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The effects of music, relaxation and other suggestopediaic elements in a primary school German class

An experimental investigation

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This nine week study set out to test whether, in addition to good communicative teaching, music, relaxation, suggestion, and the adoption by the students of German personalities, would have a positive effect on students' language self-concept, attitude and achievement.

The subjects were twenty-eight fourth and fifth year students (average age nine years eight months) at a metropolitan Catholic Primary School in South Australia. Pairs of students were matched for sex, year level and language self-concept and then allocated at random to the control or the experimental group. Both groups were taught German by the same teacher for four weeks of seventy minutes daily instruction. The children had no previous experience of learning a foreign language. Video tapes were taken of both groups during teaching for comparison of teacher and student behaviour by independent raters.

Tests were administered at the end of the course testing all four language skills. t-Test analyses showed that the experimental class performed significantly better on all language tasks than the control group. Repeated measures Anova showed that both self-concept and attitude improved significantly in the experimental class. Rank sum analysis of the video ratings showed that attention rate was significantly better in the experimental class.

Die doel van hierdie studie van nege weke was om te toets of musiek, ontspanning, suggestie en die aanneem van Duitse persoonlikhede deur die skoliere, tesame met goeie kommunikatiewe onderrig 'n positiewe uitwerking op die studente se taalselfkonsep, houding en prestasie sou hê.

Ag-en-twintig vierde- en vyfdejaarskoliere (gemiddeld nege jaar en agt maande oud) verbonde aan 'n stedelike Katolieke laerskool in Suid-Australië

is gebruik. Skoliere is in pare gekies op grond van geslag, skoolstanderd en taalselfkonsep en op 'n willekeurige basis, of in die kontrole- of in die eksperimentele groep ingedeel. Beide groepe is vier weke lank onderrig. Die skoliere het geen vorige ondervinding gehad ten opsigte van die aanleer van 'n vreemde taal nie. Video-opnames is gedurende die onderrig van beide groepe gemaak sodat vergelykings van onderwyser- en skolieregdedrag deur onafhanklike beoordelaars gemaak kon word.

Toetse waarin al vier taalvaardighede getoets is, is aan die einde van die kursus afgeneem. T-toets-analise het getoon dat die eksperimentele groepe beduidend beter gevaar het in alle taalopdragte as die kontrole-groep. Herhaalde Anova-metings het getoon dat beide selfkonsep en houding van die eksperimentele klas beduidend verbeter het. 'n Grade-rings-analise van die video-evaluering het verder aangetoon dat die eksperimentele groep se konsentrasievermoë beduidend beter was.

INTRODUCTION

A great deal of research has been carried out on the use of music and relaxation in college and secondary school classes. Many of the important studies have been reviewed in Schuster (1985). Overall it can be said that the data from this research, be it experimental or naturalistic, suggest that the use of *Suggestopedia* or *SALT* (Suggestive Accelerative Learning and Teaching), as the American version is called, has the potential to enhance the effectiveness of conventional teaching methods.

The claims that are made in those studies, and in others conducted more recently, are chiefly related to an improvement in achievement in many areas of learning, not restricted to languages. They further indicate a possible improvement in behaviour (Felix, 1985), in attitude (Gassner-Roberts, 1984, Felix, 1986), in self-concept (Edwards & Thomas, 1982) and in attention rate (Felix, 1986).

Moon (1986) conducted a meta-analysis of 14 of the most controlled studies, at all levels of education, chosen from an overall 40 published in the *Journal for Accelerative Learning and Teaching* (*SALT*). Treatments were not identical in all 14 studies, but each had a viable control group with which to compare results. Moon found that "the distribution of effect sizes over all categories and outcomes was leptokurtic and positively skewed" in favour of the experimental groups. He concluded that the treatments were effective "relative to foreign language acquisition, foreign language retention, effective attributes, and cognitive achievement and creativity" (p.14).

Research in the primary school environment is less extensive. Ten studies published between 1975 and 1982 are listed in Palmer's (1985) review. Analysis of the effects suggests that *SALT* procedures are effective in most grades,

subjects and ability levels: "Best results were demonstrated for better students, although low functioning students improved significantly with SALT procedures" (Palmer, p.102). It must be pointed out that of these ten studies only three (Held, 1976, Johnson 1982 and Lozanov & Balevski, 1975) used a controlled experimental design.

A more recent experimental study by Portes (1986) looked at the effect of SALT procedures on elementary school children's self-concept. The findings were that the effect of the treatment interacted with the children's grade level and gender. Differences between experimental and control groups were significant at the first grade level but not at the fourth grade level. These results suggest that the children's self-concept is more susceptible to change at an earlier age. However, Portes provides data from educationally handicapped and middle and high school groups on the same pre- and post-test which show a significant positive gain overall with the highest gain in the high school group.

