in één geoefend
- B de complexe vaardigheid wordt door mij opgesplitst in afzonderlijk te oefenen fasen
- C de complexe vaardigheid wordt door mij opgesplitst in afzonderlijk te oefenen deelvaardigheden.

- 25 Wat wordt door de cursisten als doel van de cursus gezien:
- A het verbeteren van eigen communicatieve/leidinggevende vaardigheden
 - B opdoen van ervaring
 - C meer kennis over het betreffende onderwerp opdoen
 - D anders, namelijk

- 26 Wat wordt door u als doel van de cursus gezien:
- A het tonen van een bepaalde interactie
 - B het leren analyseren van een bepaalde gespreksvorm
 - C het bespreken van een bepaalde situatie
 - D anders, namelijk

- 27 Om een bepaalde handelwijze, techniek of vaardigheid te laten zien maakt u gebruik van;

	nooit	zelden	soms	vaak	altijd
video-instructiefilm					
“life”-uitgevoerd rollenspel door cursisten					
“life”-uitgevoerd rollenspel waarbij u zelf voorbeeld gedrag toont					

- 28 Waarom hanteert u bovengenoemde wijze van werken:

voordelen:

.....

nadelen:

.....

IV DE INTRODUKTIE VAN HET ROLLENSPEL

- 29 Voordat het rollenspel begint besteedt u aandacht aan;

	nooit	zelden	soms	vaak	altijd
het doel van het rollenspel					
de werkwijze/gevolgde procedure					
de context van het rollenspel					
warming up					

- 30 Maakt u gebruik van de volgende technieken bij de introductie van het rollenspel?

- kennismaking met elkaar: ja nee
- gesprek met de trainers over het onderwerp van het moment: ja nee
- persoonlijke ervaringen genereren om verder mee te werken: ja nee
- anders, namelijk

Appendix A

V DE INSTRUCTIE VAN HET ROLLENSPEL

- 31 Hoe wordt bepaald welke cursist welke rol speelt:
- A u bepaalt toevallig wie er welke rol speelt
 - B u bepaalt wie wanneer speelt doch de cursisten kiezen zelf rollen
 - C u bepaalt bij welke cursist de rol het beste past
 - D u bepaalt wie speelt en geeft de cursisten rollen die tegenover gesteld zijn aan hun persoonlijkheid
 - E de cursisten bepalen bij toeval welke rol ze spelen
 - F de cursisten bepalen welke rol ze spelen door rollen te kiezen precies tegenovergesteld aan hun persoonlijkheid
 - G anders, namelijk
- 32 Wie zijn de medespelers:
- A ingehuurde acteurs
 - B medecursisten/ collega's
 - C trainer/co-trainer
 - D anders, namelijk
- 33 Op welke wijze worden de spelers geïnstrueerd voor hun rol:
- A schriftelijk
 - B mondeling
 - C beide
 - D spelers worden niet geïnstrueerd
- 34 De observatoren ontvangen van u concrete observatiepunten: ja nee
en zo ja op welke wijze:
- A schriftelijk
 - B mondeling
 - C beide

VI HET SPELEN VAN HET ROLLENSPEL

- 35 Hoe wordt het rollenspel gestart:
- A op aanwijzing van u
 - B de cursisten geven aan dat ze willen starten
 - C anders, namelijk

36

	nooit	zelden	soms	vaak	altijd
Grijpt u wel eens in tijdens een rollenspel:					

37

	nooit	zelden	soms	vaak	altijd
Houdt u de speeltijd onder controle:					

- 38 Hoe wordt het rollenspel beëindigd:
- A door een signaal van u
 - B door de cursisten
 - C wanneer het rollenspel 'af' is
 - D anders, namelijk

- 39 In welke mate vormen de onderstaande punten voor u redenen om tijdens het rollenspel in te grijpen;

	nooit	zelden	soms	vaak	altijd
spelers verlaten hun rol:					
belachelijk maken van het rollenspel:					
slechte uitvoering van de vaardigheid:					
tekort aan inzicht voor het spelen van de rol:					
tekort aan empathie/affiniteit met de rol:					
herhaling:					
verveling bij de spelers:					
emotionele escalatie:					

