Effects of a Self-instruction Communication Skills Training on Skills, Self-efficacy, Motivation, and Transfer

Mark A. Hommes [mark.hommes@ou.nl],
Open University of the Netherlands, School of Psychology, The Netherlands, [www.ou.nl],
Henk T. Van der Molen [vandermolen@fsw.eur.nl],
Erasmus University of Rotterdam, Faculty of Social sciences, The Netherlands, [www.eur.nl]

Abstract

This article describes a study on the effects of a self-instruction training programme in communication skills for psychology students at the Open University of the Netherlands in comparison to a fully supervised training. We expected both training programmes to increase students' knowledge and skills, as well as their self-efficacy and motivation concerning the use of skills. Furthermore we expected that both training programmes would lead to the transfer of these skills to daily life situations one year after training. The results show that almost all expectations were met, and that the effects of the self instructional programme in this study were comparable to those of the fully supervised training. The main conclusion is that it is possible to construct an effective self-instruction programme in communication skills for psychology students in distance education and this method could be promising for communication skills training for others groups.

Key words: Self-instruction, communication skills training, self efficacy, motivation, transfer, distance education

Topics

Introduction

In the last two decades institutes of higher education have shown a growing interest in self-instruction for professional skills training. Increased student numbers and decreased availability of staff requires a cost-effective alternative for the traditionally time-consuming practical training. In this context, various types of self-instruction programmes for communication skills training have been developed and have shown substantial positive effects on students' knowledge and skills (Hommes, Van der Molen, and Lang, 1994; Schönrock-Adema, 2002; Hommes, 2006; Kuntze, Van der Molen, and Born, 2009; Kuntze, 2009; Schönrock-Adema, Van der Molen and Van Oudenhoven-Van der Zee, 2009). However, research is lacking on the effects of self-instruction programmes on motivational variables such as self-efficacy and outcome

expectancy, the value that people place on the outcome. Furthermore, little is known about the effects on the ultimate goal of the training: transfer of learned skills to daily life. The aim of the present study was to assess the effects on knowledge, skills, self-efficacy, motivation and transfer of a self-instruction programme (SIP) for a basic training in professional communication skills for psychology students at the Open University of the Netherlands (OUNL) in comparison to a fully supervised training (FSP).

Training method

According to the European Federation of Psychologists (EFPA) training in professional communication skills should be a part of psychology curricula (EFPA, 2006). Psychologists should be able to use the professional interview as an instrument in their work and therefore they have to master a variety of communication skills. An effective method for this training, based on social learning theory (Bandura, 1977, 1986, 1997), is the microcounselling method (Ivey, 1971; Ivey and Authier, 1978; Daniels, 2003; Daniels and Ivey, 2007; Ivey and Bradford-Yvey, 2007). A method derived from this microcounselling method is the Cumulative MicroTraining (CMT) method that was developed by Lang & Van der Molen (1992). In CMT the complex skill of professional communication is divided into small meaningful skills which are trained in a seven step training programme based on social learning principles. With each new step a skill is cumulatively added to the existing repertoire and all skills are practiced together, thus enhancing the integration of the separate skills to a more complex integrated behaviour. In the first step of the CMT method students are provided with theoretical instruction on the skill at hand (e.g. asking questions), followed by a second step in which the application of the skill is demonstrated on video (modelling). In the third step students analyse the video so that their attention is drawn to important aspects of the skill (e.g. the difference in effect between open and closed questions: open questions leading to more and more relevant information, and closed questions leading to short and specific information). In the fourth step they practice the isolated skill in separate exercises. In the fifth step they practice the application of this skill in combination with the skills they already master in role plays and in the sixth step they receive feedback on their achievements during the exercise by the trainer and by fellow students. Finally in the seventh step they identify learning points according to the feedback they received. These learning points are used as a focus of extra attention in the next round of role plays.

With its structured approach CMT has proven a solid base for the construction of self- instruction programmes (Schönrock-Adema, 2002; Kuntze, 2009). The distance education's bachelor course in communication skills for psychology students of the OUNL is constructed accordingly. Its main goal is to improve students' professional competence in communication skills by improving their knowledge, insight, and skills. The course focuses on microskills and models for specific types of conversation (see table 1 for a list of all skills and models). New in this programme is the use of unsupervised training sessions in which students practice communication skills where standard training procedures normally include supervision and feedback from a professional trainer during these sessions.