This research in primary schools provides some evidence of improvement on academic (Johnson, 1982, Lozanov & Balevski, 1975) and non-academic measures (Johnson, 1982, Fisher, 1982 and Portes, 1986) when elements of Suggestopedia or SALT are used in the treatment process. However, the data base is still relatively poor when compared to studies at high school and college level. Furthermore, research designs in the studies examined by Palmer were not always tightly controlled and the nature of experimental treatments varied considerably between studies. Finally, the variable most ignored in all three environments is that of the teacher. In most studies experimental and control groups were taught by different teachers.

It may be argued that differences in personality or sex between the teachers might have influenced the outcome of some studies. Levin (1984), for example, claims that no study using two different teachers to administer two different treatments can be valid. However, it may equally be argued that if both groups are taught by the same teacher, conscious or unconscious differences in this teacher's behaviour might influence results.

There are several ways of addressing this problem of teacher-treatment confound. The two most obvious cover the two different cases. Firstly, when different teachers are employed, it might be possible to select the two most enthusiastic ones for each treatment and set the experiment up as a type of competition. This approach, however, would largely reduce the external validity of the study. Secondly, when the same teacher administers both treatments, his or her behaviour could be monitored by independent observers as in Bass (1985), and tests which may be influenced by subjectivity could be marked by independent teachers. The second approach was used in this study.

In the present study every effort was made to duplicate conditions as closely as possible. Children were assigned at random to one control and one experimental group, and both groups were taught by the researcher. Communi-

cative teaching was used for instruction in both groups with the addition of *relaxation, music, the children's adoption of German identities and suggestion* as the independent variables in the experimental group. Details of lesson content and procedures, apart from the experimental treatment, were identical for both groups. This included materials taught, length of time spent on each item, children's activities before the class, changes in starting time, even clothing worn by the teacher. Two videos were taken at the same point in time of each group for comparison of teacher and student behaviour and students' attention rate in order to provide a record of teaching style in both conditions. Oral tests were administered by the researcher in the presence of an independent teacher who was unaware of the nature of the experiment. It was this independent teacher who carried out the assessment for the oral tests.

It may be argued that the same teacher cannot possibly teach as effectively with two different approaches, especially if he or she is particularly committed to one approach. It is further claimed that it would be impossible for the suggestopedic teacher to refrain from giving the constant positive reinforcement, the frequent positive learning suggestions or the total physical and psychological commitment to the class that are so characteristic of suggestopedic teaching. But would this really have to happen?

Good communicative language teaching shares all these characteristics with Suggestopedia. And the basic premises of Suggestopedia, that learning should be free from tension and should take place on both a conscious and unconscious level, can surely be found in many successful teaching approaches. Indeed, these qualities are most explicit in the work of Krashen (1982) and Terrell (1983).

This study was not designed to prove that Suggestopedia is in itself the best teaching method to be used for language teaching, but to find out whether elements exclusively found in Suggestopedia may create a teaching and learning environment that has the potential to enhance even already excellent teaching, such as good communicative teaching.

The study served essentially three purposes. In the widest sense, it set out to test in a primary school setting some of the broad claims made about the effects of Suggestopedia in the literature. In a more narrow framework, it attempted to replicate some of the findings of a secondary school study (Felix, 1986) in a more controlled experiment. Specifically, it endeavoured to find out whether the addition of music, relaxation, suggestion and an identity change to good communicative teaching would have a positive effect on language self-concept, attitude and achievement in an elementary school German class.

METHOD

Subjects and Setting

Twenty-eight children, ten girls and eighteen boys (mean age nine years eight months) from one class combining years four and five took part in the experiment. The school was a Catholic Primary co-educational School in a predominantly middle class area in suburban Adelaide.

No child had ever learnt German before, and about two thirds had never had any long term contact with a foreign language speaker. Four children (two in each group), were of Italian, Croatian or Indonesian background, but with little or no knowledge of these languages.

The teaching was provided by the researcher herself. Teaching took place in the children's normal classroom with minimal changes made to the usual seating arrangements.

Length of study

Children were taught for four weeks with daily sessions of 70 minutes, followed by one week of testing. Total hours of instruction were 23 hours for each group. Classes were deliberately longer than the usual 30-40 minutes for language instruction in primary schools. Initial sessions prior to the introduction of the treatment had shown that the children were able to sustain their attention this long, and this way a more substantial total teaching time could be achieved in the period allocated by the school.

Content

The course consisted of six German songs, numbers up to 100, telling the time, and three two-page dialogues designed by the researcher. This provided a total of approximately 300 lexical items representing a basic survival knowledge in German. No homework was set, and the children's German folders were kept at the school until the last day of teaching when the children were allowed to take them home.

Procedure

The complete group of children who took part in the experiment was taught as a whole (all 28 children) for four days in order to give children some information about the language and about the language learning process, and thus make more meaningful their responses to the pre-training questionnaires. Communi-

cative teaching was used as the teaching approach. This was characterised by reduced emphasis on linguistic accuracy and greater emphasis on active language use through the use of games, songs and other creative exercises. The distribution of time allocated to the four language skills was approximately 70% listening and speaking, 20% reading and 10% writing.

