>> TWO EXPERIMENTAL INVESTIGATIONS ON THE RELATIVE EFFECTIVENESS OF TWO VARIATIONS OF A PROGRAM–ONE WITH PRACTICAL LABORATORY EXPERIENCES AND ONE LACKING THESE EXPERIENCES

The Contribution of Practical Laboratory Experiences to the Improvement of Nonverbal Decoding Abilities[1]

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Purpose of Studies

Based on a program for the improvement of nonverbal decoding and encoding skills which was successfully tested on its effectiveness and evaluated (Klinzing and Gerada Aloisio 2004a), two experimental studies were conducted to investigate the contribution of focused practical laboratory experiences on the improvement of the accuracy of nonverbal decoding ability.

Rationale/Review of Research

Nonverbal Sensitivity

The ability to accurately decode nonverbal cues matters greatly in daily life. Strong research evidence suggests that understanding socially agreed upon meanings for nonverbal signs and signals is one of the key competencies for effective communication and teaching (e.g. Rosenthal, Hall, DiMatteo, Rogers and Archer 1979, Knapp and Hall 2002, Klinzing and Gerada Aloisio 2004a). Variations in the ability to judge nonverbal communication contribute in important ways to the outcomes of interactions between communicators, in both formal and in informal settings. For example, during the actual process of communication, individuals must continually make judgments about how successfully they are exchanging information. As an audience becomes larger, *verbal* feedback becomes more limited and the communicator becomes increasingly dependent on nonverbal cues from the audience. This is especially true in formal settings such as those encountered by teachers where *"... continuous feedback that can be matched against what a communicator has been attempting to get across tends to improve the effectiveness of communication"* (Jecker, Maccoby; Breitrose and Rose 1964, 393).

The importance of one's ability to judge nonverbal cues is evident in research examining personal traits and psychosocial variables associated with nonverbal decoding. Skilled decoders of nonverbal signs and signals have been found to possess the following personal characteristics: *"better adjusted, less hostile and manipulating, more interpersonally democratic and encouraging, more extraverted, less shy, less socially anxious, more warm, more empathic, more cognitively complex and flexible."* (Knapp and Hall 2002 85). In keeping with possession of these desirable characteristics, skilled nonverbal decoders are more *self-monitoring*, are considered more *popular and sensitive* to the needs of others, and report higher levels of *warmth* and *satisfaction* in their own personal relationships (Hall 1998, Knapp and Hall 2002).

Interactants' sensitivity to nonverbal signs and signals affect quality of communication and, consequently, its *outcomes*. Supervisors' ratings of professional excellence of clinicians were related to the accuracy in decoding nonverbal signs and signals in 13 studies (assessed with the PONS-test, Rosenthal et al., 1979; median correlation: 0.20). Teaching skill of teachers rated by supervisors correlated significantly with the *accuracy of decoding* or receiving nonverbal cues in three samples (median correlation was 0.38; Rosenthal et al. 1979, 372). Also, Profile of Nonverbal Sensitivity scores of physicians were positively related to the satisfaction and appointment-keeping records of actual patients (DiMatteo, Taranta, Friedman and Prince 1980, DiMatteo, Hays and Prince 1986, see Knapp and Hall 2002). All these findings document the importance of nonverbal sensitivity in communication.

Improving teaching skill by traditional teacher education methods

In traditional teacher education, most of the ability to receive (and to send) verbal and nonverbal signals must be developed through the acquisition of knowledge and insights *and* within the framework of on-the-job-learning and teaching practice. The belief that this alone will help prospective teachers become

more sensitive, reflective, and effective is often challenged. Knowledge and insights might be acquired effectively through lecturing, reading or formal coursework, but it is doubtful that the frequently lengthy stays in the semantic stratosphere does lead to related appropriate performance (e.g. Aspy 1972, Cohen 1973, Evertson, Brophy, and Crawford 1975; Klinzing, Fitzner and Klinzing-Eurich 1983, Peck and Tucker 1973, Rosenshine 1971, Tausch and Tausch 1977).