Table 1:   Communication skills and models in the training

Skills
Basic listening skills
Attending behaviour, Asking questions, Paraphrasing, Reflection of feeling, Summarizing
Regulating skills
Opening and closing the conversation, Defining goals, Clarifying unclear expectations
Assertive skills
Requesting, Rejecting requests, Giving an order, Rejecting an order, Criticizing, Responding to criticism.
Models
Semi-structured interview
Giving advice
Breaking bad-news
Appraisal interview

Students of the OUNL are usually older, more mature, more highly motivated, and more independent than regular academic students. Many of them have a job and they are accustomed to a large amount of freedom in conducting their activities, and to studying at a time and place of their own choice. In the construction of this course, we adapted the CMT method to these specific features of students in distance education.

In order to maximize the flexibility of the programme we started by distinguishing elements of the training

that could be conducted outside group training sessions. These elements were: the theoretical instruction, the viewing an analyzing of video models, and the separate exercises to practice them. For each communication skill, these elements were built in the self-instruction programme by means of video, exercises and feedback. Subsequently, we investigated the most important tasks of a trainer during skills training sessions and developed techniques and aids (materials for exercises and role-plays) that made it possible for students to take over these tasks themselves. This resulted in a training programme consisting of eight sessions. A professional trainer, who was appointed at the OUNL, supervised students in only three out of the eight sessions. In each of the remaining five sessions two students were assigned the role of trainer. The detailed instructions, special exercises and the aids for this programme were also incorporated in the SIP. The training manual (Hommes, Van Dolen, Oosterveld, Van der Molen and Kluytmans, 1995) is available from the authors upon request.

The main research questions in this study are:

1. What is the effectiveness of the SIP and of a fully supervised training programme (FSP) in professional communication skills and
2. Are the effects of the two programmes comparable? We will investigate the effects on:
   1. mastery of the communication skills (both knowledge and skill),
   2. self-efficacy,
   3. motivation and
   4. transfer.

In the next section we will discuss the relevance of these four variables.

Mastery of the communication skills

A meta-analysis by Daniels (2003), including over 450 studies, demonstrated that the method of microcounselling is effective in many fields of professional skills training. The studies in this meta-analysis involved only fully supervised training. But what effect will the training generate if the trainer's role is partially substituted by self-instruction? One would intuitively expect training under expert supervision to yield better results than a self-instruction method. After all, it would seem rather difficult to set off the entire role of the trainer in creating a constructive learning environment and providing expert additional feedback in the role plays.

This intuitive expectation, however, was not supported in studies into the effectiveness of self-instruction programmes (Bosker, Hommes, Van der Molen and Lang, 1995; Schönrock-Adema, 2002; Schönrock-Adema, Van der Molen and Van Oudenhoven-Van der Zee, 2009). Schönrock-Adema (2002) investigated the effect of self-instruction in a communication skills training programme for undergraduate psychology students. In this study, the effects of the training on communication skills were measured by means of a role-play test and a video test. The training concerned was a basic communication skills course comprising ten sessions. In this study, Schönrock-Adema observed a significant and relevant improvement in communication skills after the training, both in the video test and in the role-play test. This improvement was on a par with the improvement measured in a fully-supervised variant of the same training. In one of her studies, the self-instruction method even turned out to yield a slightly better result than the supervised training.

The self-instruction in Schönrock-Adema's study was restricted to the training components preceding the role plays. The actual role plays were carried out during sessions supervised by expert coaches. Self-instruction in role plays has been used in the seventies of the preceding century in a "mini course" for teachers, aimed at mastering specific teaching skills (Borg, 1972; Veenman, 1979). This training method, developed by the Far-West Laboratory for Educational Research and Development in San Francisco, features a step-by-step acquisition of clearly defined skills on the basis of video examples and role plays with feedback provided by fellow students. The sessions are unsupervised. In various training programmes, the "mini course" method proved to be effective in mastering teaching skills (Borg, 1972; Hilliard, 1970; Bredänge and Tingsell, 1974; Veenman, 1979; Bosker et al., 1995). In the study conducted by Bosker et al., (1995), the self-instruction programme for trainers of social skills training programmes even turned out to be significantly more effective than similar training supervised by an experienced trainer.