- 40 Een rollenspel duurt gemiddeld: minuten

- 41 Hoe vaak maakt u tijdens het spelen van het rollenspel gebruik van de volgende technieken?

	nooit	zelden	soms	vaak	altijd
rol-wisseling (de medespeler neemt tijdelijk de plaats in van de hoofdrolspeler)					
alterego (dubbelen/over de schouder van de hoofdrolspeler wordt tekst uitgesproken)					
spiegelen (een medespeler neemt tijdelijk de plaats van de hoofdrolspeler in)					
rolvoorbeeld (medespeler beeld één of meerdere mogelijkheden uit als vorm van feedback)					
adviesgroep (van de hoofdrolspeler)					

- 42 Maakt u gebruik van video opnames tijdens het spelen en het geven van feedback:

A ja (ga naar vraag 44)
B nee (ga naar vraag 43 en ga daarna verder)

- 43 Waarom maakt u geen gebruik van video;

A kost teveel tijd
B het is te kostbaar om apparatuur te huren
C de ingewikkeld om te bedienen
D anders, namelijk

VII HET NABESPREKEN VAN HET ROLLENSPEL

- 44 Hoe wordt het nagesprek geleid:

A door de trainer/co-trainer
B door de cursist
C door de medespelers en door de observatoren
D anders, namelijk

- 45 Besteedt u apart aandacht aan de reacties van;

	nooit	zelden	soms	vaak	altijd
de hoofdrolspeler:					
de medespeler(s):					
de observatoren:					

Appendix A

- 46 Geef de meest gangbare volgorde (in de cijfers 1 t/m 4) van uw nabespreking aan:
..... hoofdrolspeler
..... medespeler(s)
..... observatoren
..... trainer
- 47 Aan welke hoofdpunten besteedt u aandacht in de nabespreking:
1.....
2.....
3.....
- 48 Hoeveel tijd besteedt u aan het nabespreken van (de observaties van het) rollenspel:
..... minuten.
- 49 Hoe vaak per training laat u een rollenspel herspelen:
..... maal
- 50 Hoeveel tijd besteedt u aan het nabespreken in geval van herspelen:
..... minuten

VIII FOLLOW UP

Wanneer u geïnteresseerd bent in de resultaten van dit onderzoek, kunt u uw gegevens hieronder invullen u krijgt dan het onderzoeksartikel toegezonden.

naam:

adres:

.....

.....

Indien u nog opmerkingen heeft over (het onderwerp van) deze vragenlijst kunt u de ruimte hieronder daar voor gebruiken.

Hartelijk bedankt voor uw medewerking!

Opmerkingen:

.....

.....

.....

.....

.....

APPENDIX B

Instructional materials (role-plays) for the experiments of Chapter 6 and 7

First role-play for practice *Uitwisselprogramma TO*

Situatiebeschrijving

De Faculteit Toegepaste Onderwijskunde van de Universiteit Twente organiseert iedere twee jaar een uitwisselingprogramma met buitenlandse studenten. Dit jaar vindt de uitwisseling plaats met studenten uit Australië. Een commissie organiseert de plaatsing.

Rolopsomming

D.Stuart, universitair docent(e) en voorzitter van de uitwisselingscommissie, 35 jaar.

M. van Tol, student, 22 jaar.

Rolbeschrijving (protagonist)

U bent D. Stuart, voorzitter van de commissie en één van de initiatiefnemers achter het uitwisselingsprogramma met studenten uit Australië. Er zijn van Nederlandse zijde circa 50 belangstellende studenten. Echter van Australische zijde hebben slechts 10 studenten belangstelling getoond. Daarom kunnen er ook maar 10 Nederlanders naar Australië. Dit in verband met de huisvesting. Door middel van loting is komen vast te staan welke studenten naar Australië kunnen gaan. U dient één van de kandidaten die er vast op rekende mee te gaan, meedelen dat hij/zij is uitgeloot. Er is absoluut geen kans dat de betrokken mee kan. Ook staat hij/zij niet op de reservelijst voor vervanging van eventuele uitvallers door ziekte.

Opdracht

U besluit M. van Tol persoonlijk mee te delen dat hij/zij niet naar Australië kan vertrekken. U voert een

Appendix B

slecht-nieuwsgesprek.