Field experiences in the practicum, early field experiences, or student teaching are the major vehicles for providing practical experiences in any preservice teacher education program for the acquisition of knowledge about pupils and processes of education and communication abilities. They are assumed by prospective teachers, laypeople, many teacher educators as the most influential, practical and useful component of preservice education (e.g. Joyce, Yarger and Howey 1977, Applegate 1986). A number of studies conducted from the 1950s till 1980s of the effects of field experiences indicated successful effects. In their review of research on teacher education, Peck and Tucker (1973) report five studies (out of 17) in which positive results were obtained on effects of practice experiences. It is appropriate to note, however, that in these studies special arrangements (e.g., selection and/or training of cooperating teachers and/or supervisors, special programs) were taken. Becher and Ade (1982) optimistically summarized earlier reviews, e.g., that of Peck and Tucker (1973) and Zeichner (1980), on positive effects of field experiences: *1) "Improving general teaching behaviour and performance; 2) increasing professional orientations, attitudes, and commitment; 3) increasing the preservice teacher's ability to determine readiness levels, clarify objectives, and motivate and evaluate students; 4) reducing prejudice 5) facilitating understanding and acceptance of "disadvantaged children"; 6) increasing the use of indirect methods of teaching; and 8) developing a preference for a democratic teaching style."* (Becher and Ade 1982, 24).

On the other hand, the majority of studies indicate that the approaches to teaching practice in traditional teacher education seem not to be entirely satisfactory. Peck and Tucker (1973) report 12 studies indicating that at least at the end of (undefined) student teaching, in comparison to the starting position prior to the field experience, there are decrements in professional attitudes and behaviors. In some of the same and other additional studies, researchers (like Turney et al. 1982, Becher and Ade 1982, Waxman and Walberg 1986) found mixed results of the effects of field experiences in preservice teacher education on academic performance, professional attitudes, general teaching behaviour and performance. Even though the programs aimed to achieve the opposite, indications were found that student teachers became more impersonal, more authoritarian, more rigid, more control-oriented, more custodial, and more restrictive of student behaviour. In addition, they became less student-centered, less accepting, less "humanistic". *"They also showed an increase in the proportion of time spent stating facts and their own opinions and a decrease in time spent on student ideas and responses."* (Becher and Ade 1982, 24, see also Waxman and Walberg 1986). A quantitative synthesis of 24 studies of the effects of student teaching found that practice and beginning teaching was associated with greater authoritarianism and self-doubt (Colosimo 1981, reported in Walberg 1986).

The contradictions and conflicting interpretations of practice continue in later (most "qualitative", "interpretative", interview, and questionnaire) studies and writings on the effects of practice components in preservice teacher education. Again, although the practice experiences in preservice education are highly valued by student teachers and practitioners and some components of professional growth associated with practical experiences seemed to be improved, still studies can be found calling benefits of these experiences in question. Joyce (1988, 33) provides the highly critical view of what is learned in field experiences. From a substantial amount of studies and earlier research reviews the author summarized the state of the art, that the major effects of field experiences were "worsening of attitudes toward students", a "suspicion toward innovative teaching methods", and a "general negativism toward educational theory and research". Furthermore, the author concluded from observation studies that the evolution of teaching behavior during student teaching paralleled the negative changes in professional attitudes: "teacher candidates generally became more directive toward students, rewarded them less, and they punished them more", the "cognitive level of their classroom discourse lowered significantly, and they solicited student ideas and opinions less. Classroom moves designed to stimulate divergent thinking were virtually extinguished in most teacher candidates after six weeks of field experience", "the proportions related to structuring and control increased."

The critical views are repeated in recent reviews (Kagan 1992, Ben-Peretz 1995, Morine-Dershimer and Leighfield 1995). Again, it is argued, practice might not always be the proving ground for prospective teachers (Feinman-Nemser & Buchman, 1987; Freiberg and Waxman 1990, Zeichner and Gore 1990). Cruickshank and Metcalf (1990, 475) state: "*Even the segment of teacher education intended to be most pragmatic and practical, school-based experience including student teaching, is suspect.* Research on the practice component in preservice teacher education is equivocal.