A possible explanation for the comparable effects generated by supervised and self-instruction-based training is that the self-instruction training encouraged students to engage in the content in a more active manner and to take more responsibility for their own learning process than students who were supervised during a session (Hommes, 1991; Van Eijnatten, 1992; Schönrock-Adema, 2002). This ties in with the results of research in the field of cooperative learning where students collaborate at various levels in small groups, often without supervision, working towards a common goal. In this method, the students are responsible for their own learning process and that of their fellow group members, which causes them to adopt a more active role than they would in traditional lessons (Totten, Sills, Digby, and Russ, 1991). Cooperative learning techniques are believed to result in a higher level of dedication, more interest in the subject matter, more self-confidence, a more critical reasoning power, a better retention of what has been learned and a better performance than traditional teaching methods, such as whole-class instruction and

individual learning (Johnson and Johnson, 1986; Slavin, 1987; Johnson and Johnson, 1989; Andrews, 1992; Slavin, 1996).

Based on the effects of self-instruction programmes observed earlier and the experiences with cooperative learning, we expect that a carefully designed self-instruction programme for practising communication skills could yield effects that are comparable to those of supervised training in the mastery of communication skills. Furthermore, we expect that both training methods in our study, compared to a control group, will bring about a significant and relevant improvement in mastery of communication skills.

Self-efficacy

An important stimulus for actually using new learned skills is a person's self-efficacy belief concerning those skills. Self-efficacy beliefs are defined as: *"beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments"* (Bandura, 1997, p. 3). Within the framework of social cognitive theory, self-efficacy is relevant before, during, and after training since it influences the learning process in many ways. People with a strong sense of personal competence in a certain domain approach difficult tasks in that domain as challenges to be mastered rather than as dangers to be avoided. They have greater intrinsic interest in activities, set challenging goals and maintain a strong commitment to them. In the face of failure, they heighten their efforts and when they fail, they more easily recover their confidence and attribute the failure to insufficient effort or deficient knowledge and skills, which they believe they are capable of acquiring (Bandura, 1997). Strong self-efficacy stimulates people to learn but also to actually try out and use new behaviour. Therefore the enhancement of self-efficacy can be considered, and often is, an important outcome in e.g. counsellor training (Urbani, Smith, Maddux, Smaby, Torres-River and Crews, 2002).

The CMT-method used in this study is based on the two most important sources of self-efficacy that Bandura describes: enactive mastery experience and vicarious experience. Therefore, this method can be expected to have a positive effect on student's self-efficacy concerning their communication skills. But to what extent can the guidance of a trainer be missed in this process? On the one hand there are indications that self-instruction skills training can make students overcritical. After a self-instruction training on teaching skills for trainers of social skills training, participants were extremely aware of everything they did wrong but far less aware of the way in which their teaching skill had improved, whereas the objective assessment of their teaching skill showed a substantial increase and proved to be high after training (Hommes, 1991). It has often been observed that trainees get more critical on their performance during skills training. Studies show that students generally overestimate their counselling skill before training and that afterwards this overestimation has disappeared (Crews, 1999) or even turned into an underestimation of their counselling skills (Urbani et al., 2002). A trainer can compensate for this effect by giving extra supportive positive feedback to those who become overcritical concerning their mastery of skills during the training. On the other hand, working together in an active self-instructional group can also have a positive effect on students self-esteem, as we see in cooperative learning research (Slavin, 1987).

Motivation

Communication skills training will only be effective in changing behaviour if trainees have the motivation to use the skills they learned. Apart from the belief that they are capable of performing the requisite behaviour (self-efficacy) ("I think I am able to ask open questions"), they also have to belief that application will lead to an expected outcome and they have to evaluate this outcome positively (Maddux, Norton and Stoltenberg, 1986). For example: "When I ask open questions to the client, I have more chance to acquire useful information, and I consider that as positive, because it will be more easy to come to a good diagnosis". These two elements 'outcome expectancy' and 'outcome value', are found in the Expectancy Value theory (Ajzen and Fishbein, 1980), which is often used as a theoretical framework in the evaluation of training. In this study we define motivation as the value that trainees place on the use of the skills that are taught and their outcome expectancy towards the use of these the skills.

