

Report on the school-experiment
"SUGGESTOPAEDIA IN ELEMENTARY SCHOOL"

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1.0. Presentation of the model "Suggestopaedia in Elementary School"

The enormous progress of science and technology has made our curricula become obsolete in ever shortening periods of time and demanded numerous curriculum revisions. This usually means only that new material is included; very seldom, however, is any old material discarded. The result is that the amount of material to be learned is always increasing.

At the moment changes are occurring in job requirements. The number of people working in the primary sector (agriculture) is decreasing, while the mechanization is increasing - a fact which demands better educated workers.

The output in the secondary sector (industrial production) is rising rapidly. Automation here also leads to an increasing demand for better educated people. Fewer and fewer jobs are available for unqualified workers.

In the tertiary sector (services), the number of job openings is also greatly increasing. Even here, however, the demand is for specialists.

Furthermore, the readiness for continuing education must be awakened. The LEMBERG-theoreme with its demand for continuing education is becoming more and more important.

The shortening of working time in commerce and industry sharply contrasts with an uninterrupted lengthening of the schooling and training time. In Austria we have a five-day/forty-hour workweek. High school pupils now spend up to forty-six hours per week on six days at school. This, of course, does not include their homework. Considering these facts, it is not at all surprising that exhaustion, fear of school, psychosomatic illnesses and neurotic symptoms are steadily increasing.

The use of instructional media and the application of results of pedagogic research cannot keep pace with this development, and in addition to that, didactics do not fulfill these requirements.

1.1. The 'suggestion'

In teacher training we have not yet learned to bridge the gap between theory and practise. We do not yet apply our theoretical knowledge from the social sciences and didactics in the everyday process of teaching. Additionally, the physiological and psychological facts and principles of teaching and learning are not heeded. Teaching models, inadequate to the child's psyche and thought process, are applied. Exhaustion and disinterest in learning, and in some cases even neurotic symptoms, are the results after a few months.

Lozanov claims that in this situation no satisfactory didactic starting point can be found without the results of suggestive-communicative psychotherapy, because

- 1) only psychotherapy reveals the reserves existing within the human personality:
 - a) with the help of psychotherapy not only vegetative, endocrine and trophic changes can be produced, but also
 - b) positive changes in intellectual activity, improvement in memory and positive behavioral changes.

A part of these reserves can also be mobilized in the classroom with the help of suggestopaedia.

- 2) Another important component of psychotherapy is the psychohygienic and psychoprophylactic influence.

In all the different schools of psychotherapy - be it psychoanalysis, logotherapy, psychodrama, autogenous training or persuasion - suggestion is included.

That is suggestion through the effect of the doctor as a father-figure,
 through the ritual ceremony,
 through the persuasiveness and the power of persuasion etc.

If one has recognized the power of suggestion in the healing process and is sensitized to it, then one notices quickly that suggestive elements exist, more or less strongly, in every communicative process. The most important factors, apart from the intellectual content, are

the positive emotional receptiveness,
the understanding,
the recognition,
the acceptance,
the trust in the ability of the other,
the absence of negative reinforcement.

This has been often recognized by educators. BOLLNOW put it this way: "You can make people better if you think they are better". The English psychologist HURLOCK found in her experiments with teacher behavior and learner success that the greatest success was registered in groups, whose teacher emphasized the positive and corrected negative things in a neutral manner.

A physical and mental relaxation is created in the communication between teacher and pupils by means of

the positive attitude towards the pupil,
the instruction by showing that learning is fun,
the right choice of words,
encouragement,
praise,
the subtle application of non-verbal communication (intonation),
the regular use of classical music with its subconscious effect,
the offer of artistic performances.

This relaxation is a prerequisite for quicker and easier memorization of the teaching matter.

It is directly expressed on different levels that learning is a pleasant activity and accepted as such by the children. The teacher does not talk about "practising", or "remembering" anything, and does not say things are "absolutely necessary" or "difficult".

From the very beginning the instruction becomes a conditioning for a positive attitude towards life. The children experience this through all their senses. For this reason all negative emotions are avoided at the beginning of the schooling process. The children experience that learning is something pleasant and interesting. Therefore there are no homework assignments during the first semester; especially good pupils are allowed to write homework voluntarily.