In order to maximize desired outcomes of preservice teacher education, interaction/teaching laboratories were developed to provide a set of focused and controlled experiences. Laboratory experiences are *"direct or simulated to allow observation, application, study, and analysis of educational events or phenomena in a controlled, usually simplified setting"* (Metcalfe 1995, 578, see also Berliner 1985). They were designed "to bridge the gap between principles and practices" (Copeland 1982, 1008), to improve general competence and/or technical skill of personnel after their academic studies and before they take responsibility for teaching or other tasks (e.g. Allen and Ryan 1969, Zifreund 1983, Metcalfe 1995). Later they were also used widely in connection with academic courses (e.g., general methods courses or courses in educational psychology) as a means to enlighten theory (e.g., Davis and Smoot 1969), and also in inservice programs (Klinzing 1998). Teaching Laboratories produced a substantial body of research (Peck and Tucker 1973; Turney et al. 1973, Butcher 1981, Cruickshank and Metcalfe 1990, Klinzing and Tisher 1993, Klinzing 2002), demonstrating their effectiveness. "*By far the majority of the research results* (of more than 200 studies, HGK)*, however, support the assumption that the employment of these procedures in both, pre- and inservice education will lead to positive and long-term effects in the acquisition of verbal and non-verbal behavioral patterns, in the integration of what has been learnt during training into the individual behavioral repertoire, and in the transfer into professional practice."* (Klinzing 2002, 214)

Improving Nonverbal Skill

Although skill in nonverbal communication is a fundamental part of social and teaching competence and an asset in everyday life, it is widely neglected in teacher education. Again, as for verbal behavior, strong research evidence suggests that traditional teacher education or on-the-job-training is not sufficient to develop teachers' nonverbal skill (Jecker et al., 1964; Rosenthal et al., 1979). Thus, programs using a laboratory approach to improve the accuracy of nonverbal decoding were designed at the beginning of the 20th century

(see e.g. Rudolph 1903). Since the 1920s projects related to the improvement of this important aspect of social competence were studied for their effectiveness in the fields of psychology and education (Rosenthal et al. 1979). Klinzing and Tisher (1986), Klinzing and Jackson (1987) and Klinzing and Gerada Aloisio (2004b) concluded from their meta-analysis of 75 studies that systematic training in laboratory settings can have a positive impact on the sensitivity to nonverbal signs and signals, besides the quality and quantity of teachers' nonverbal sending. Studies using specifically designed practice in decoding nonverbal signs and signals (discrimination training) and a combination of laboratory techniques generally achieved significant positive results. The latter include a theoretical presentation, and opportunities not only to acquire behavior and/or discrimination training, but also to practice the previously learned behaviors *in microtraining* or in focused and controlled real practice settings, with processes of intensive feedback (video-recordings, ratings of nonverbal behavior, group discussion). The overall effect size was: M ES = 1.21s.

While the combination of these training elements seem to be effective, it remains unclear which of the components are decisive for training success.

As in traditional teacher preservice education, often controversially discussed was the practice component in laboratory approaches (characterized as *"the opportunities they afford participants to apply or "try out" professional behaviours or ways of thinking in controlled or simplified settings"*, Metcalfe, 1995, 580). From the point of view of anti-behaviorism controlled laboratory practice was strongly criticized and rejected as mechanistic anti-intellectual drill and considered not to belong to an academically oriented teacher education. Enhancement of analytical abilities and, related to them, the ability of decision making and reflection was precisely what other authors saw – from a cognitive point of view – as possibly important functions of a controlled experimentation in teaching laboratories (see Klinzing, Klinzing-Eurich and Floden 1989).

Previous research on the effectiveness of the practice component in laboratory settings has concentrated on its contribution to the acquisition of a large variety of communication skills and technical skills of teaching. Klinzing et al. (1989), from their review of related research, provided an optimistic view of the contribution of laboratory experiences not only on the acquisition of verbal skills but also for the enhancement of teachers' analytical skills, reflection, and decision making, as examined with global ratings of communication quality. Other authors, however, question the positive contribution of focused laboratory practice to the improvement of desired abilities. Hargie and Maidment (1978) cited several studies in their research review appearing to suggest *"that perhaps the practical element of microteaching could be eliminated, with greater emphasis being placed on the ability of trainees to discriminate the relevant behaviours being trained."* (Hargie and Maidment 1978, 91). Also, Metcalfe (1995, 580) doubts that practice in laboratory settings is a critical factor in the success of laboratory experiences. *"However, research indicates that extensive, repetitive practice appears to produce only slight or nonsignificant improvement in desired outcomes."* The author refers to Gliesmann and Pugh (1991, 10) who concluded from their meta-analysis of studies on the acquisition of verbal teaching behaviors (questioning behaviours) that *"the number of practice sessions was unassociated with level of skill acquisition."*