The children were told that the researcher was interested to see how a language could be taught at primary school. The experiment was vaguely set up as a competition between the two groups. The reason for this was that both groups should feel that they were expected to do well, that the first group should be discouraged from passing on any information to the second and that both groups should feel special in participating in this experiment.

All children were then tested for language self-concept and attitude. For language self-concept an adapted version of the *Self Description Questionnaire* (SDQ), a self-report instrument devised by March (1983) was administered. All items referring to *Mathematics* were isolated and replaced with *German*. This version of the SDQ had been successfully used in the secondary school study (Felix, 1986) to determine language self-concept. It had further been tested with primary school children outside this study, who had no difficulty in understanding and responding to the questions. The questionnaire was administered by the researcher in the last 15 minutes of pre-experiment teaching.

Attitude was measured by the *Illinois Foreign Language Attitude Questionnaire* (IFLQ), devised by Jacobovits (1970). It provides information concerning specific aspects of the instruction process, as well as feedback concerning attitude towards the language itself. The questionnaire has been extensively tested and used in studies, the results of which are stored at the Center for Comparative Linguistics at the University of Illinois. It has also been satisfactorily used in the secondary school study (Felix, 1986). In order to determine its suitability for this age group, it was tested with children outside this study. It was found that provided that the teacher explained the questions carefully, children had no difficulty in understanding and filling in the questionnaire. In the light of this, it was administered in this study by the class teacher over several sessions outside the German teaching.

Subjects were then matched for sex, age and language self-concept scores. The reason for using the latter was the fact that in the previous secondary school study (Felix, 1986), language self-concept was the highest predictor of success in language learning at the time of pre-testing. The children in this study were then assigned at random into either the control or the experimental class ($N=14$ each).

In order to provide a further check on the groups' achievement level, the class teacher was asked to give a grade point average for each group regarding language arts. The means (70.5% for the experimental group and 71.4% for

the control group) suggest that the groups were indeed quite evenly matched for this variable.

The control group was taught for the first four weeks continuing the same communicative teaching approach as before. The programme was recorded in detail in order to reproduce it as identically as possible for the second group. Two video tapes were taken of each group, one in the third, the other in the fourth week of teaching. The first shows a class engaged in elaboration exercises of familiar material, the second shows the introduction of new materials.

After teaching had finished, the questionnaires were re-administered in identical conditions. The children then sat one test per day consisting of the following:

Tests 1-3 (R1, R2, R3) tested the students' written receptive skills by asking them to translate into English the three German dialogues they had learnt.

Test 4 (W) tested the students' written productive skills by requiring full sentence responses in German to twenty German questions.

Test 5 (O) tested the students' aural/oral receptive and productive skills. Here the students had to respond orally to thirty German questions asked by the researcher. They were also required to sing one song of their choice.

The children had been given three short achievement tests (one a week) during the period of teaching in order to familiarize them with the testing format and to reduce anxiety about testing.

The end-of-course written tests were administered by the class teacher in 15 minute sessions over 4 days. The oral test was administered by the researcher with an independent native German speaker scoring the responses on a check list. This teacher had not been informed about the nature of the experiment. The written tests were marked by the researcher, the oral test by the independent teacher (oral tests were recorded on audio tapes). Tests were administered in identical conditions at the same time in the programme for each group, with the exception that the experimental class had the same music that was used in the teaching sessions playing in the background for the written tests.

The experimental class was taught for the four weeks immediately following the end of teaching for the control group. Part of the first session was spent explaining the suggestopedia approach to the students. They were prepared for the relaxation and visualisation exercises and given German identities. The treatment proper was introduced on the second day and consisted of the following:

Mind calming. At the start of each class a variety of music ranging from classical (Beethoven's Moonlight Sonata) to environmental (Halpern's Spectrum Suite) was played while the students were encouraged to visualise in response to guided imagery. These sessions lasted approximately five minutes. The following is one of the scenarios given:

Sit comfortably in your chair... Close your eyes... Breathe deeply... Empty your mind of all thoughts... If a thought forms... drop it... If a picture forms... dissolve it... Just let go... and become completely calm and relaxed... Imagine that you are in a film... See yourself getting up from your chair... See yourself walk out of the room... down the stairs... across the school yard... right to your favourite place... and there see yourself do your favourite thing... maybe a sport... maybe reading a story... studying your favourite subject... anything at all... For the next few minutes just stay there doing just that... notice how good you feel... how happy... how confident... how easy it is for you to do this... how much you enjoy it... Now see yourself come back to the classroom... across the school yard... up the stairs... right into this room... Bring with you all those lovely feelings... When the music ends open your eyes... You'll notice that you are nice and calm but that your mind is fully alert... ready to take in all we are going to do today... and you'll find that you can have just as much fun... and that learning German can be just as easy.

Passive concert session. This session was conducted after the introduction of new material, approximately twice a week. Here suitable passages from the baroque repertoire (e.g. Handel's Water Music) were played while the researcher read the new material aloud giving the English translation in a softer voice. These sessions lasted approximately 10 minutes. The following is an example of the reading of the first few lines of one of the dialogues the children learnt:

Hallo, wer bist Du Süße? (read in normal voice) ... Hello, who are you sweetie? (read in softer voice)... Hallo, wer bist Du Süße? (normal voice)...