Research shows that training can enhance motivation to use the skills (Tannenbaum, Mathieu, Salas and Cannon-Bowers, 1991) and that the transfer of trained skills to real life situations is positively related to the motivation to use them (Noe, 1986; Chiaburu and Marinova, 2005). Studies on the transfer of training reveal several factors that influence this motivation to apply the skills. During training the motivation to apply the skills can be influenced by a demonstration and experiencing of the usefulness of skills. Furthermore motivation can be enhanced by giving positive feedback on adequate application (Pritchard, 1990). In the CMT method that is used in the SIP these processes are incorporated in the training programme by means of modeling (video examples of wrong and good application), exercises and role-plays after which students receive constructive feedback.

However, passing such constructive feedback to their fellow trainees can be difficult for students who are still busy learning the skills themselves. Considering that experienced trainers will probably be better at giving constructive feedback than fellow trainees we might expect the SIP to be less effective in raising motivation. On the other hand successful self-instruction might add some extra motivation because students experience that they learn by themselves. Intrinsic motivation is known to increase more when the person itself derives feedback from the situation then when it is given by someone else (Deci and Rian,

1985). It is therefore interesting to see whether a self-instruction programme can yield an effect on the motivation to use the skills that is comparable to that of a fully supervised training.

Transfer

The ultimate goal of a communication skills training is that trainees actually start using the skills in daily practice. In the training literature this is called *transfer of training*. Wexley & Latham (1991) defined transfer as the degree to which trainees apply the knowledge, skills and attitude gained in a training context to the job. Research indicates that the transfer of training is in fact difficult to accomplish (Baldwin and Ford, 1988; Wexley and Latham, 1991; May and Kahnweiler, 2000). In search of improvement many studies have focused on the identification of factors that can enhance this transfer, often based on the model of Baldwin and Ford (1988). This research identifies three types of training input variables that influence the amount of transfer (Baldwin and Ford, 1988; Blume, Ford, Baldwin and Huang, 2010; Burke and Hutchins, 2007):

1. trainee characteristics (e.g. cognitive ability, self-efficacy, motivation, personality)
2. training characteristics (e.g. learning principles, content relevance, instructional strategies and methods)
3. characteristics of the environment (e.g. support, opportunity to perform)

Since the training is based on the effective microcounselling method and is designed to enhance skills, self-efficacy and motivation, and since students generally report their use of the learned communication skills in daily life very enthusiastically, we expect to find proof of transfer for this training after one year.

Method

In this study we investigated the effects of the self-instruction programme (SIP) and of a fully supervised programme (FSP) using a pre-test post-test, follow-up design with two experimental groups and a control group to check for testing effects on the knowledge and mastery of communicational skills. Participants in this study were 285 bachelor psychology students of the Open University of the Netherlands; 255 of them took part in the communicational skills training and 30 were in a control group that did not receive the training. A total of 71 of them were men, and 214 women. Since the population of students at the Open University is quite diverse, the ages differed from 19 to 71 years old ($M = 38.6$, $SD = 7.8$).

The training participants were divided over 21 training groups of 9-15 students on the basis of the geographic location of their residence. The training groups were randomly assigned to the two conditions SIP and FSP. In the first condition, 149 students performed the SIP with three supervised sessions and five self-instruction sessions. In the second condition 106 students performed the same training programme, but received full supervision during the sessions (FSP). The control group consisted of 30 psychology students who participated in a training in research skills and who had not yet taken the course in communication skills.

In a pre-test proceeding the first training session, we measured the basic level of knowledge about communication skills, mastery of communication skills, self-efficacy, and motivation of the participants. One week after the last session, a post-test was conducted, measuring the levels of knowledge, mastery of communication skills, self-efficacy, and motivation. In the control group we measured knowledge and mastery of communicational skills twice with an interval of seven weeks, equal to the duration of the training. For the assessment of the long-term effects of the training, students that participated in the training and in the post-test received a questionnaire measuring transfer, self-efficacy, and motivation one year after the training. The questionnaire was filled out and returned by 144 students (response rate 59%).