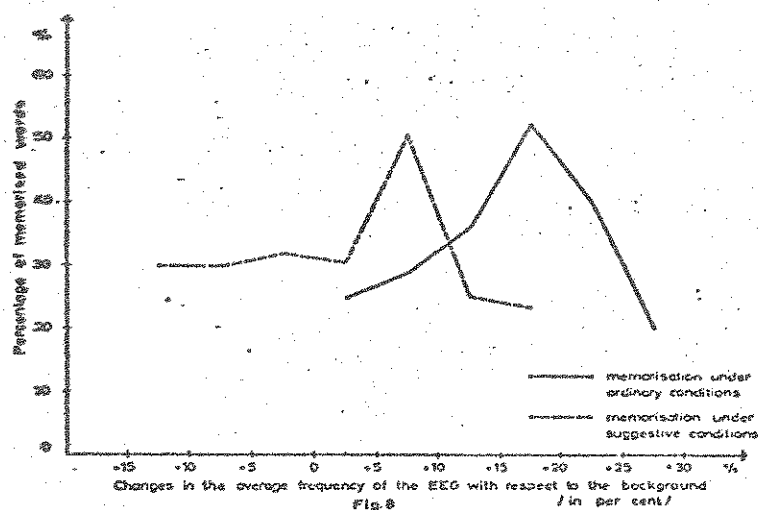
1.2. Music and learning

The American scientist ORNSTEIN has already stated in "The Psychology of consciousness"*) , as a result of complicated research work, that the left brain-half is the center of analytical thinking, the linguistic and logical processes, the linear digestion of information and order, whereas the right brain-half contains the spatial orientation, artistic abilities, the physical consciousness and the center of recognition, as well as the assimilation of diffuse information. Of course, none of the two brain-halves works independently, but there is - so to speak - mutual information. It would be ideal if not only parts of the cortical structures were activated but the whole of the functional cortical and subcortical systems. Dr. Lozanov maintains that a possible way to achieve this, is learning with the accompaniment of music. P. BALEVSKY describes in detail; which EEG changes occur in the process of memorization under ordinary and suggestive conditions.***) A number of authors have found out that there is a close parallelism between the level of brain activity and memorization, and suggestion and autosuggestion are an important part of their methods. The telemetric encephalographic research carried out on people studying foreign languages by the suggestopaedic method of Dr. Lozanov showed no increase in the bioelectrical activity of the brain, in spite of the large amount of information given to the students. Balevsky's experiment was carried out to find the correlation between the level of brain activity and the level of the short-time memory under normal conditions of memorization and under conditions using the means of suggestion, i.e. intonational presentation of the material, and the soothing effect of classical music. The results show that efficient memorization is not connected with a high level of brain activity, in contrast, the optimum level of brain activity is a relative quantity, subject to the conditions of the experiment and the individual characteristics of the student.

*) Robert E. Ornstein, The Psychology of consciousness (tr. "Die Psychologie des Bewußtseins", Köln 1974); *ibid.*, "Rechtes und linkes Denken", in: *Psychologie heute*, February 1975, pp. 57 - 65.

***) P. Balevsky, "EEG changes in the process of memorization under ordinary and suggestive conditions", in: *Suggestology and Suggestopaedia*, 1/75, pp. 26 - 35.

The following graph shows the changes in the average frequency of the bioelectric brain activity under normal and suggestive conditions:



Changes in the average frequency of EEG depending on the percentage of memorized words under ordinary and suggestive conditions.

Didactics do not fulfill these requirements. The instruction is directed mainly toward the cognitive but not the affective domain. In terms of brain physiology that means that the teacher addresses himself to the cortical structures, neglecting, however, the subcortical ones. Dr. Lozanov maintains that the teachers do not adapt their teaching process to the anatomical facts but instead try to teach the brain how it is supposed to learn. He calls this patho-pedagogy.

1.3. Principles and means of Suggestopaedia *)

Current pedagogical practice contradicts the following fundamental psychophysical facts:

1. The functional unity of the cortex, subcortex and reticular formation means that teaching should activate imaginative thinking, logical abstraction, set up of the emotional - motivational complex simultaneously. Pedagogical practice, however, addresses only the cortex, neglecting emotional and motivational structures, or activates the brain system in stages rather than simultaneously.