Situatiebeschrijving

De Faculteit Toegepaste Onderwijskunde van de Universiteit Twente organiseert iedere twee jaar een uitwisselingprogramma met buitenlandse studenten. Dit jaar vindt de uitwisseling plaats met studenten uit Australië. Een commissie organiseert de plaatsing.

Rolopsomming

D.Stuart, universitair docent(e) en voorzitter van de uitwisselingscommissie, 35 jaar.

M. van Tol, student, 22 jaar.

Rolbeschrijving (antagonist)

U bent M. van Tol, student Toegepaste Onderwijskunde. Een van je grootste wensen wordt vervuld als je naar Australië kunt vertrekken. Toen je nog op het VWO zat heb je de voorlichtingsdagen van Toegepaste Onderwijskunde bezocht. Op deze dagen werd de mogelijkheid van een uitwisselingsprogramma geopperd. Dit idee sprak en spreekt je nog steeds zeer aan en heeft mede je keuze voor de studie in Twente bepaald. Al in een zeer vroeg stadium heb je je aangemeld voor het uitwisselingsprogramma. Verder heb je al diverse (cultuur-) gidsen over Australië aangeschaft.

Opdracht

Je hebt van de voorzitter van de uitwisselingscommissie Stuart een verzoek gekregen even langs te komen om over het uitwisselingsprogramma te spreken.

Second role-play for practice Doctoraalopdracht TO

Situatiebeschrijving

Toegepaste Onderwijskunde is een jonge faculteit die zich inmiddels op verschillende terreinen heeft weten te manifesteren. Het onderwijs en onderzoek van de faculteit dragen een multidisciplinair karakter. Kennis uit verschillende wetenschappen zoals bijvoorbeeld onderwijskunde, psychologie, informatica en mediakunde zijn in de vakgebieden van de faculteit geïntegreerd. De naam "toegepast" is bewust gekozen om te benadrukken dat er aandacht is voor het oplossen van praktijkproblemen. Ook studenten besteden in hun doctoraalopdrachten aandacht aan het oplossen van een onderwijskundige probleem van een bedrijf of instelling. B. Schotgerrits voert zijn/haar opdracht uit bij een bedrijf voor automatisering van reisbureaus. Schotgerrits heeft twee maanden aan het doctoraalverslag gewerkt en heeft het verslag ter beoordeling bij de afstudeerbegeleider ingeleverd.

Rolopsomming

I. Bakker, afstudeerbegeleider Toegepaste Onderwijskunde, 45 jaar.

B. Schotgerrits, student Toegepaste Onderwijskunde, 22 jaar.

Rolbeschrijving (protagonist)

U bent I. Bakker, afstudeerbegeleider van Schotgerrits. Schotgerrits heeft een week geleden een volledig doctoraalverslag bij u ingeleverd. U voert een gesprek over de kwaliteit van het verslag. U heeft het verslag afgekeurd. De reden daarvoor is dat het verslag teveel op veronderstellingen is gebaseerd in plaats van op wetenschappelijk onderzoek of feiten. Ook is het taalgebruik slecht en rammelt de opbouw. Schotgerrits heeft veel tijd in het verslag gestoken en heeft bij het inleveren te kennen gegeven zeer tevreden te zijn over het resultaat.

Opdracht

U dient B. Schotgerrits persoonlijk mee te delen dat het verslag is afgekeurd. U voert een slecht-nieuws-

gesprek.

Situatiebeschrijving

Toegepaste Onderwijskunde is een jonge faculteit die zich inmiddels op verschillende terreinen heeft weten te manifesteren. Het onderwijs en onderzoek van de faculteit dragen een multidisciplinair karakter. Kennis uit verschillende wetenschappen zoals bijvoorbeeld onderwijskunde, psychologie, informatica en mediakunde zijn in de vakgebieden van de faculteit geïntegreerd. De naam "toegepast" is bewust gekozen om te benadrukken dat er aandacht is voor het oplossen van praktijkproblemen. Ook studenten besteden in hun doctoraalopdrachten aandacht aan het oplossen van een onderwijskundige probleem van een bedrijf of instelling. B. Schotgerrits voert zijn/haar opdracht uit bij een bedrijf voor automatisering van reisbureaus. Schotgerrits heeft twee maanden aan het doctoraalverslag gewerkt en heeft het verslag ter beoordeling bij de afstudeerbegeleider ingeleverd.