Instruments

Mastery of Communication skills

In order to assess the how much students have learned from the training we used two instruments: a paper and pencil test for the assessment of knowledge on the skills and a video test for the assessment of the mastery of communicational skills. The knowledge test consisted of 35 multiple-choice items that were drawn from the item pool of the regular examination of this course. The items reflect the knowledge on and insight in communication skills that is presented in the textbook accompanying the training (Van der Molen, Kluijtmans, and Kramer, 1995), e.g.:

> 'A correct paraphrase is typified by:
>
> a being brief and specific.
>
> b being as much as possible a literal repetition of what was said.

> *c containing an appreciation of what was said.'*
>
> *Cronbach's alpha was .77.*

The level of mastery of the communication skills was assessed by means of a video test constructed by Schönrock-Adema (2002) (see also Schönrock-Adema et al., 2009). This test consists of 24 video clips. In each video clip the participants see an actor talking to the camera about a personal problem or a situation. After each video clip participants are asked to write down literally what they would say tot this person, having received the instruction to use a specific communication skill (e.g.: 'Give a correct paraphrase of content'). This method for the assessment of communication skills has proved to be reliable and valid (Smit, 1995; Schönrock-Adema, 2002; Kuntze, 2009). The video test was distributed in a classroom setting and three trained assessors rated the answers afterwards. The inter-rater reliabilities (Gower coefficient) ranged between .85 to .90. Cronbach's alpha was .81. In order to control for testing effects we used parallel versions of both the knowledge test and the video test that were distributed equally over both conditions.

Self-efficacy

For the assessment of self-efficacy for communication situations we constructed a scale, initially consisting of 23 items, 14 of which were directly derived from the course content (e.g. 'I am capable of directing the course of the conversation.') and 9 items concerning group functioning were translated from the *'Multidimensional Scales of Perceived Academic Efficacy'* of Bandura (1990) (e.g.: 'I am capable of participating in class discussions'). Factor analyses showed that 20 of the 23 items loaded high on one main factor (Hommes, 2006) and these 20 items were used in this study. Items had to be rated on a 6-point scale (1 = *totally agree* to 6 = *totally disagree*). Cronbach's alpha was .91.

Motivation

Motivation to use the skills was measured by three items concerning outcome value from the *'Motivation List for Training'* (Adema, et al., 1998). An example of an item is: 'Good communication skills are important to a psychologist'. Items were scored on a six-point Likert-scale, running from 1 = *totally disagree* to 6 = *totally agree*. Cronbach's alpha was .68.

For outcome-expectancy we constructed a 13 items scale concerning the expected positive and negative outcome of the use of the skills (e.g. 'I expect that using the assertive skills of this training helps people in attaining their goals.'). Items had to be rated on a 6-point scale (1 = *totally agree* to 6 = *totally disagree*). Cronbach's alpha was .81.

Transfer

In the measurement of the variable transfer we constructed a scale consisting of 14 items on the perceived change in skill or awareness in conversations as a result of the training. Examples are: 'I am better at maintaining a clear structure in the conversation' (skill) or 'I pay more attention to my non-verbal behaviour during conversations' (awareness). Items were scored on a five-point Likert-scale, running from 1 = *totally disagree* to 5 = *totally agree*, and the possibility 'not relevant'. Cronbach's alpha was .87.

Results

Mastery of Communication skills

Table 2 shows the results of the two training groups and the control group on Knowledge and Skills on pre-test and post-test. The means on the pre-test show that the initial level of

Table 2: Means (M) and Standard Deviations (SD) for Pre-test and Post-test on Knowledge and Skills, for SIP, FSP and control group

		Pre-test		Post-test	
		M	SD	M	SD
Knowledge	**SIP**	21.65	3.32	28.97	2.48
	FSP	21.43	3.43	29.28	2.58
	Control group	19.82	3.27	20.86	4.70
Skills	**SIP**	16.76	6.57	26.63	5.46

FSP	15.47	6.20	26.71	5.59
Control group	9.59	6.78	11.07	5.88

Knowledge and Skill was higher in the training groups than they were in the control group, thus indicating that the groups were not completely comparable. The increase in Knowledge and Skills in the training groups, however, is substantially larger than that of the control group. The increase in the training groups compared to that in the control group is significant for both SIP ($t(144) = -7.03$, $p < .001$) and FSP ($t(120) = -7.34$, $p < .001$). The effects of both training programmes are comparable.