Ich heiße Piggy, und Du? (normal voice)... My name is Piggy, and yours? (softer voice)... Ich heiße Piggy, und Du? (normal voice)...

Positive learning suggestions. These were given during the mind calming sessions or whenever necessary. They related chiefly to the ease of retaining the

material. Some examples are given at the end of the mind-calming section above; others might be:

The music will help you remember this dialogue very easily.

You'll find it easy to remember the words for the tests.

The relaxation will help you concentrate and learn much faster.

Identity change. The children chose a German name for themselves and a German city from which they came. These identities were consistently used throughout the course.

At the end of the study, teacher and student behaviour shown in the videotaped lessons, was rated by six independent raters. The videos for rating consisted of one 25 minute extract from the experimental and the control class. In these segments 10 minutes of revision and 15 minutes of elaboration exercises were shown. These were taken at approximately the same point in time for each group and dealt with identical materials. Since no music or relaxation was shown in these extracts the videos contained essentially two identical German lessons. The rating scale was devised for this study by the researcher. The following definitions of items were given to the raters.

1	Children
<i>attentive</i>	refers to the degree of attention to the task
<i>well behaved</i>	refers to general class behaviour
<i>relaxed</i>	refers to whether children were stressed or not
<i>quick in responses</i>	refers to the time involved in responding to the teacher's actions/instructions
2	Teacher
<i>demanding</i>	refers to the amount of pressure put on children to respond
<i>friendly</i>	refers to the atmosphere created by the teacher
<i>relaxed</i>	refers to whether the teacher was stressed or not
<i>positive</i>	refers to the teacher providing positive reinforcement
<i>clear</i>	refers to clarity in giving instructions
<i>enthusiastic</i>	refers to the teacher's interest in the teaching

Scores were given on the following scale:

5 very	4 quite	3 average	2 slightly	1 not
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The independent raters were four students in a Diploma of Education course and two language teaching academics at Flinders University unfamiliar with the type of research under investigation. Together with another researcher they discussed the items on the rating scale, watched five minutes of each video, then discussed the items on the scale again. They were then instructed to watch the full videos without interruption, taking notes as they went along. From these notes they arrived at their final score for each item at the end of each video.

RESULTS

Since this study was designed to test whether the use of Suggestopedia in the primary school language classroom would positively influence *language self-concept, attitude and achievement*, we will look at these in detail. First, however, we will show the results of the video ratings in order to see whether teacher and student behaviour were compatible in the two groups. The mean scores given for each item concerning the state of the children are shown in Table 1.

Table 1: State of the children (mean scores of six independent raters - maximum score = 5)

	Experimental Group	Control Group
attentive	4,3	3,1
well behaved	4,3	3,7
relaxed	4,7	4,0
quick in responses	3,8	3,7

The major difference in the two videos concerned the children's behaviour, relaxed state and especially attention rate. While the experimental children were seen by two raters as very attentive and by four as quite attentive, the attention rate of the control children was seen by one as quite attentive, and by five raters as average.

To test for significant differences between groups, the ratings were compared using a rank sum analysis technique for matched sets (Meddis, 1984, p. 151). Although all means are higher in the experimental group, the only variable on which there was a significant difference was *attentive* where the Z value of 2,04 is significant at $p < .05$.

The question that needs to be asked is whether the difference could have been the result of different teacher behaviour. The mean scores for each item concerning the state of the teacher are given in Table 2.

Table 2: State of the teacher (mean scores of six independent raters - maximum score = 5)

	Experimental Group	Control Group
demanding	4,2	4,3
friendly	4,7	4,7
relaxed	5,0	4,8
positive	4,7	4,8
clear	4,5	4,3
enthusiastic	4,8	4,5

Here too, although differences were observed, these were less severe in comparison with the differences seen in the children. The teacher is seen as equally *friendly* in both episodes and all other differences fluctuate between *very* and *quite*. At no stage does any item of teacher behaviour differ between *very* and *average*, as it did with the children's attention rate above. Applying the same rank sum analysis none of these differences was statistically significant.

Considering the differences observed in the two episodes, how did the raters see the overall effectiveness of the teaching? The mean scores for this are shown in Table 3.

Table 3: Overall effectiveness of teaching episode (mean scores of six independent raters - maximum score = 5)

	Experimental Group	Control Group
	4,8	4,3

Consensus was fairly high for the experimental episode, where teaching was seen as *very effective* by five raters and *quite effective* by one rater. For the control episode, opinions varied more, with three raters seeing the teaching as *very effective*, two as *quite effective*, and one as *average*. This 0,5 difference represents the largest discrepancy in all the ratings concerning the teacher. The rank sum analysis, however, showed this difference was not statistically significant.

All spontaneous comments by the raters, except one, to the question *Is there any feature of this teaching you would like to comment on?* refer to the state of the children rather than the behaviour of the teacher. Perhaps we can tentatively conclude from this that the differences in effectiveness of the teaching episodes were seen as the result of the children's attention rate, which was mentioned most consistently, rather than a differential treatment by the teacher.