Rolopsomming

I. Bakker, afstudeerbegeleider Toegepaste Onderwijskunde, 45 jaar.

B. Schotgerrits, student Toegepaste Onderwijskunde, 22 jaar.

Rolbeschrijving (antagonist)

U bent Schotgerrits, student TO. Een week geleden heb je een volledig doctoraalverslag bij je afstudeerbegeleider Bakker ingeleverd. Met goede moed en enthousiasme heb je aan het doctoraalverslag gewerkt. Je hebt veel tijd en energie in het verslag gestoken. Jij bent zelf zeer tevreden over het resultaat. De studie TO is je prima bevallen. De studie heb je zonder al te grote problemen kunnen doorlopen. Jij weet dat je nog wat jong voor je leeftijd bent en wat speels maar je hebt er alle vertrouwen in dat het wel overgaat als je ouder wordt.

Opdracht

Je gaat nu een gesprek met je afstudeerbegeleider voeren over het ingeleverde doctoraal verslag.

Third role-play for practice *Streekpost Nederland*

Situatiebeschrijving

Het bedrijf "Streekpost Nederland" bezorgt regionale post en verspreid huis-aan-huis reclame. Bij het bedrijf werken 1000 mensen verspreid over de verschillende vestigingen in het land.

Eén van de werknemers, de besteller J.H. van Hoog, heeft een half jaar geleden een ongeluk gehad ten gevolge waarvan het linker been is ingekort. J.H. van Hoog is weer hersteld, maar kan beslist geen lange afstanden meer lopen. De vraag is of er een nieuwe functie voor van Hoog binnen het bedrijf aanwezig is. In een eerder gesprek heeft Van Hoog te kennen gegeven wel groepschef te willen worden. Een groepschef maakt de planning voor de bestellers en lost bestellingsproblemen op.

Rolopsomming

E. Bossink, rayonchef, 38 jaar.

J.H. van Hoog, besteller, 49 jaar.

Rolbeschrijving (protagonist)

U bent E. Bossink, rayonchef van de afdeling "Streekpost Oost". U heeft een gesprek gehad met Jansen, hoofd groepchefs, over de wens van van Hoog om groepschef te worden. Jansen ziet geen mogelijkheden voor van Hoog als groepschef daar de planning van de bestellers binnenkort via de computer geregeld gaat worden. Door de automatisering zal slechts de helft van het aantal groepschefs nodig zijn, zodat het te verwachten is dat de helft van de huidige groepschefs in de toekomst zullen moeten verdwijnen en er is zeker geen plaats voor een nieuwe groepschef. Er zit niets anders op dan een WAO-procedure te starten, tenzij van Hoog bereid is op de vestiging full-time andere postbestellers te assisteren bij het sorteren van de post. Het betekent een verlaging in rang maar zijn loon blijft gelijk, dankzij een bijdrage van het bedrijf.

Opdracht

Appendix B

U besluit van Hoog persoonlijk mee te delen dat hij/zij geen groepschef kan worden en dat het bedrijf hem/haar enkel in dienst kan houden als hij/zij assistent besteller wordt. U voert een slecht-nieuws-gesprek.

Situatiebeschrijving

Het bedrijf "Streekpost Nederland" bezorgt regionale post en verspreid huis-aan-huis reclame. Bij het bedrijf werken 1000 mensen verspreid over de verschillende vestigingen in het land.

Eén van de werknemers, de besteller J.H. van Hoog, heeft een half jaar geleden een ongeluk gehad ten gevolge waarvan het linker been is ingekort. J.H. van Hoog is weer hersteld, maar kan beslist geen lange afstanden meer lopen. De vraag is of er een nieuwe functie voor van Hoog binnen het bedrijf aanwezig is. In een eerder gesprek heeft Van Hoog te kennen gegeven wel groepschef te willen worden. Een groepschef maakt de planning voor de bestellers en lost bestellingsproblemen op.

Rolopsomming

E. Bossink, rayonchef, 38 jaar.

J.H. van Hoog, besteller, 49 jaar.

