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possibilities of criterion referenced social skills development

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ABSTRACT

A prevention-oriented, two-year school-based program for seven-year-olds to facilitate the development of social competence was designed and tested. Conducted by a trained psychologist, the program focused on three groups of social skills and behaviors (interpersonal, self-related and task-related). The authors applied a new theoretical framework for the interpretation of our findings, that of 'criterion referenced education'. The main idea of this new concept is that training will not be stopped until each and every child reaches optimal acquisition and mastery of skills and abilities. In one third of the subjects involved in the experiment the two-year development resulted in the optimal acquisition of the studied skill group. The results confirmed our hypothesis that social skills can be developed effectively in a school context and that criterion referenced education can be used for developing social skills with success.

KEYWORDS *criterion referenced development, lower primary school age, social skills*

In recent decades, more and more emphasis, in educational research, has been placed on the study of the development of social skills. Interest in teaching social skills is also growing, as the present school curriculum is almost exclusively limited to the transmission of academic knowledge. Social skills development seems to be no more than the by-product of school education, as both society in general and the school in particular, hope that the appropriate acquisition of social behaviors will take place as a result of parental influence. There is not much reason for such an optimism, however,

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as there are many children nowadays whose social behavior can be described as problematic. Many of them lack the skills of cooperation and conflict management which, along with empathy and tolerance, are the prerequisites for accepting and understanding other human beings.

However, so far there have been only a few programs in which the development of social skills is integrated into the school curriculum, and which emphasise prevention as opposed to reducing interpersonal problems that already exist. This is only too true of Hungary, and therefore, we designed and piloted a social skills development program, which placed the emphasis on development within the system of education and was easy to use in the lower primary school. The developmental project lasted two years and the children were seven years old at the onset of the program. This article presents the results of this study.

social competence and social skills

It is generally accepted that social competence comprises a system of different social skills. When defining social skills, most researchers refer to Trower et al. (1978), who define them as reactions which enable a person to achieve his or her desired goal within a given social interaction in a way that is socially acceptable and not harmful to others.

Social competence is the complex system of social cognition, social motives and social abilities, habits, skills and knowledge. In Argyle's definition (1983), social competence is an ability, the mastery of skills which make it possible to generate the desired effect in social relationships. B. H. Schneider's approach (1993) is very similar, viewing social competence as enabling one to engage in appropriate social behavior, thus enhancing one's interpersonal relationships in a way not harmful to others. According to József Nagy (2000a), social competence can best be interpreted on the basis of a component-system theory. In this view, one possesses a system of different components that enable social behavior. The components may take the form of needs, dispositions, attitudes, convictions, routines, habits, patterns, skills, and knowledge etc. In a given situation, the individual draws on these components to choose the appropriate behavior for that situation. At the same time, the individual's cognitive and social abilities play a decisive role in his/her choice of the actual social action. In this process, the existing components may be modified, the system of components may be enriched, and social and cognitive abilities may undergo development (Nagy and Zsolnai, 2001).

The literature discusses over a hundred social skills, of which communication skills are regarded as the most important. The appropriate application and interpretation of verbal and non-verbal communication

signals, such as eye contact, posture, social distance, facial expressions and speech tone are essential for a person to be effective in interpersonal relationships (Argyle, 1999).

It is an inherent characteristic of social skills that they reflect the specific requirements of the surrounding culture. In countries where deviation from social norms is less tolerated, there is considerably more pressure put on parents and children to avoid deviation from norms of accepted social behavior (Hofstede, 1979). The majority of non-verbal communication signals are also culture bound. Moreover, culture can even modify the meaning of those signals that are present in most cultures. Significant differences can also be observed in the prosocial behavior of children from different cultures (Damon, 1983). These examples demonstrate that social behavior and its constituent social skills are, to a large extent, culture specific.

social skills development programs

The idea of teaching social skills originates from the assumption that social behavior is learnt, and therefore, can also be taught if appropriate learning experience is provided. As development is best started in childhood, the majority of social skills development programs have been designed for children.