As for traditional teacher preservice education, the contribution of focused laboratory practice remains unclear, even for the verbal aspects of communication and teaching. Hargie and Maidment (1978) recommended more research on the role of controlled laboratory practice *and* practice teaching in teacher education. For the role of practical laboratory experiences on the improvement of nonverbal skill no studies could be located. Therefore, two studies were conducted to examine the potential of practical laboratory experiences for the improvement of nonverbal sensitivity and to better understand the role of practicing what has been cognitively learnt.

The studies

The Program/Treatments

Stimulated by past research on nonverbal sensitivity, nonverbal sending, and educational techniques for the improvement of nonverbal skill, a 30 hour 3.5 day training program was developed for the improvement of the accuracy of decoding and the intensity, variety, subtlety and unambiguousness of nonverbal encoding (see Klinzing and Gerada Aloisio 2004a).

The Contents of the Program were organized according to the primary functions of nonverbal behavior into sub-tasks, to be acquired stepwise. They were divided first according to areas that belong together from the aspect of production: into *non-vocal* (kinesics) and vocal behavior. Secondly, these areas were again decomposed into three sub-divisions: cognitive functions of nonverbal cues in kinesics (para-semantic and para-syntactic, e.g., illustration, emphasis, segmentation) represented Part 1 of the program, affective functions in kinesics (expression of emotions, interpersonal attitudes), and regulation functions represented Part 2 of the training. Because vocal behavior can fulfill all of these functions to about an equal degree, *Part 3* of the program was devoted to the improvement of *nonverbal vocalizations*. These functions were further decomposed into sub-components by relating them to communication modes (e.g., facial expression, gesturing, body movement, voice). The resulting sub-components were then described in terms of their *low inference constituents* (Gage 1972).

Structure and Components of the Training Program

The program was designed using a Teaching Laboratory approach ("Interacting as Experimenting", see Klinzing 1982, Klinzing and Floden 1990) which combines different educational techniques aimed at the improvement of the following interrelated and overlapping knowledge and abilities: theoretical knowledge, the ability of hypothesis-generation and decision-making, carrying out the actions skillfully, and reflection on the execution of behaviors and their consequences (Klinzing and Floden 1990). Three practice sessions in experimental/laboratory settings with intensive feedback, and reflective discussions focused directly on the nonverbal functions trained in each part of the program. These were designed to promote the participants' decoding ability, development of nonverbal encoding skills and their appropriate and effective use.

The training of the experimental groups was conducted with all training components in both studies. The learning process for each of the three program parts was based on the following components: presentation of theoretical knowledge on nonverbal communication, skill acquisition exercises (e.g., symbolic and perceptual modeling, mimicking nonverbal expressions), practice in experimental settings with feedback, and reflective discussions (see Klinzing and Gerada 2004a).

The comparison groups received the same treatment as the experimental groups, except that they lacked the laboratory practice. Instead, in Study 1, they worked on written materials expanding their knowledge on nonverbal behavior; in Study 2 participants had no compensatory treatment, therefore their

treatment was five hours shorter.

Research questions

The question to be addressed for the two experimental investigations was, whether focused laboratory practice experiences in a program to improve nonverbal skill had a significant ($p < .05$) effect on nonverbal decoding ability (nonverbal sensitivity). (Other research questions regarding encoding skill and psychosocial correlates will be reported elsewhere).

Methods and data source

Design of the studies

The relative effectiveness of the program with and without opportunities of focused and controlled practice in a laboratory setting was investigated using a posttest-only-comparison-group-design, with random assignment of the participants to the experimental conditions in both studies. The treatment of Study 1 and Study 2 consisted of the same program as sketched above.