Language self-concept (Table 4). In contrast to beginning language students at secondary school who may overrate their ability (Felix, 1986), children in both groups started with mildly positive mean self-concept scores of 35,0 for the experimental group and 36,4 for the control group out of 50. The initial difference between group means was tested by analysis of variance (ANOVA). No significant difference was found.

Table 4: Language self-concept

	X	Standard deviation	Total possible
SC1	control group	36,4	50
	experimental gr.	35,0	
SC2	control group	36,7	50
	experimental gr.	42,8	

Legend: SC1 = language self-concept before experiment,
SC2 = language self-concept after experiment.

The end of study ratings remained positive and showed a near unchanged score of 36.7 for the control group, while the score for the experimental group increased to 42.8. These differences were tested for significance using a two way (Group X Time) repeated measures ANOVA, with repeated measures on the Time factor. There was no Group effect, but a Time effect ($F_{1,26} = 6,09, p < .05$) and a Group x Time interaction ($F_{1,26} = 5,07, p < .05$) were found. The interaction was due to the fact that language self-concept scores rose in the experimental group while remaining stable in the control group. This finding suggests that the treatment had a positive effect on the children's language self-concept.

Attitude (Table 5). Two types of attitude were investigated in this study. Firstly, overall attitude (OA), which included all items on the IFLQ. Secondly, attitude towards the language learning process (LL), for which all relevant items on the IFLQ were isolated.

Table 5: Attitude

		X	Standard deviation	Total possible
OA1	control group	86,9	13,1	119
	experimental gr.	80,4	19,0	
OA2	control group	76,9	22,0	119
	experimental gr.	89,6	17,1	
LL1	control	38,9	6,4	53
	experimental	36,4	7,3	
LL2	control	35,2	9,7	53
	experimental	40,7	6,2	

Legend: OA1 = overall attitude before experiment,
 OA2 = overall attitude after experiment
 LL1 = attitude towards language learning before experiment,
 LL2 = attitude towards language learning after experiment.

For overall attitude both groups started with very positive mean scores of 80,4 for the experimental group and 86,9 for the control group out of 119. These scores were not significantly different. The end of course ratings remained positive. The score for the control group, however, decreased by about 10% to 76,9 while the experimental group's score increased by about 10% to 89,6. A repeated measures ANOVA showed neither a Group nor a Time effect, but a Group x Time interaction ($F_{1,26} = 12,32, p < .01$). Here, the interaction was due to the fact that attitude scores increased in the experimental class while decreasing in the control class.

For attitude towards language learning a similar trend was observed. The initial mean scores were 36,4 for the experimental group and 38,9 for the control group out of 53. Again these scores were not significantly different. The end of study ratings were 40,7 for the experimental group and 35,2 for the control group. Here, too, a repeated measures ANOVA showed neither a Group nor a Time effect, but a Group x Time interaction ($F_{1,26} = 11,04, p < .01$). Again, the interaction was due to the fact that scores increased in the experimental class while decreasing in the control class.

These findings suggest that the treatment had a positive effect both on the children's overall attitude towards the language and on their attitude towards the language learning process.

Achievement during teaching. The children sat three short written tests during the period of teaching, one after each week of teaching, which they were

allowed to keep. These tests were designed to test receptive and productive skills in equal proportion. Children had to answer short German sentences in German, and they also had to translate words and phrases from German into English. The mean scores, expressed in percentages, are shown in Table 4.

Table 6: Results of written achievement tests during teaching

	Test 1 (after one week)	Test 2 (after two weeks)	Test 3 (after three weeks)
Control group	53%	51%	56%
Experimental group	60%	63%	72%

No statistical analysis was performed for these results since the tests were not retained by the researcher, and the experimental children may have had access to them. The tests were chiefly meant to give the children some practice, reduce anxiety about testing and provide the researcher with feedback on how well the children had understood the materials.

Achievement in the end of course tests. Even though the course itself was oriented mostly towards listening and speaking, with some reading but little writing, all four language achievement areas were tested here. They were divided into receptive and productive skills, both written and aural/oral. Results are shown in Table 7.

Receptive-written. Here the children had to translate the three dialogues learnt in class in three 20 minute sessions over three days. It became obvious when marking these tests that the control children's English spelling was better on the whole than that of the experimental children. Children were not penalized for misspelt English, however. The mean class scores expressed in percentages, were 67% for the control group and 85% for the experimental group. More detailed information is given in Table 7 (R1 - R3).

T-tests were performed to test these results for significant differences. For Tests 1 (R1) and 2 (R2) the differences were found to be significant beyond the ,05 level ($t(26) = 2,14$) and ($t(26) = 2,33$) respectively. For Test 3 (R3) the difference was found to be significant beyond the ,01 level ($t(26) = 2,98$).