In the 1970s, researchers of social behavior directed their attention increasingly towards prevention. They realised that social skills development should be addressed systematically as early as at lower primary school age. One of the school-based experiments starting at this time was Staub's study (1971), which was based on the premise that helping behavior is greatly influenced by the child's level of empathy. He combined the learning of modelled behaviors with a role-play technique because he hypothesized that role-play, and, more specifically, role-switching has an empathy-boosting effect. The experiment of Allen et al. (1976) also proved effective. The subjects were introverted, isolated children selected by their teachers. For several months, these children were shown different social problem-solving techniques on film, which were subsequently discussed. As the result of the training, the children's social behavior greatly improved. They showed more initiative and took part in many more interactions than before.

The study of Spivack and Shure (1976) is outstanding among cognitive developmental programs targeting social behavior. They designed a ten-week program to train children how to resolve different social situations with the help of puppets, stories and role-play. These pioneering experiments have been followed by several similar programs over the past decades. There are more and more social skills development programs implemented in school environments (e.g. King and Kirschenbaum, 1992; Ralph et al, 1998; Stephens, 1992).

Unfortunately, in Hungary at present, there are very few social skills development programs integrated into the school curriculum, and focusing on prevention (as opposed to reducing already existing interpersonal problems). Recognizing this problem, the authors designed and piloted a social skills development program, which focuses on prevention within the system of education and is easy to use in lower primary school. At this young age, the system of skills indispensable for social behavior can be effectively developed and integrated into the system of basic skills.

criterion-referenced development

The theoretical basis of criterion referenced development was worked out by József Nagy (2000a, b, 2002a, b, 2003). The most important characteristic feature of criterion referenced development is the requirement that developmental training cannot be stopped until each and every child, no matter how old he/she is, reaches optimal acquisition and mastery of skills and abilities.

There are three criteria that are worth highlighting here: durability of acquisition, its level of abstraction, and optimal skilfulness (usability functioning) of the acquired component. Basic components must be developed up to the level of permanent durability (ready to be activated at any time). This is assessed by the activation of basic motives, basic knowledge, basic routines and basic skills and abilities, without giving subjects any notice or time for preparation. Finally, the accessibility of the basic components is highly dependent on optimal skilfulness (usability). All the basic components have an optimal skilfulness and functioning, which characterise the individual. This is called the *optimal skilfulness criterion*. (Nagy, 2002b: 52)

The primary emphasis is on the optimal acquisition of targeted skills, abilities and motives. The targeted acquisition level is clearly defined beforehand as the criterion of development, that is, as the criterion that must be fulfilled in order to declare training to be successful. Aiming to reach its objective, this work is conducted at the actual developmental level where any child is at any given moment, independent of where his or her peers are at the same time.

Criterion referenced education is necessary for the shaping of those skills, abilities and motives which are supposed to determine the development of the whole personality, without the optimal acquisition of which the individual's adaptation to society could suffer (Nagy, 2003).

The development of a few basic (critical) cognitive skills based on criterion referenced development (briefly outlined above) began in 1999. The first results of the developmental paradigm are encouraging (Fazekasné, 2000; Józsa, 2001, 2002; Vidákovich, 2002). The piloting of the analytical-diagnostic assessment, one of the basic tenets of this developmental paradigm, has also been conducted, using a nationally representative sample (Nagy, 2000c).

There are about one-hundred social skills listed in the literature, but the total number of social skills is probably much larger than that. However, there is some evidence that a few of these skills (approximately a dozen) can be regarded as fundamentally important. As a result, special attention must be paid to their appropriate acquisition (Nagy, 2000b).

The mastery of social skills can be a worthwhile aim for everybody. The development of these skills can be achieved through criterion referenced education. Since the present study was conducted in parallel to the development of the basics of criterion referenced education, it was not yet possible to consider it fully in the elaboration of the developmental concept. However, interpretation of the results is possible within this paradigm. It is not claimed that the studied social skills constitute the basic social skills of the individual. Nor can it be claimed with certainty that optimal development can unambiguously be assessed with our instrument. The aim was to apply the criterion referenced concept of development, proven to be applicable in the cognitive domain, to the field of social skills.