2. Analytical and synthetic activity occurs simultaneously in the brain, not in separate stages. This is reflected in the cognitive patterns: from general to particular and back to general. Pedagogical practice distorts this pattern by studying and making automatic particular elements which are later connected into a whole, or by studying the whole without regard for its constituent parts. No such division of the simultaneous analytic-synthetic process is possible.

3. A person learns on many levels, conscious and unconscious. Suggestopaedia utilizes the entire conscious-unconscious complex and agrees with the psychophysical facts of the learning process. The underlying theory is that of the unconscious foundation of long-term memory, automation, intellectual activation and global stimulation of the personality.

The suggestopaedic system of teaching is based on the simultaneous observation of the following three principles:

1. Principle of joy and lack of strain, i.e. pleasure and inner motivation allows the concentration without the anxious tensions which come from lack of confidence in one's ability to understand, memorize and utilize the material.

2. Principle of unity of conscious and unconscious, according to the psychophysical facts mentioned above.

3. Principle of the suggestive link, which requires instruction that produces close interpersonal relations similar to those existing in group psychotherapy, and also requires the coordination of the desuggestive-suggestive factors. This allows the person's reserves to be tapped, the results of which indicate the realization of this principle.

*) cf. G. Lozanov, "Suggestopaedy in primary schools", in: Suggestology and Suggestopaedia, 2/75, pp.3 ff.

These principles are realised through psychological, didactic and artistic means, which again form a unit. The psychological means are utilized in the fringe perceptions and the emotional motivation; the didactic means demand the enlargement of the teaching units, which facilitate an overall view of the teaching material. The artistic means of suggestopaedia introduce a special type of stimulating didactic arts (music, literature etc.) into the teaching process. They are not a special stage of illustration but contain the teaching material itself.

1.4. Demands on the experimental teachers

1.41. Informing the teachers about the suggestopaedic teaching system

The historical development of suggestopaedia is the point of departure for informing the teachers. They are instructed through films about the use of suggestopaedia in surgery (performing operations without anaesthesia), in psychotherapeutic treatment of neuroses by means of language instruction and finally in foreign language teaching with adults and children.

They are instructed about the concept of suggestion - as I have just mentioned - and the principles of suggestive-pedagogic methods. Obviously the teachers must become familiar with the basic psychotherapeutic principles of suggestopaedia. Only with this knowledge can they realize that it is often necessary to forget about the rules of contemporary didactics - or the assumptions which have practically come to be considered as rules - and to shape the instructional process in a way which contradicts the traditional didactic principles. The teachers should learn to overcome their own inner conflicts between the old practises and the new requirements and to fulfill the new requirements. As soon as they have gathered enough experience in the application of suggestopaedia, they will have difficulties returning to the conventional methods.

1.42. Familiarization and preparation of the teacher for the use of music in the teaching process

For nine years physiologic research has been under way to determine the best pedagogic effects of the method. Direct investigations have shown that a rise in the bioelectric activity takes place in the learning process. At a very high level of excitability, however, as well as at a very reduced level, only a part of the information can be absorbed. With the use of classical music and a three-phase intonation the bioelectric activity is only slightly elevated, the ability to memorize, however, is much increased. The method integrates the elements of individual and group-therapy. All forms of non-verbal communication are applied: i.e. three-phase intonation (normal speech which arouses expectation, whispering and stressing rhythmically), language, mimics, gestures and posture of the teacher are to transmit continuous non-verbal positive attitudes. It is not so important for the student to be

able to spell a certain word, but rather to assimilate the images and emotions behind a semantic unit.

The teachers must be taught that in the conventional teaching process very often only parts of the cortex are activated. If one succeeds in activating the entire functional cortical and subcortical systems, the achievements can be multiplied. Therefore the teacher should apply the tape-recordings while introducing difficult and new teaching matter. Of course, every disturbance by extraneous noise is to be avoided.

1.43. The use of puppets, theater, films, video-tapes of plays and children's operas

When a new teaching matter is introduced for the first time (e.g. addition and subtraction from 1 to 10, or the introduction of numbers beyond 10), a puppet play, a theater performance, a dance or a children's opera, or a film or video-tape should be the starting point. These didactic performances, which Prof. Lozanov refers to as 'spectacles', should be discussed the following day and then be used in the teaching process as additional impulse.