The studies only differed in the treatments of the comparison groups: in Study 1 the comparison group got extended theoretical background knowledge on nonverbal aspects of communication instead of laboratory practice, whereas in Study 2 trainees had no compensatory treatment. The designs can be described as follows (Figure 1, Campbell and Stanley 1963):

Study 1			
R	X1	O1	
R	X2	O2	X4
Study 2			
R	X1	O3	
R	X3	O4	X4

where:

R: represents the random assignment of participants to the experimental condition;
X1 *(Study 1 and 2):* represents the full training program, consisting of presentation of theoretical knowledge on nonverbal communication, skill acquisition exercises, decision making exercises**,** *practice in experimental settings* with feedback, and reflective discussions.

X2 *(Study 1):* represents the training program lacking the focused practical laboratory experiences. It consists of presentation of theoretical knowledge on nonverbal communication, skill acquisition exercises, decision-making exercises; instead of the practical laboratory experiences, participants of the comparison group worked on written materials expanding their knowledge on nonverbal behavior.

X3 *(Study 2):* represents the training program lacking the practical laboratory experiences. The program consisted of presentation of theoretical knowledge on nonverbal communication, skill acquisition exercises, and decision-making exercises**.** The participants of the comparison group of *Study 2* had no compensatory treatment; therefore their treatment was five hours shorter.

X4 *(Study 1 and 2)* represents *practice in experimental settings* with feedback, and reflective discussions (after the posttests).

O1/O3 represent the posttests to determine the effects of the treatment of the experimental groups; and

O2/O4: represent the posttests to determine the effects of the treatment of the comparison groups.

Subjects. 61 (*Study 1*) and 29 (*Study 2*) undergraduate education students in a large German University signed up to participate in the projects. *Figure 1* gives a profile of the participants of both studies based on age, gender, number of semesters completed, and majors studied at the university.

Figure 1: The Experimental Design for Study 1 and Study 2

Study 1: University Students (Oct.2004)						
Experimental Group: N=32 (21 female; 11 male; age: M=23.5, s=3.28; semester completed: M=5.94, s=3.13) (Four of the participants were PONS-test repetitioniers, their data were not included into the data analysis)						
	Majors Diploma or MA-		**Student Teachers (Secondary)**			
	Pedagogy (Dipl.)	Sociology, Economy, Rhethoric Art History, Culture Science + Pedagogy (MA)	Philology	Mathm./ Sceince	Mathm./ Sceince Philology	Sports/ Philology
	5	6	15	0	2	4
Comparison Group: N=29 (22 females, 7 males; age: M=22.55, s=1.24; semester completed: M=5.07, s=1.93); (Three of the participants were PONS-test repetitioniers, their data were not included into the data analysis).						
	1	7	11	2	4	4
Study 2: University Students (March 2005)						
Experimental Group (N=15; 9f, 6m; age: M=23.47, s=2.23; semester completed: 4.4, s=3.0);						
	Majors Diploma or MA-		**Student Teachers (Secondary)**			
	Pedagogy (Dipl.)	Sociology, Economy, Rhethoric Art History, Culture Science + Pedagogy (MA)	Philology	Mathm./ Sceince	Mathm./ Sceince Philology	Sports/ Philology
	4	4	4	0	2	0
	No information: 1					
Comparison Group (N=14; 8f, 6m; age: M=22.86; s=1.96; semester completed: 4.36, s=2.7). (One of the participants was a PONS-test repetitioniers, her data were not included into the data analysis)						
	3	3	4	3	1	0

Figure 2: Characteristics of the Participants of Study 1 and 2: Gender, Age, Majors and Average Number of Semester Completed at the University.

Data source

Two criterion measures for the posttests were employed:

1. The first criterion measure was a test on decoding ability, the Profile of Nonverbal Sensitivity, (PONS, Rosenthal et al., 1979). This test was administered at the time of the posttest for the experimental group and the control group. It utilizes a 47-minute black and white film and sound track composed of 220 numbered two-second auditory and/or visual segments. For each segment, test takers have to select from two descriptions of everyday life situations the one which best corresponds to the segment shown. Reliabilities and indications for validity of this instrument are given by Rosenthal et al. (1979).