method

The present social skills development program was primarily aimed at developing social skills that provide students considerable help in succeeding in the social milieu of the school. At the same time, these skills should be effective in mapping social relations outside the school as well. These social skills were chosen from the skills list compiled by Stephens (1992), which consists of four skill groups closely connected to school life: interpersonal, self-related, task-related and environment-related behaviors. Prior to launching the two-year program in the academic year of 1998–99, the experimental and control groups (seven-year-olds) were selected and the developmental level of the children's social skills was assessed. Over the next two years, this was followed by regular weekly one-hour training sessions, conducted by the school's psychologist. During these 'play lessons', the techniques used in social skills development programs like modelling, problem-solving, reinforcement, role-play and the discussion of stories were employed in various playful tasks. Fostering self-expression, self-knowledge, verbal and non-verbal communication, enhancing creativity and building trust and tolerance were essential constituents of our developmental project. The program included games that helped building and strengthening relationships, enhancing phantasy, cooperation and tolerance, improving self-knowledge and forming appropriate relaxation techniques.

Games and exercises were closely interrelated and built on one another. In addition, they were always adjusted to the characteristic features of the age-groups concerned. The content of each game was expressed by means of

writing, drawing, miming or playing a musical instrument. The tasks were followed by non-evaluative discussions with the students. These discussions assisted children in understanding their own and their peers' reactions during the game.

Some examples of the games and exercises:

1) 'Self-portrait with the help of a mirror'. As a warm-up task we sing a song. Then everyone gets a small mirror and looks at him/herself carefully for a while. How do I look? Children must observe the form of the head, characteristics of the eyes etc. When finished everyone can tell how he/she has seen him/herself. If there is some time left, children can observe one of their classmates faces for some minutes and then report – without looking at their partner – what they have seen.

Thorough observation of one's own face and that of a peer we think we know raises feelings of unexpected discovery. It becomes obvious that some children only seldom see themselves in a mirror because their home environment does not offer any possibilities for this. Observing one's own face is usually a more pervasive experience for boys since girls normally pay more attention to their own appearance.

2) 'Expressing emotions through miming'. We sing a song accompanied by musical instruments as a warm-up. Then children try to express emotions like anger, gentleness, cheerfulness, sadness etc. with the help of various musical instruments. These emotions are determined previously by the leader of the training program. In the next phase of the game the leader writes various emotions on the blackboard, e.g. sadness, happiness, cheerfulness, apathy, anger etc. Then children take their turn and, in front of the class, try to express an emotion from the blackboard with the help of facial expressions. If they want to express an emotion not present on the blackboard, they are free to do so and the class has to guess what the emotion is. The best performers can get applause. As a follow-up we discuss the insights they have gained from the exercise and the experiences they have about other people's mimicry around them.

Children enjoy this mime game very much, and it reveals whose facial expressions are rich or poor. As a result, the exercise also offers important information for the leader of the developmental program.

During the development of social skills, various musical instruments and activities were used. The aim was to boost children's interest and willingness to take part in the developmental program. We primarily chose instruments suitable for the children's age, with difficulty levels low enough not to distract children's attention from the tasks in the center of the activities. It was important that the instruments stimulated children's resourcefulness and recognition of similar situations, and that they helped children in finding alternative solutions and create possibilities for choice.

Combining games and activities with elements of music made it possible for children to find complex ways and forms of expressing themselves. Children had several alternatives to choose from: individual activity and acting in a large group, creative self-assertion or offering acceptance and support, or just simply melting into the group – these were all acceptable forms of behavior. The detailed description of the training sessions and the activities can be found in the monograph of Konta and Zsolnai (2002).

Applying games together with musical activities adapted to them was extremely successful in the development of different social skills. The musical procedures and musical instrument used can be combined successfully and effectively with the techniques aimed at the development of social skills, as well as for purposes of prevention and correction, and for personality development, rehabilitation and medical cure (Konta and Zsolnai, 2000, 2002).

sample

The sample consisted of 99 elementary school students; the experimental group comprised 48 students, and the control group contained 51 students. The criterion for the selection of subjects was that pupils, both in the experimental and the control groups, be of similar socio-economic background. The two experimental and two control groups consisted of four classes in two small village schools. Village A had two experimental groups and Village B had two control groups. The villages were located near to the capital (Budapest) and to the fifth largest city in Hungary (Szeged). The children were in the second grade at the outset of the study. The result of the Mann-Whitney test showed no significant difference between the parents' educational levels in the experimental and control groups (fathers: $u = 331.5$ $z = -1.33$ $p = .19$; mothers: $u = 334$ $z = -1.87$ $p = .10$). There was also no considerable difference between the ratio of the two genders in the two groups.