Receptive/productive-aural/oral. Here the children had to respond to thirty questions in German using complete sentences. Zero to three points were awarded for each answer. Total accuracy, including case endings, was expected for a three point award. The children were also asked to sing a German song

of their choice for which a possible five points were available. Pronunciation was also marked out of five points.

Children were tested individually in identical conditions. No music was used as a background for the experimental group. Questions were asked by the researcher but scored on a checklist by an independent native German speaker unaware of the nature of the experiment. The time necessary for the control group exam was 2 hours and 30 minutes. The time for the experimental group exam was 1 hour and 15 minutes. The mean class scores, given by the independent teacher, were 66% for the control group and 91% for the experimental group. A t-Test analysis showed this difference to be significant beyond the ,001 level ($t(26) = 5,88$).

Productive-written (W, Table 7). The results in this section were even more surprising, since the children in both groups had little experience in writing German, and the level of English spelling was poor in most of the experimental children.

Table 7: Achievement

		X	Standard deviation	Total possible
R1	control	38,4	14,4	60
	experimental	48,3	9,8	
R2	control	29,5	8,5	40
	experimental	35,4	4,3	
R3	control	24,6	10,8	40
	experimental	34,6	6,2	
W	control	35,4	16,1	60
	experimental	50,9	5,2	
O	control	65,8	15,1	100
	experimental	90,7	4,8	
Total control		193,6	60,3	
experimental		259,5	26,5	300

Legend: R1, R2, R3 = written tests - receptive,
W = written test - productive, O = oral test.

The children had to respond to twenty German sentences with complete sentences in German. Given the time involved in learning this task and the

children's spelling difficulties, it was decided that here approximations to the correct spelling would be accepted. The answers needed to be clearly understandable to a native speaker and contain the correct word order. The mean class scores were 59% for the control group and 85% for the experimental group. A t-Test analysis showed this difference to be significant beyond the ,01 level ($t(26) = 3,45$).

Overall Achievement (Total, Table 7). All end-of-course achievement tests together were marked out of a total 300 points. All children in the experimental group scored over 200 points, representing no fail marks. The lowest mark was 220 (73%). The highest mark was 289 (96%). In the control group the range was much larger, namely from 85 (28%) to 286 (95%). Setting the fail mark at 150, there were three children failing overall. The mean class scores were 65% for the control group and 87% for the experimental group. A t-Test analysis showed this difference to be significant at the ,01 level ($t(26) = 3,76$).

These findings suggest that the treatment had a positive influence on all areas of the children's achievement in the following order of magnitude: Aural/oral, written/productive, written/receptive.

DISCUSSION

In the environment created for this study it has been shown that it is possible to improve on good communicative teaching. Every effort was made here to duplicate the communicative teaching mode as closely as possible - physically, intellectually and effectively. The only variables that were added for the experimental teaching were *music, relaxation, suggestion* and the *children's adoption of German personalities*. This may offend the purists of Suggestopedia, but when we analyze the elements of good communicative teaching and good suggestopedic teaching, these are the only elements that can didactically be separated for Suggestopedia. And this is only partly true for the variable *suggestion* since many suggestions given in Suggestopedia are equally transmitted, though not perhaps explicitly, in communicative teaching.

Both approaches are designed to create a positive, motivating and meaningful environment. Suggestopedia is not, as seen by many, a teacher-centred approach, where students remain largely passive. On the contrary, there is a purposeful alternation between active and passive states on the part of the students, with both states being important in the learning process. Lozanov (1978) has shown that, during the passive concerts, alpha brain waves are dominant. Research on altered states of consciousness (Tart, 1972) has shown that during these states concentration is greatly improved which may in turn influence performance. Research in relaxation training (Matthews, 1983, Johnson, 1982) supports this notion.

The results of the present study support some of the findings of a secondary study (Felix, 1986) which involved 205 children (mean age 12 years) at three different high schools. This study was conducted in the natural high school environment, with large classes, over a half-year period (one year in the case of one school), and with different teachers in charge of the teaching. The present study generated nearly identical results to those of the two highest achieving experimental classes in the secondary study. In both studies an increase of about 10% in attitude and an increase of about 20% in achievement were found. While, in the secondary school study, achievement was only measured by one written/productive test, the primary children were tested more extensively, including all four language skills. Overall achievement was still significantly higher (22%) in the experimental group.

In the present study the results of the oral test, which was 25% higher in the experimental group, were particularly surprising since the additional (to communicative teaching) passive input of information in Suggestopedia may be seen as mostly affecting the receptive skills of the students. Lozanov's experiments have been criticised (Baur, 1982, Mans, 1982) for testing only receptive skills, such as translating back into the mother tongue. It was mainly for this reason that such a large variety of tests was used in this experiment.

It could be said that the experimental children did in fact miss out on about three hours of active language practice, since five to eight minutes were spent every day in relaxation, and about ten minutes every third day in a passive concert session. These passive states do not seem to have impaired the children's oral performance in fluency or pronunciation.