As an indication of the effect-size of the training we computed the Cohen's effect-size (Cohen, 1969). We found high effect sizes for both training programmes on Knowledge: ES-SIP = 2.20 and ES-FSP = 2.29.

The same pattern was found for mastery of communication skills. The increase in the training groups compared to that in the control group is significant for both SIP ($t(168) = -7.07$, $p < .001$) and FSP $(t(123) = -7.00$, $p < .001$). The effects of both training modes are comparable.

Cohen's effect-sizes for Skills were high for both groups (ES-SIP = 1.51, ES-FSP = 1.81).

Self-efficacy

Table 3 shows the results of the two training groups on self-efficacy. As an indication of the average height of the scores we report the mean of the average item response on the 6-point scales. Both SIP an FSP show a significant increase in self-efficacy immediately after training (SIP: $t(133) = -11.16$, $p < .001$; FSP: $t(97) = -9.40$, $p < .001$) and the effects are still significant one year after training(SIP: $t(81) = -5.68$, $p = .00$; FSP: $t(54) = -4.28$, $p = .00$). The effects of both programmes on self-efficacy appear to be comparable. Transformed to Cohen's effect-size (Cohen, 1979) we see high effect sizes for both training programmes. One year after training the effect-sizes (pre-test - follow-up) are moderate.

Table 3: Mean average item response (M) and Standard Deviations (SD) for Pre-test, Post-test and Follow up on Self-Efficacy, for SIP, FSP combined with Effect Sizes (ES)

		SIP			FSP		
		M	**SD**	**ES**	**M**	**SD**	**ES**
Self-efficacy	**Pre-test**	4.64	.49		4.57	.47	
	Post-test	5.06	.41	.86	5.04	.43	1.0
	Follow-up	4.99	.47	.71	4.85	.50	.60

Motivation

The outcome expectancy and outcome value of the students in this study was already rather high on the pre-test (see table 4). The mean of the average item response for outcome value at the pre-test were 5.39 (SIP) and 5,38 (FSP) on the 6-point scale and did not increase after training. The effect-sizes (pre-test – follow-up) for outcome value are to be neglected.

Outcome expectancy increased slightly after training. These effects proved to be significant (SIP: $t(133)= -5.73$, $p < .001$; FSP: $t(96) = -3.03$, $p < .005$). Effect-sizes are small for both groups. After one year the significant effects have disappeared. The effects appear to be comparable, with a slight advantage for the SIP, thus indicating that self-instruction in this study is at least as effective in increasing outcome expectancy as supervised training.

Table 4: Mean average item response (M) and Standard Deviations (SD) for Pre-test, Post-test and Follow up on Outcome expectancy and Outcome value, for SIP, FSP combined with Effect Sizes (ES)

		SIP			FSP		
		M	**SD**	**ES**	**M**	**SD**	**ES**
Outcome value	**Pre-test**	5.39	.42		5.38	.47	

		M	SD		M	SD	
	Post-test	5.34	.49	-.12	5.36	.52	-.04
	Follow-up	5.46	.65	.17	5.43	.59	.11
Outcome expectancy	**Pre-test**	4.99	.47		4.94	.58	
	Post-test	5.20	.48	.45	5.07	.54	.22
	Follow-up	5.11	.56	.26	4.95	.49	.02

Transfer

Table 5 shows the results for SIP and FSP on Transfer. The mean of the average scale response on Transfer for both SIP and FSP was approximately 4 on the 5-point scale, indicating that after one year students report an increase in skill and awareness in conversations as a result of the training. The SIP was at least as successful in accomplishing this as the FSP.

Table 5: Mean average item response (M) and Standard Deviations (SD) for SIP and FSP on Transfer one year after training (Follow-up)

	SIP		FSP	
	M	**SD**	**M**	**SD**
Transfer	4.05	.58	3.94	.55

Discussion

This study concerned the effects of a self instructional programme and a fully supervised programme on professional communication skills immediately after and one year after training. The main goal was to investigate whether these programmes lead to improvement of knowledge, skills, self-efficacy, outcome value, outcome expectancy, and transfer. We expected both programmes to have a positive effect on all variables. This proved to be the case for nearly all variables. High effect sizes were found for knowledge about and mastery of communication skills. Improvement of knowledge and skills in both training programmes were higher than in the control group, indicating that the effects were not due to testing. In addition, both training programmes were successful in improving the self-efficacy of participants. The results for motivation show that outcome value and outcome expectancy were already high at pre-test level. In spite of the high pre-test scores, outcome expectancy showed a slight significant increase immediately after training. However, after one year this effect was not significant any more. Outcome value did not change during training. The scores on transfer indicate that students experience an increase in their communication skills and awareness in conversations both in work situations and in personal life after one year as a result of the training.