data collection

Data from both the experimental and the control groups were collected both at the beginning (September 1998, in grade 2) and at the end (May 2000, in grade 3) of the study. Additional data collection took place in the experimental group to assess the effectiveness of the developmental work in progress at the end of the first year of the study (May 1999).

instrument

To assess the developmental level of social skills, a 54-item (Likert-scale of five scores) questionnaire (Social Skills Questionnaire) was designed. It is based on

Stephens' social skills list (1992). Within the four skills groups listed by Stephens, there are further sub-skills and behaviors (see Table 1). All the skills on the list were matched with two to four items on the questionnaire. Thus 54 items were used by the four class teachers to assess the developmental level of children's social skills (two teachers in the experimental as well as in the control group).

table 1 list of social skills and behaviors, example of items

Social skills and behaviors	Example of items
<i>Interpersonal behaviors</i>	
Coping with conflict	Student expresses anger with non-aggressive words rather than physical action or aggressive words.
Attracting attention	Student uses 'please' and 'thank you' when making requests of others.
Greeting others	Student looks others in the eye when greeting them.
Helping others	Student comes to defence of peer in trouble.
Making conversation	Student talks to others in a tone of voice appropriate to the situation.
Organized play	Student accepts defeat and congratulates the winner in a competitive game.
Positive attitude towards others	Student follows rules when playing a game.
<i>Self-related behaviors</i>	
Accepting consequences	Student apologizes when actions have injured or infringed on another.
Ethical behavior	Student identifies consequences of behaviour involving wrong-doing.
Expressing feelings	Student recognizes and labels moods of others.
Positive attitude towards self	Student makes positive statements when asked about himself/herself.
Responsible behavior	Student arrives at school on time.
<i>Task-related behaviors</i>	
Asking and answering questions	Student asks a question appropriate to the information needed.
Attentive behavior	Student listens to someone speaking to the class.
Classroom discussion	Student makes relevant remarks in a classroom discussion.
Group activities	Student shares materials with others in a work situation.
Performing in front of others	Student reads aloud before a large group or the entire class.
<i>Environment-related behaviors</i>	
Taking care of the environment	Student uses playground equipment safety.
Table manners	Student disposes of unwanted food properly.
Taking part in traffic	Student follows rules for emergencies.

the psychometric features of the social skills questionnaire

The developmental level of children's social skills was assessed by teachers not otherwise involved in the study. The instructions for the questionnaire made it possible for teachers not to answer items where they did not have enough information about the children to give a reliable assessment. For three of the 54 items a great amount of data was missing, this was therefore ignored in data processing.

Table 2 shows the inner consistency indices of the social skills questionnaire. The consistency of the items of all four sub-scales and the whole questionnaire (Cronbach $\alpha = .98$) is remarkably good. The medians of the corrected item-total correlations is around .75 for both the main scale and the four sub-scales. The correlation is lower than .3 for only two items on the main scale and one item on the self-related social skills sub-scale. With separate analyses of the experimental and the control groups, the inner consistency scores are similarly high.

table 2 the internal consistency of the Social Skills Questionnaire

Social Skills	N of items	Cronbach α	Corrected item-total correlations		
			min.	max.	median
Interpersonal behaviors	21	.98	.74	.90	.82
Self-related behaviors	12	.91	.21	.87	.76
Task-related behaviors	13	.94	.53	.84	.76
Environment-related behaviors	5	.90	.66	.86	.74
Social skills total	51	.98	.17	.86	.76

The stepwise regression performed revealed that 10 of the 51 items explain 99 percent of the variance of the main scale. This finding indicates that a shortened version of the questionnaire could be devised. A brief version of the questionnaire would definitely increase the efficiency of the assessment procedure when evaluating the overall developmental level of social skills. However, it would lack the power of giving a detailed diagnosis of each individual skill.