Rolbeschrijving (antagonist)

U bent J. H. van Hoog, besteller bij "Streekpost Oost". Een half jaar geleden heeft u een ongeluk gehad met de auto. Uw linkerbeen werd daarbij verbrijzeld en is ingekort. U bent nu weer op de been, zij het dat u mank loopt. U kunt niet meer terug als besteller want lange afstanden lopen is voor u onmogelijk. U hebt al eens een gesprek gehad met Bossink over uw toekomst en toen al de wens geuit om groepchef te worden. Dit laatste is een oude wens van u. Tijdens de herstelperiode heeft u een schriftelijke cursus 'leiding geven' gevolgd. Deze cursus heeft f 750,- gekost. Uw partner stond ook achter het volgen van deze cursus als een soort invenstering in de toekomst. U en uw partner vinden dat na 17 dienstjaren het bedrijf toch wel wat mag doen. U voelt zich te jong om thuis te gaan zitten en niets te doen. U heeft jaren als besteller onder verschillende groepschefs prima gefunctioneerd. Van besteller naar groepschef moet toch een niet al te grote stap zijn?

Opdracht

U hebt een gesprek met Bossink om over uw toekomst te praten.

Forth role-play for practice "Medi-tech"

Situatiebeschrijving

Medi-Tech is een bekende fabrikant van laboratoriumapparatuur te Almelo. De zaken van Medi-Tech gaan voorspoedig. De verkoopstaf brengt bezoeken aan laboratoria in onder andere de farmaceutische industrie en ziekenhuizen. Over het algemeen beschikt Medi-Tech over hoog gekwalificeerd personeel in de buitendienst. Een groot deel van de huidige verkoopstaf bestaat uit chemici die het scheikundig en laboratoriumgebruik van de meeste apparatuur goed kunnen verwoorden en derhalve deskundigheid uitstralen.

Rolopsomming

G.Gritter, landelijk verkoopmanager van Medi-Tech, 44 jaar.

D.Huuskes, vertegenwoordiger Medi-Tech, 50 jaar.

Rolbeschrijving (protagonist)

U bent G.Gritter, landelijk verkoopmanager Medi-Tech importbedrijf in Almelo. Over het algemeen bent U zeer tevreden over het functioneren van uw verkoopstaf. D. Huuskes vormt echter voor u een probleem. Huuskes haalt te weinig opdrachten binnen en heeft derhalve slechte verkoopcijfers. Hij/zij wordt een dagje ouder en heeft niet meer die dynamiek die het verkoopwerk vraagt. Verder is Huuskes vaak ziek (verkouden) en mist de technische kennis van zijn/haar jongere collega's. U heeft besloten dat Huuskes niet langer voldoet in zijn/haar werk als vertegenwoordiger en een administratieve functie binnen het bedrijf krijgt. U weet zeker dat deze overplaatsing zeer tegen de zin is van Huuskes. Hij/zij is zeer gesteld op de privileges welke bij de buitendienst horen zoals: een riant lease-auto, lunchkosten, representatie, de vrijheid etc.

Opdracht

U besluit D. Huuskes persoonlijk mee te delen dat hij/zij wordt overgeplaatst van de buitendienst naar

Appendix B

een binnendienst. U voert een slecht-nieuwsgesprek.

Situatiebeschrijving

Medi-Tech is een bekende fabrikant van laboratoriumapparatuur te Almelo. De zaken van Medi-Tech gaan voorspoedig. De verkoopstaf brengt bezoeken aan laboratoria in onder andere de farmaceutische industrie en ziekenhuizen. Over het algemeen beschikt Medi-Tech over hoog gekwalificeerd personeel in de buitendienst. Een groot deel van de huidige verkoopstaf bestaat uit chemici die het scheikundig en laboratoriumgebruik van de meeste apparatuur goed kunnen verwoorden en derhalve deskundigheid uitstralen.

Rolopsomming

G.Gritter, landelijk verkoopmanager van Medi-Tech, 44 jaar.

D.Huuskes, vertegenwoordiger Medi-Tech, 50 jaar.