The preparation and selection of the actors and singers is of great importance. In Austria such spectacles were originally considered unimportant, but later the value of these plays was recognized. We have shown children's operas from Bulgarian television. Of course, certain parts had to be deleted for ideological reasons. These presentations were surprisingly successful.

1.44. Designing of musical-didactic theater-performances

Because the material available from Bulgaria does not always meet our requirements and not all topics are covered, and because this material should correspond to the mentality of the children, it is necessary to bring the teachers to design and with the help of experts to produce or have produced original plays.

1.45. Creation of appropriate teaching materials

Suggestopaedia demands many more teaching materials than is customary. Of course, a portion of the teaching material and books now in use can also be applied. It is not, however, possible to get by with these alone. It has proved necessary in Austria to design a number of new books as well as to purchase other already available teaching materials. Most of the available primers do not correspond to suggestopaedic principles and therefore, with the help of Dr. Lozanov, we have written our own primer.

1.46. Production of teaching material

It has proved necessary to produce a series of visual materials in addition to those already available.

For the teaching of reading a number of large and colorful pictures (about 75 by 100 cm) were produced. These show things from the child's world: e.g. hunter, bear, hedgehog, frog, clock, table, ear. Below the pictures the names of the animals or objects are printed. In some cases the picture is described with a sentence, such as "The monkey is eating ice-cream" or "The cat is chasing the mouse". For the arithmetic instruction appropriate number boards were prepared.

1.5. Changes in the teaching matter

No curricular changes have been made in the present experimental stage, but the normal teaching matter of the first, second and part of the third grade are already taught in the first grade. The teaching units are combined according to their meaning and content.

In reading the pupils begin immediately to read single words, or short affective sentences, such as the previous examples: "The monkey is eating ice-cream" etc. The teaching process must be revised.

1.6. The teacher as positive motivator

All of this should produce a positive atmosphere, in which the instruction takes place. The child should feel that learning is easy and pleasant. Of course, the teacher will exhibit behavioral patterns which help integrate into society; he will be tolerant and will bring about changes in behavior with constructive measures.

1.7. Many instructional principles can be carried over from traditional pedagogy

Although the instruction process must be reconsidered and revised according to suggestopaedic principles, many of the traditional instructional principles can be carried over, e.g.

closeness to life

concreteness

appropriateness to the child's age

learning by doing

principle of assessment

integrated overall-view

1.8. Information of the parents

The parents are an important factor in the entire teaching, learning and educational process.

They must be familiar with the principles of suggestopaedia, have an active interest in school-activities and above all they must help provide positive motivation. The children have no homework assignments during the first semester because they have to deal with many problems in the beginning and very often homework

is too tiring for them. The parents very often demand too perfect work from the children. On the other hand a positive attitude towards work is desirable. Therefore homework is used as a reward: "Because you were especially good today, you may do some homework".

In order to give the parents a picture of their children's activities and to integrate them into school activities, they should take part in the teaching about every week or fortnight. Our parents come regularly to discussions with the teacher. They gladly integrate the material from the schoolday into the activities of the family, e.g. they stimulate the child to read, send him on small shopping errands or ask him to write letters etc.

One of the results of this cooperation between parents, pupils and the teacher is a wall-hanging, which they produced together as a Christmas decoration. This shared experience of course fostered a spirit of community.

1.9. Selection of the teachers

It is advisable to take only teachers who are interested in new methods and have already proven their abilities in school experiments. In addition to this, the teachers should be highly qualified and not be too overly bound to traditional ideas in their pedagogic views. Authoritarian personalities, who use pressure instead of positive motivation, who produce fear instead of pleasure in learning, who are convinced of the perfection of their own teaching style, and who only want to try something new in order to prove to themselves and the world that their method is best, are not suited for suggestopaedia.

2.0. The school-experiment

In 1973 I was confronted with the surprisingly good results of foreign language teaching in Moscow. I was, however, unable to learn anything then about the method. I was only told that a Bulgarian scientist had developed new teaching techniques. Six months later I was called to the Department of Education and told that a new teaching method for elementary school had been seen during a state visit to Bulgaria. If the parents and teachers were interested in an experiment, we could begin as soon as the fall of 1974. And that is how I met Dr. Lozanov.