Although the instrument designed does target environment-related behaviors, the present study did not target these skills. Therefore, the tables include such data, but this area is not analysed or discussed. The development of social skills was represented by a joint index of interpersonal, self-related and task-related skills. The term social skills is used in this sense in the empirical analysis.

evaluating the development of social skills with the help of criterion referenced education

Likert-scale values characterizing the developmental level of social skills were expressed in percentage points. As a result, developmental indices of subskills consisting of different numbers of items can be compared to each other. A more important advantage of using percentage points is that scores not only represent the differences between children, but also relate the developmental level of social skills to the desired goal (which is 100 per cent). Percentage point scores clearly show where children are, at any given point, in the developmental process of social skills in relation to mastery. Expressing and interpreting scores this way belongs to the fundamental requirements of criterion-referenced education. However, as Likert-scale was used in the instrument, empirical interpretation of optimal mastery as a criterion must be based on Likert-scale values, too. In other words, mastery and optimal acquisition of a skill must be indicated by high scores on the Likert Scale and a similarly high percentage point calculated from these scores.

Criterion referenced education will consider a training program successful if the program results in the optimal acquisition of a given skill, ability or motive. József Nagy, in the works cited previously, indicates that theoretically, the criterion of reaching the optimal level of development must be at about 70–95 percentage points. If there are no data for defining the criterion value, the complexity of the skill in question must be taken into account when we estimate the criterion value. In the case of social skills, the criterion can be around 90 percentage points. The fact whether optimal acquisition has been accomplished or not, is one indicator of development. If it has not been reached, development can be characterized by giving the developmental stage where an individual is at a given point in time. On the group level, the percentage of children who have reached mastery can be a good developmental index. In other words, it is the percentage of children for whom the investigated psychic component can be regarded as fully acquired and functionable.

We agree with Stephens (1992) that one of the best people to assess the developmental level of a child's social skills is their class teacher, who knows them well. This can hardly be debated if we would like to evaluate social skills that must be used in the school context. It is the teacher who is most likely to have the chance of following the change and development of children's social behavior. Particularly, in the case of elementary school students, the class teacher's observations can be practically the sole sources of evaluation as (except for some special cases) no other teacher educates these children.

Obviously, teachers' opinions are more or less relative, because they are

based on their school community and their personal norms. Therefore, different teachers' assessments of the developmental level of social skills are only partially comparable to each other. If a teacher judges a child's social skills to be of a higher level than another child's social skills judged by another teacher, it cannot be granted that this judgment is a true representation of the developmental differences between the children in question. However, it can be assumed that teachers' judgments truly reflect children's individual differences within a class as well as their development. The similarities and differences in the development of the experimental and the control groups can be better characterised by comparing each group to itself than comparing the initial and final stages of both groups. However, we would like to add that interrater reliability of the measurement instrument applied in the present study was checked within the framework of another project. We found that interrater reliability was remarkably high (above .90) for all four skill groups and for the whole instrument, as well. The consistency of the two evaluators' judgment supports the claim that social skills can be assessed by Likert-scale type instruments (Zsolnai and Józsa, 2003).

The findings of the initial survey clearly show that before the experiment teachers in the control group assessed the social skills of the pupils to be more developed. Social background factors can not explain this result, as no significant difference was found between the social background of the experimental and the control group (see the section on sampling). Nevertheless, the social skills of the control group may actually be more highly developed, or their teachers may have had a 'more relaxed approach' to the values of the scale due to their different norms. However, if we wanted to meet the rigorous requirements of research methodology, the initial developmental levels of the experimental and the control groups had to be matched. As a result, the composition of the groups was transformed in a way that the developmental indices of social skills at the beginning of the training program became identical for both groups. In this way, we could provide sound methodological background for the comparison of the development of the two groups. The transformation resulted in a 20 percent decrease of the sample size. Nevertheless, this is only a virtual decrease not affecting the actual number of students in the groups but facilitating statistical analysis. At the same time, it is clear that in spite of similar initial levels, the experimental and the control group show marked differences in the pattern of development, which was also the case when the complete control group was involved in the comparison. This finding leads to the assumption that comparing the development of the groups to their own initial levels can be justified when Likert-scale is used for measurement even if initial levels of development are different, provided that a ceiling effect has not been at work for either group.