2. Evaluation was administered in both studies after participants had the full treatment, using the Course/ Instructor Evaluation Questionnaire (CIEQ). This instrument was developed and redeveloped by Aleamoni and coworkers (Aleamoni and Stevens 1985). The subscales are:

- general course attitude (four items);
- method of instruction (four items);
- course content (four items);
- interest and attention (four items), and
- instructor (five items).

Information regarding reliabilities, aspects of validity, and

norms are given by Aleamoni and Stephens (1986).
(Also other criterion measures were used in the studies, e.g., a *laboratory performance test,* videotaped for feedback, and performance ratings: *Self-Rated-Competence*, SRC, *Rating of Alter Competence,* RAC, Cupach and Spitzberg1981, Spitzberg 1988). Furthermore, some other tests were used to assess relationships between nonverbal skill and psychosocial variables. Results will be reported elsewhere).

Results

Table 1: **Results for Nonverbal Sensitivity. Means (M), Standard Deviations (s), Effect Sizes (ES) and t-Tests for the Post-tests of the Experimental (EG) and Comparison Groups (CG) for Study 1 and 2.**

	Experimental Group (EG)		Comparison Group (CG)	EG vs. VG	
	M(s)		M(s)	t *(p)**	ES *Cohen's D*
Study 1					
PONS Total sample	184.29 (6.74) (N=32**)		180.90 (6.62) (N=29)	2.16 (0.0018)	0.51 0.55
PONS without test repetitioners	183.21 (5.74) (N=28**)		179.88 (6.51) (N=26)	1.85 (0.0696)	0.51 0.51
Study 2					
PONS Total sample	181.07 (9.09) (N=14)		177.93 (13.60) (N=15)	0.71 (0.47)	0.24 0.27
PONS without test repetitioners	182.07 (7.29) (N=12)		173.34 (7.49) (N= 13)	2.96 (0.0035)	1.17 1.18

one tail test ; **the unequal number of participants in the comparison groups is due to unavailability of the data of some participants.

1. Results on Decoding Ability. The results for the Profile of Nonverbal Sensitivity (PONS) are summarized in Table 1.

The results as summarized in Table 1 show significant differences between the experimental (with opportunity to practice) and comparison groups in both studies on Nonverbal Sensitivity favoring the experimental groups (without the participants who took the PONS-test twice).

2. Results of the Evaluation of the Training by the Participants. Participants evaluated the program with the CIEQ directly after the end of the two training courses in which Study1 and 2 were integrated. In Table 2 the results are summarized.

Table 2: **Results for the Participant Evaluation (CIEQ) after Training. Means, Standard Deviations, and t-Tests for Study 1 and 2 (Experimental Groups: EG; Comparison Groups: CG).**

	Study 1:				Study 2:			
	EG (N=32)	CG(1) (N=29)	EG/CG		EG (N=15)	CG (N=14)	EG-CG	
Subscales	M (s)	M (s)	t* p	ES Cohen's D	M (s)	M (s)	t* p	ES Cohen's D
General Course Attitude	1.15 (0.23)	1.10 (0.26)	0.72 0.48	0.19 0.18	1.17 (0.35)	1.21 (0.22)	0.44 0.67	0.18 0.16
Method of Instruction	1.23 (0.28)	1.28 (0.35)	0.62 0.54	0.14 0.16	1.32 (0.35)	1.38 (0.24)	0.53 0.60	0.25 0.20
Course Content	1.42 (0.29)	1.28 (0.24)	1.99 0.05	0.58 0.51	1.55 (0.32)	1.45 (0.31)	0.89 0.38	0.32 0.33
Interest and Attention	1.42 (0.28)	1.34 (0.27)	1.21 0.23	0.30 0.31	1.42 (0.34)	1.52 (0.21)	0.97 0.34	0.48 0.36
Instructor	1.31 (0.26)	1.17 (0.19)	2.39 0.02	0.74 0.61	1.19 (0.35)	1.21 (0.21)	0.25 0.80	0.10 0.09
Total	1.31 (0.21)	1.23 (0.18)	1.52 0.135	0.45 0.39	1.32 (0.31)	1.36 (0.13)	0.49 0.63	0.31 0.18

two tailed test; 1 = strongly positive; 4 = strongly negative.