He soon handed in the proposal for the experiment (see appendix 1). The Educational Department agreed to the proposal and the Ludwig-Boltzmann-Institute agreed to pay the expenses of the Bulgarian experts and to provide the additional teaching materials.

2.1. Organizational preparations

2.11. Presentation of the model

The model was presented to the three teachers who were to teach the three first grades the following year. Two teachers agreed to take part in the experiment.

The parents were allowed to decide whether their children would be placed in a normal class or in a suggestopaedic class. After a discussion with the two teachers, the school director and Dr. Lozanov, more than sixty parents chose to have their children participate in the school-experiment. Dr. Lozanov and the teachers together selected the textbooks and the additional reading material for the first two grades; the necessary audio-visual media were provided for.

The pictures for the suggestopaedic reading instruction were made in Bulgaria. An adequate primer could not be produced for the first year.

The teachers themselves prepared many worksheets and wrote short reading books for the beginning.

2.2. Training of the teachers

In June, before the beginning of the first year of the experiment, the teachers received an outline of the experiment, all of the material about suggestopaedia available in German, plus the book "Suggestopaedia".

The tests were given on the second and third day of school. The pupils of the one A class had attended an intensive preschool, while the one B and one C classes were complete beginners. Each class contained exactly 32 pupils, about half of them boys. A comparison of the average test results showed significantly better achievement (at the 1% level) of the pupils of the one A class in the matrices test

vocabulary test

picture test.

The professional distribution of the parents also showed higher professional qualifications for the one A.

In addition, Dr. Lozanov recorded speech examples by all of the children. In the one A class five children could already read and write, while in the one B and one C classes only two or three could. Teachers and parents of the children in the classes one A and one B had chosen to participate in the experiment. These two groups were the experimental classes, while the one C was the control class.

INSTRUCTION

2.2.1. Reading instruction

1. On the third day pictures are hung in each class as "decoration". Below each picture the appropriate word or sentence has been printed.

1st series: hunter, bear, Christmas tree, quince, dolphin, sun, monkey, donkey, nut, stockings, ear, hedgehog, frog, clock, table, train.

2nd series: snowman, icecream, rose, mouse, jug, sugar, lion, scales, doll, fire, house, spider, nut, fork. The cat is chasing the mouse. The monkey is eating icecream. The donkey is carrying a table.

The pictures remain in the classroom for two days but the attention of the children is not directed to them.

2. At the end of the second day the pictures are removed and shown to the pupils in a different order. In this procedure the pictures are covered.

The children try to read the words first in chorus, then individually. Then worksheets are completed, on which the pupils have to solve the following problems:

- a) Which picture was visible above the word or sentence?
- b) Which word or sentence belongs with this picture?
- c) What is the word? What is the sentence?

3. The second series of pictures is hung in the classroom for two days. The procedure is repeated.

4. The words and sentences from the pictures are shown with the overhead projector in various orders and used as a quick-reading drill. The children read first in chorus, then individually. The children especially enjoyed the way in which the teacher showed the pictures at random.

5. The newly learned words and sentences are combined with new words into new sentences.

The cat is chasing the mouse.

The dog is chasing the cat.

The dog is chasing the mouse.

The children read altogether first, then individually. They are not allowed to read individual letters or syllables. They are always asked to read the word or the sentence. Independent of this the teacher explains that the words consist of letters.

6. Didactic plays and operas

A part of the newly learned words and many new words are used in the solving of interesting problems in a play. Pupils and teacher take part in the action and help the performers. The children should find that reading is pleasant and easy. The material for the arithmetic lesson is included in the same play.

7. Short poems and prose passages, consisting mostly of familiar words and constructive contents, are read in groups and individually. The children must follow the words with the index finger, even if the word is unfamiliar to them. The slide projector is also used. This stage is reached after about ten days.

8. Reading of new short sentences (fables and fairy-tales), consisting mostly of familiar words, but also including two or three unfamiliar words each. Chorus reading and individual reading. Work with the slide projector, quick-reading competitions.

9. Reading of short books, appropriate to the level and knowledge of the children. Not only familiar words but also new ones should appear.

They are read in chorus, the teacher reads along aloud, stops, however, from time to time and allows the children to continue reading alone. During this process she changes volume, reading more loudly when she notices that the children need help. The texts have to be short, emotional and rhythmic. The reading speed is steadily increased. The goal is that the children learn to read quickly, combining small and large words and avoiding the reading of syllables. At times chosen reading in chorus is changed to individual reading. Each text will be read a maximum of two times, in order to avoid memorization.