Figures 1 to 8 show the developmental curves of the three targeted social skills groups, the average development of the cumulated social skills index (thick curve) and the standard deviation (the area within the two thin curves). Pre- and post-test results suggest a marked difference between the development of the experimental and the control group. At the point of two-years development, teachers of the control group could not observe any spontaneous development in the seven–nine age group concerning the social skills involved ($t = 0.19, p = .85$). This is rather surprising as it was hypothesized before the experiment that even the control group would undergo certain spontaneous development during the experiment. Further research is needed to find out more about the nature of the spontaneous development of social skills.

Meanwhile, in the test group there had been significant development ($t = 14.37, p = .000$), which has pedagogical implications as well. The social skills development index of children in the experimental group is on average 26 percentage points higher than that of children in the control group, which indicates a considerable, 50 per cent, development on the average in the experimental group.

The shadowed areas in the figures show the ratio of students who have reached optimal acquisition of a skill, that is the ratio of students who can be characterized by well-formed skills and mastery. In the case of the control group, the ratio of students with optimal levels of social skills did not change considerably over the two years of the experiment. On the other hand, there were no students in the experimental group at the beginning of the project whose social skills would have been judged optimal by the teachers. As a result of the two-year experimental training, however, one-third of the children achieved mastery in social skills, that is, acquisition was completed (see Figures 1–8).

It has been mentioned previously that a virtual sample was formed by decreasing the control group because of differences in the initial levels of social skills development in the control and the experimental groups. Data analysis also had to be carried out on these matched samples. The ratio of students achieving optimal acquisition in the two groups was compared in this analysis, as well. Prior to the training program there were no students in either the experimental or in the virtual control group who could have been characterized by optimal levels of social skills. After the training program, as already mentioned, one-third of the children in the experimental group reached the level of optimal development. In the control group, however, the results of the post-test show that there were still no children whose social skills would have been judged optimal by their teachers after the two-year period.