This finding appears to support Krashen's (1982) claim that for beginning language students it is more important to read and listen than to practise in order to reach fluency in oral production skills, although Krashen refers to adult learners. Jones (1985) who investigated the effect of a silent period on accent in adult second language learners, found that a silent period of thirty hours (out of a total 100 hours) in the Suggestopedia class was as effective for pronunciation fidelity as corresponding active practice in the control class.

The results for the written productive skills, which were 26% higher in the experimental group, were equally surprising. After all, the children had only spent about 20% of their class time on recognising written text and about 10% on producing it. Again, the passive input of materials was not expected to exert such a great influence here.

The difference in attention rate, however, may have been responsible for the overall superior performance of the experimental children. Although these differences were not extensively studied in this project, it appears that suggestopedic elements, such as relaxation or music, may be instrumental in improving on-task performance. This notion is supported by the secondary study, where on-task behaviour was more frequently and more scientifically

monitored, and was found to be significantly higher in all five experimental classes. It is also supported by the findings of Davidson & Powell (1986) who investigated the effect of background music on on-task performance (OTP) of fifth-grade science students at a junior high school, independent of the suggestopedia environment. In a four-months long study they found that children's OTP increased significantly when easy listening background music was playing.

Language self-concept increased only slightly in two experimental classes in the secondary study while it decreased in all other classes. It was concluded that this drop was largely due to the fact that beginning language students at secondary school may overrate their ability for language learning, since scores had been unusually high to begin with. This was confirmed when scores were taken again at the beginning of the following year. Although these were the same students who had elected to go on with German, their self-concept scores were significantly lower than in the previous year. The primary children in the present study, by contrast, started with a more realistic positive self-concept score, which increased significantly in the experimental class while remaining unchanged in the control class.

We cannot draw direct parallels to Portes' (1986) study mentioned in the introduction, since only language self-concept was measured in the present study. Overall self-concept had been investigated in the secondary study and had been found virtually unchanged in all groups after six months. The inconsistent findings across the three studies highlight the difficulties of investigating personality measures accurately.

The effectiveness of a teaching method is difficult to assess in any circumstances, since so many personal components are involved in the administration of the method, and some critics even claim that no teaching method is better than any other method. If the latter is the case, to what can we attribute the consistent differences in performance between the two groups? Naturally there are several possible threats to validity that must be considered in a study of this nature.

Firstly, by teaching one group after another, there is always the risk of the first group discussing their experiences with the second and thus influencing this group positively or negatively. There is also the risk of the second group having access to the materials of the first. It was decided that the experimental class should be taught last, so that at least no expectations of relaxation and music as part of the teaching would be generated. Setting up the experiment as a kind of competition may have discouraged the children from passing on information about tests.

Secondly, teaching with Suggestopedia may make children in the experimental group feel more important because of the novelty of the approach. For this reason a school where no languages were taught was chosen, so that

the experience of learning a new subject in an interesting way would be novel for both groups. Every effort was made to make both groups feel equally important. A Hawthorne effect would therefore certainly have been present in both groups.

Thirdly, there are some researchers (Schiffler, 1980, Dhority, 1984) who point out the importance of a Rosenthal effect in Suggestopedia. That is that the teacher's positive expectations of the students' success produce the latter more easily. In this study the expectations for both groups were high since the students were equally enthusiastic and interested, and, more importantly, since this characteristic is also associated with good communicative teaching, which was the approach used for the control group. Naturally the researcher expected the relaxation and music to have some effect, but she was not sure exactly where this would be most apparent. Since only the written/productive skills were monitored during the teaching, no direction was obvious, and the blind assessment by an outside teacher of the children's aural/oral skills may have limited this effect. Further, the ratings of the videos argue against this effect operating differentially in the two groups.

Fourthly, teacher behaviour can never be completely controlled. If, as in the secondary study (Felix, 1986), two different teachers are used, there is a threat of the different personalities affecting the outcome of the study. If, as in this study, the same teacher is used, there is the threat of either conscious or unconscious differences in the teacher's interaction with the children. Although every effort was made here to treat the two groups identically, this can never be completely guaranteed. The independent raters found no significant difference in teacher behaviour when rating the videos, but it could be argued that these only represent two out of 20 teaching sessions.

Lastly, the small sample may be the most important threat to both internal and external validity of the study. Since there were only 14 children in each group, there is always the possibility, even after random assignment, that the groups are unevenly matched for ability. As so many variables may be involved in language learning ability, it was decided here to take the children's self-concept scores and their grade point average for language arts as control measures. Both mean scores were virtually identical for the two groups in this study.

In conclusion, the success of Suggestopedia, like any other teaching method, is largely dependent on the complete interaction between the teacher, the students and the context of their meeting. When conditions are favourable, as they have been in this study, the elements that are characteristic of Suggestopedia, such as music, relaxation, identity change and suggestion, appear to have a positive effect on language self-concept, attitude, attention rate, and achievement.

It is impossible to say which of these elements is the most powerful in the production of these effects. It has so far been speculated (Schuster 1985) that the combination of all is the most effective, and that the overall effect in Suggestopedia is cumulative. The latter has been supported by this study, especially in terms of achievement. While the experimental children performed only marginally better than the controls after the first week, their performance was much higher by the end of the course.