Rolbeschrijving (antagonist)

U bent D. Huuskes, vertegenwoordiger bij Medi-tech importbedrijf in Almelo. U werkt al ruim 15 jaar voor Medi-Tech. U kent het beroep van vertegenwoordiger van haver tot gort. Het betekent veel reizen, trekken en is soms eenzaam. Dat is niet erg daar het gepaard gaat met regelmatige salarisverhogingen en privileges. U en uw partner zijn met name zeer op deze privileges gesteld. Bij de buitendienst horen zo al een rante lease-auto waar uw partner dol op is, lunch- en representatiekosten. De vrijheid van het beroep spreekt uzelf bijzonder aan. U kunt uw eigen werk plannen en wordt niet op de vingers gekeken. Een kantoorbaan is niets voor u.

U kent alle farmaceutische bedrijven en de meeste ziekenhuizen in Nederland en hebt tal van kontakten in het veld. Wel hebt u het idee dat collega's waarmee u begonnen bent, u aan het voorbij streven zijn. De meeste zijn al vertrokken of zitten in de rang van regio-manager. Uw jongere collega's halen met hun vlotte babbels bijzonder veel opdrachten binnen en u bent soms wel wat bezorgd over uw (slechtere) verkoopcijfers. Verder wordt u een dagje ouder en bent u nogal eens ziek (verkouden) geweest.

Opdracht

U gaat nu een gesprek met Gritter hebben. U bent er niet helemaal gerust op.

APPENDIX C
Reflection-stimulating questionnaires
for the experiment of Chapter 6

Reflectiebevorderende vragenlijst
Vooraf

1. Hoe gaat U de klap uitdelen?

FORMULEER DE BOODSCHAP ZO DUIDELIJK MOGELIJK:

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-----[nieuw scherm]-----

2. Welke argumenten heeft U om de boodschap te kunnen motiveren?
3. Welke persoonlijke gegevens heeft U?
4. Welke verwachtingen heeft de ontvanger van het gesprek?

Reflectiebevorderende vragenlijst
Achteraf

1. De wijze waarop (direct, concreet en kort) ik het slechte nieuws heb meegedeeld, wil ik
a. zo houden omdat
b. kan ik verbeteren door

VUL EEN REDENEN, ARGUMENT OF VOORBEELD IN

--

-----[nieuw scherm]-----

2. De wijze waarop ik stoom heb laten afblazen door te luisteren, samen te vatten en te reflecteren, wil ik
a. zo houden omdat
b. kan ik verbeteren door
3. De wijze waarop ik argumenten heb gegeven, mijn uitleg en timing, wil ik
a. zo houden omdat
b. kan ik verbeteren door
4. De wijze waarop ik opnieuw stoom heb laten afblazen door te luisteren, samenvatten en te reflecteren, wil ik
a. zo houden omdat
b. kan ik verbeteren door
5. De wijze waarop ik samen naar oplossingen gezocht heb, wil ik
a. zo houden omdat
b. kan ik verbeteren door
6. De wijze waarop ik afspraken gemaakt heb, wil ik
a. zo houden omdat
b. kan ik verbeteren door

Tenslotte nog enkele vragen of U in één van de valkuilen van het slecht-nieuwsgesprek bent gelopen.

7. In het gesprek heb ik vermijdingsreacties getoond. (ja/nee)
8. In het gesprek ben ik direct met argumenteren begonnen. (ja/nee)
9. In het gesprek heb ik te snel geadviseerd. (ja/nee)
10. In het gesprek ben ik zelf ook agressief geworden. (ja/nee)
11. In het gesprek heb ik onderhandeld. (ja/nee)
12. In het gesprek heb ik gediscussieerd. (ja/nee)
13. In het gesprek heb ik te veel en/of vage argumenten gebruikt. (ja/nee)

14. In het gesprek ben ik te snel met oplossingen gekomen. (ja/nee)

About the author

Gerry Asselina Holsbrink - Engels was born on January 25, 1962 in Zwolle, The Netherlands. She obtained her high school education at the 'Rhedens Lyceum' in Velp (Atheneum-β). In September 1980, she started her study Educational Science at the University of Groningen. She obtained her degree in Educational Science (cum laude), with a specialization in interdisciplinary education, at the University of Groningen in August 1986. From August 1986 to September 1989, she worked as a teacher in technical and vocational training. Since 1989, she is an assistant professor of Instructional Technology at the University of Twente.