The second goal of this study was the comparison of the effects of the self- instruction programme and the fully supervised programme. The results indicate that there were no substantial differences in effect between the two programmes. The lack of supervision in this specific self-instruction programme apparently had no negative effect on the training outcomes and had no drawback for transfer, self-efficacy, and motivation one year after training.

A few limitations of this study however need to be taken into account. In the first place the control group in this study proved to be not entirely comparable to the training groups. Participants of the training groups scored higher on the pre-test. A possible explanation is that some of them may have already started to study the literature of the course. This could have enabled them to learn more from the pre-test than their control group peers, thus increasing the testing effect in the training group in comparison to the control group. However the use of different versions for pre-test and post-test does not make it likely that testing is the only explanation for the large effects that were found. Furthermore similar studies into the effectiveness of the microtraining method did not find testing effects (Bögels, 1994; Smit, 1995; Van der Molen, 1985).

A second limitation is the way in which we measured transfer in this study, by means of a retrospective self assessment. Besides the fact that participants judge their own behaviour, which is subject to distortion (Howard, 1980; Ciminero, Calhoun and Adams, 1986), they also have to compare their behaviour before and after training. This can affect the reliability of the measure, since there is a possibility of inaccurate judgement of one or even both moments and it is liable to social desirability. In the assessment of transfer

we have an additional problem since people are not always aware of the changes they have made in their behaviour. Foxon (1994) indicates that the optimal stage of transfer is characterised by the fact that people use the skills without being conscious of it, after a learning process of consciously applying them. The scores on transfer can therefore be distorted in different ways and need to be interpreted with care.

A third limitation in this study lies in the characteristics of the participants. Participants in this study were independent and mature adults who were highly motivated to learn the skills and scored reasonably high on self-efficacy before training. Many of them were already experienced in conducting conversations, leading discussions and giving feedback. These characteristics make them well suited for this type of self-instruction. The effects of self-instruction in this group therefore cannot be generalized to other groups with less motivation, self-efficacy, independence and experience.

Conclusions and practical implications

The main conclusion on the basis of this study is that it is possible to construct an effective self-instruction programme in communication skills with unsupervised training sessions for psychology students in distance education. This is a further step in the implementation of self-instruction. Schönrock-Adema (2002) found that self-instruction could effectively be used for studying theory, watching and evaluating video models, and the practice of communication skills in simple exercises. She warned, however, for negative effects of using only self-instruction during complex training situations, like role-play sessions. Our findings indicate that the effects of a training programme with unsupervised sessions can be very strong and comparable to the effects of training under full supervision, provided that the sessions are well embedded in a self-instruction programme and participants show sufficient motivation, self-efficacy, and independence.

The participants in our studies were mature students with relatively high motivation, self-efficacy, and independence and, therefore, we must be careful in generalizing the conclusions to other groups of students. Considering that motivation and independence are probably important factors for the success of this method, this method of self-instruction could yield effect in situations where people are intrinsically motivated to learn certain well-defined skills because they notice that they need those skills in everyday life. This could be the case for the training of employees in organizations or post-master training.

Recommendations for future research

Considering the positive effects of this self-instruction programme , it is recommended to examine the possibilities of using unsupervised sessions in communication skills training for others groups, e.g., regular students in scientific and higher vocational education. Since these students are likely to be less mature, motivated, and independent than students following distance education, it would be important to investigate the effects of motivation and independence on training effects for these groups. Research on the possibilities of generalization to other types of training is also recommended. The Faculty of Psychology of the Open University of the Netherlands has already experimented with unsupervised training sessions in courses on advanced counselling skills (Hommes, Lang, and Van der Molen, 2007) and psychodiagnostic skills (Hommes, Houtmans, Van Leuven, Ter Laak, Kuntze, Hummel and Van der Molen, 2006). Systematic research on these topics could provide information on the boundaries of the application of this method for other groups or settings.

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