figure 1 development of interpersonal behaviors, experimental group

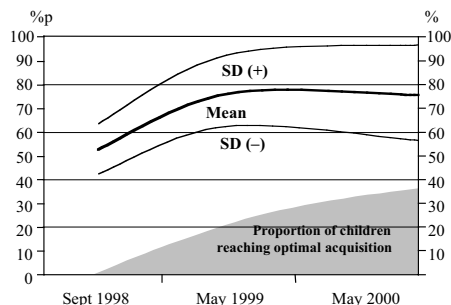


figure 2 development of interpersonal behaviors, control group

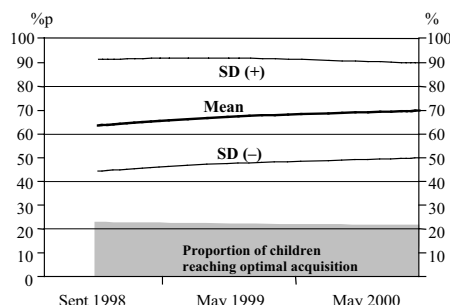


figure 3 development of self-related behaviors, experimental group

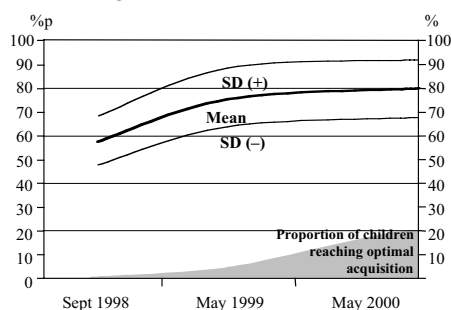


figure 4 development of self-related behaviors, control group

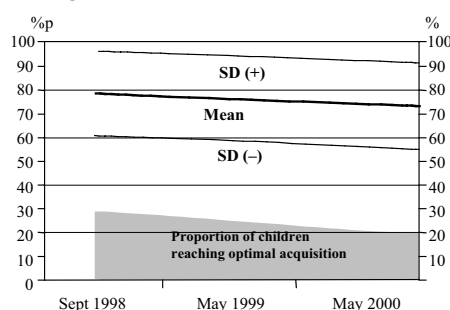


figure 5 development of task-related behaviors, experimental group

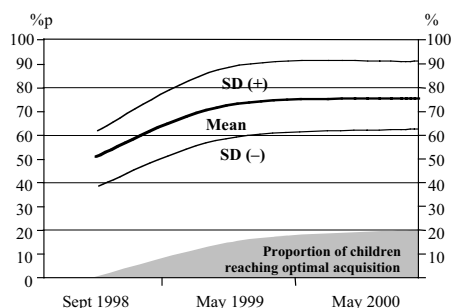


figure 6 development of task-related behaviors, control group

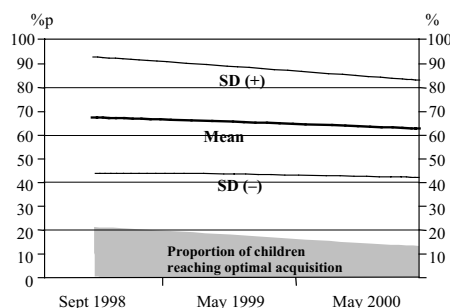


figure 7 development of social skills, experimental group

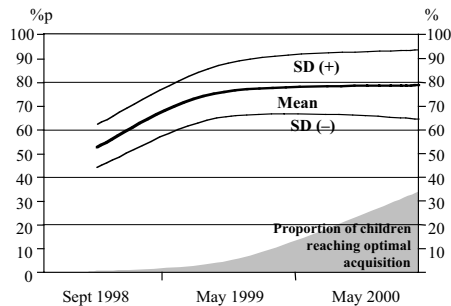
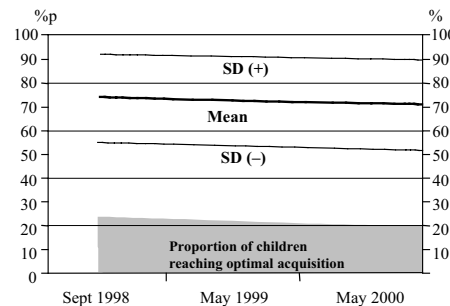


figure 8 development of social skills, control group



conclusion

The experiment belongs to the few Hungarian programs that are preventative in their orientation and that try to develop social skills within the framework of formal schooling. As far as we know, this study is the first to draw on criterion referenced education in the analysis of the results of a preventative program aimed at the development of social skills.

The results confirmed our hypothesis that social skills can be developed effectively in the school context and that criterion referenced education can be used for developing social skills with success. In one third of the subjects involved in the experiment, the two-year development resulted in the optimal acquisition of the targeted skill group.

The results draw our attention to methodological problems concerning the assessment of the developmental level of social skills. An evaluator who knows the child well might be the right person to assess the child's social skills. Our research brought strong evidence that there is high consistency between two teacher-evaluators' judgment on the developmental level of students' social skills. At the same time, subjectivity always remains a more or less integral part of evaluation. The reliability of assessment methods can partly be increased by involving more evaluators (teacher and parent evaluation, self-evaluation), but this may be rather problematic in the case of the observed age-group. An objective comparison of two groups could only be carried out if the same observers were employed for evaluation in the two groups. This, however, could hardly be realized because of the nature of social skills. As a result, judgment concerning the mastery of social skills can only be relative. Nevertheless, criterion referenced development of social skills and their optimal acquisition will not cease to belong to the most important educational aims and probably, to be also one of the greatest challenges.

At present, research is still incomplete on the question of what social skills can be regarded as basic skills of social competence. Therefore, it can only be a tentative statement that the system of skills trained in our experiment represents the whole range of basic skills of social competence. Similarly, we cannot state with absolute certainty that optimal mastery can unambiguously be assessed with our measurement device. When the research findings were interpreted, the authors had to bear in mind that, at the time of the experiment, the theoretical foundations of criterion referenced education had not yet taken their final shape. Further research is needed for the definition of basic motives and skills of social competence as well as for the devising of measurement tools that are suitable for evaluating them. Criteria of optimal acquisition must be defined and methods of criterion referenced development must be designed. These methods must assist teachers in facilitating optimal acquisition of the selected basic social skills in every healthy child.

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note

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