The findings did indeed support the general notion in suggestopedic research that this approach does not only affect the cognitive learning process in a positive way, but that it also has positive psychological effects. The increase in language self-concept and attitude, as well as the differences in attention rate in this study support this claim.

References

- BASS, J.A.F. 1986. The effects of the suggestive-accelerative learning and teaching method and a structural analysis method on vocabulary learning, *Journal of accelerative learning and teaching*, 11(2), 67-79.
- BAUR, R. 1982. Untersuchungen zum suggestopädischen Fremdsprachenunterricht, *Englisch-Amerikanische Studien*, 1/2, 47-52.
- DAVIDSON, C.W. & L.A. Powell. 1986. The effects of easy-listening background music on the on-task-performance of fifth-grade children, *Journal of educational research*, 80(1), 29-33.
- DHORITY, L. 1984. *Acquisition through creative teaching - ACT*, translated into German by Gunhild Hinkelmann, Psychologische Lernsysteme Verlagsgesellschaft, Bremen 1986.
- EDWARDS, B.C. & J.D. Thomas. 1982. Accelerative learning techniques for self-concept enhancement, *Journal of accelerative learning and teaching* 7 (1), 50-59.
- FELIX, U. 1985. Children's attitudes to Suggestopedia in two S.A. high schools, in press *Journal of accelerative learning and teaching*.
- FELIX, U. 1986. A quasi-experimental evaluation of suggestopedic language teaching in three South Australian secondary schools, submitted for publication to the *British journal of educational psychology*.
- FISHER, R.M. 1982. Supermemory of numbers in a grade 5/6 class, *Journal of accelerative learning and teaching*, 7(3), 263-268.

- GASSNER-ROBERTS S, & P. Brislan. 1984. A controlled, comparative and evaluative study of a suggestopedic German course for first year university students, *Journal of accelerative learning and teaching*, 9(3), 211-235.
- HELD, D. 1976. Suggestive-accelerative learning and teaching: an experiment with elements of an altered states approach, *Journal of accelerative learning and teaching*, 1(2), 131-136.
- JAKOBOVITS, L.A. 1970. Foreign language attitude questionnaire. In J.A. Trusi. ed. (1970) *Foreign languages and the new student*. Menasha, Wisconsin: George Banta Co. Inc.
- JOHNSON, P.L. 1982. The effect of group relaxation exercises on second- and sixth-grade children's spelling scores, *Journal of accelerative learning and teaching*, 7(3), 239-253.
- JONES, M.R. 1985. The effect of a silent period on accent in adult second language learners, Ph.D. thesis at the University of Texas, DAI Vol. 46, p. 2951.
- KRASHEN, S. 1982. *Principles and practice in second language acquisition*. New York: Pergamon Press.
- LEVIN, J.R. 1985. Some methodological and statistical bugs in research on children's learning in *Cognitive learning and memory in children*, edited by M. Pressley, & C.J. Brainerd. New York: Springer Verlag.
- LOZANOV, G. & P. Balevski. 1975. The effect of the suggestopedic system of instruction on the physical development, state of health and working capacity of first and second grade pupils, *Suggestology and suggestopaedia*, 1(3), 24-32.
- MANS, E.J. 1981. Joyful and easy language learning oder von der Reservekapazität der Fremdsprachendidaktik, *Englisch-Amerikanische Studien* 2, 258-266.
- MARSH, H. & I.D. Smith. 1983. Self-concept: reliability, stability, dimensionality, validity and the measurement of change, in *Journal of educational psychology*, 75(5), 772-790.
- MATTHEWS, D.B. 1983. Relaxation training: its usefulness in the middle school curriculum, paper presented at the annual meeting of the National Middle Schools (Chicago, IL., November 1983), Eric Document No. 236150.
- MOON, C.E. 1986. A meta-analysis of suggestopedia, suggestology, suggestive-accelerative learning and teaching (SALT), and superlearning, paper presented at the annual meeting of the American Educational Research Association (San Francisco, CA., April 1986), Eric Document No. 271503.

- PALMER, L.L. 1985. Suggestive accelerative learning and teaching (SALT) with learning disabled and other special needs students: a literature review and meta-analysis, *Journal of accelerative learning and teaching*, 10(2), 99-128.
- PORTES, P.R. 1986. Accelerated learning and self-concept in elementary and secondary school, *Journal of accelerative learning and teaching*, 11(1), 33-38.
- SCHIFFLER, L. 1980. Suggestopädischer Fremdsprachenunterricht an unseren Schulen?, *Neusprachliche Mitteilungen aus Wissenschaft und Praxis*, 33, 245-251.
- SCHUSTER, D.H. & C.E. Gritton. 1985. SALT, *Suggestive accelerative learning techniques, theory and application*. Photoprint, Carlisle Iowa.
- TART, C. 1972. *Altered states of consciousness*. New York: Wiley and Sons.
- TERRELL, T. & S. Krashen. 1983. *The natural approach*. San Francisco: Alemany Press.