The results as summarized in Table 2 show that the trainees in both experimental conditions rated the training very positively, after they had the full treatment (the comparison group got the practice after the PONS, but before the evaluation with the CIEQ). In Study 1 the participants of the comparison group rated the course content and the instructor significantly more positively than those in the experimental group. (The comparison group received extra texts and instructions by the instructor on nonverbal decoding and encoding).

Discussion

The results of both studies suggest that focused laboratory practice is a critical feature in the training of nonverbal skill.

In both studies, trainees having focused practical laboratory experiences outperformed significantly those *not* having these opportunities in nonverbal decoding (PONS). These findings were unexpected in their clearness in the two replicated studies and may, therefore, be added to the body of related research. They contradict studies and writings on unsatisfactory effects of practice experiences and laboratory experiences in preservice teacher education (e.g. Hargie and Maidment 1978) but confirm the tentative conclusions in some reviews drawn on studies from related projects in the USA, UK, and Germany (Rosenthal et al. 1979, Klinzing et al. 1989, Klinzing and Tisher 1986, 1993, Klinzing 2003).

Although the treatments of the comparison groups in the studies differed in respect of the amount of theoretical background knowledge, there were some differences in decoding skills between the groups of Study 1 and 2, indicating that there might be some effect of extended provision of theoretical background knowledge on nonverbal aspects of communication. Participants of both studies evaluated the training program very positively with little differences between the two groups.

In conclusion, the results of both studies suggest that focused and controlled practical laboratory experiences can play a prominent role in programs designed to improve nonverbal sensitivity (and, as the preliminary analysis of data from the performance tests show, also encoding abilities). Practice components in laboratory experiences as well as in field based experiences – although they are costly procedures in terms of time and money – are effective to acquire decoding and encoding skills, as a base for informed and reflective decision making. Requisite, however, as the findings of the studies suggest (see above), seems to be the provision of the following features:

- Information provided in course-work (theoretical background knowledge, knowledge derived from research etc.) should be strongly connected to the immediately following practice experiences, as research suggests (e.g. Kagan 1992) and as was tried in the present studies.

- To make practice experiences more successful, practice should be decomposed into meaningful, important communication and teaching aspects, based on theory and research (like the identification and interpretation of nonverbal signs and signals). These have to be described in terms which are understandable and specific, including the particular effects they bring about. The *contents* are to be organized into tasks and sub-tasks, which can be managed by the trainees and acquired in steps; these tasks should be embedded into theoretical background knowledge and related concepts.

- Practice environments should be designed in a way that they foster focus on the specific tasks to be accomplished (e.g., performing high nonverbal expressiveness in a lecture or in a specific phase of a lesson).

- While communication and teaching situations are uncontrolled and subject to unpredictable variations, the training situations should be designed representing greater or smaller proportions of real situations. They should not only focus on the tasks to be performed but also provide for safe experimentation and for a certain control (or planned variations) of aspects of the real situations. Control is essential in fulfilling the training purpose. Providing control in laboratory as well as in practice teaching often leads to the introduction of varying degrees of simplification of real situations. Decisive for that is not the degree of resemblance of the training situation with actual situations but the resemblance of the tasks to be accomplished (task relevance, e.g., nonverbal expressiveness or participant orientation while lecturing) and an equivalence of aspects of the real situations to be reacted to (e.g. attention and interest of an audience).This implies degrees of neglecting tasks employed for the real situation which are considered as less important in order to master the training tasks (e.g., size of the audience). The ultimate appropriateness of the training situation must be sought in empirical evidence of transfer of training which is, for microtraining situations used in the studies reported here, well established (see Klinzing 2002).

- Focused, informative and immediate feedback by a group of peers, or supervisor, based on video-recordings, analysis of quantitative and/or qualitative observation data, assessment of proficiency etc., and opportunities for careful analysis and reflection should be provided.

The findings of the studies suggest that early practical experiences can be designed even in University courses in a way that focus and control is provided, to make them a laboratory for productive skill development, decision-making, experimentation, analysis and reflection.

The pressure for more communicative competence in many professions, as well as in the teaching profession, makes it especially important to continue to build our knowledge on how education can enhance communicative/teaching ability, specifically nonverbal skill, including knowledge how to design precedents of and the practice experience itself.

Notes

[1] Only the results for decoding abilities can be reported in this paper.

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