After reading the initial series of easy texts at the children's own level, more advanced short books, which can be purchased commercially, are read. The aim is to read as many books as possible. One should not spend too much time on one book but rather go on quickly to the next one. Prerequisites are created for varied repetition with the addition of more and more new vocabulary. The pupils who have made more progress, can read more difficult short books silently and individually and retell the contents to the other pupils at the end of the lesson. At the same time the class continue reading new books in groups.

A transition to more expressive and artistic reading is made in steps.

Dr. Lozanov gives the following explanations for this procedure: This reading method seems to be similar to the whole-word-method, but this is only a phenomenological similarity. There are a number of important differences between these two methods.

First of all the suggestopaedic system of reading instruction differs from the whole-word-method with regard to the uniformity of the three principles in the teaching process.

a) In suggestopaedia the combination of the material in words and short sentences is in accordance with the psychologic and artistic means.

b) The word or sentence is absorbed to a great extent peripherally, emotionally and without effort. The content of the lessons is presented to the children through the pictures which are used for the decoration of the rooms.

c) The children are not kept long in sentences in which only individual words have been changed. They go on quickly to new texts and short books.

d) The pupils learn the word as a unit. In the beginning they are simply informed that the word consists of letters. The initial letters are shown in the pictures as an element of the pictures. The optical and aural analysis is of minor importance but of great importance in connection with the sensual stimulus.

e) The synchronic group reading with its melody, rhythm, accelerating tempo, the participation of the children because of the teacher's variation of volume has a suggestive character and adds to the naturalness of the method.

In summary, the suggestopaedic method in reading is a natural method. It imitates the repetition process of small children in a number of its principles. The results achieved with this teaching process are a multiple acceleration in comparison with other methods.

2.22. Writing instruction in the 1st grade

The instruction in writing is also based on the three principles. The opera performances also comprise difficult material for the writing instruction.

A writing lesson may be organized in the following way:

1. The teacher writes a short, emotionally loaded sentence on the blackboard.

2. The teacher quickly analyses the content of the sentence and its structure - words, letters, capital letters (initial letters).

3. The pupils copy the entire sentence in their note books.

4. The teacher checks the pupils' independent work, he marks the mistakes and asks them to write the incorrectly written words and letters again.

5. The pupils copy the sentences.

6. The pupils write the entire sentence once more as a dictation.

7. The pupils write similar sentences with many identical words in the form of a dictation.

8. A slow transition is made to difficult texts and dictations. Please note: The writing lessons must not be boring. The children should copy interesting texts and appropriate background music should be provided.

2.23. The instruction process in arithmetic for 1st grade pupils

Closeness to life and the connection with other school subjects is of especial importance in arithmetic instruction for 1st grade pupils. Parts of the arithmetic to be learned can be brought into the painting and drawing lessons for example. From this the children feel that a knowledge of arithmetic is important and at the same time interesting. Such connections can also be made in physical education and all of the other subjects. In physical education e.g. the children can count, add and subtract in the form of a game etc. Connection with other subjects must always be made in an enthusiastic and unnoticable way so that the children do not realize that they are doing exercises. The arithmetic material includes everything that is planned in the official teaching program for the 1st, 2nd and part of the 3rd grade. Everything is functionally grouped according to six themes. Each theme is taught in the four following stages.

1st stage: The operas, operettas or plays should help present the essentials of the new theme to the children. The performances are prepared by the actors of the suggestopaedic-didactic theater. Essential teaching matter is transferred to the pupils without their noticing that they are learning, by means of fairy-tales and fables which are interesting for the children. The examples must be introduced in the emotionally exciting moments and appear to be a part of the solution of the problem. In the course of the play the 'pupil-spectators' must gradually be drawn into the action of the play. They can become actors without noticing and even develop creative initiatives for the development of parts of the performance. Also at this stage pictures with the most essential problems are hung in the classroom as each new theme is begun. These problems can partly be solved by analogy. The teacher must in no way draw the pupils' attention to these pictures, they are only there as decoration. It has been proven that such material is absorbed more deeply and without waste of energy and time.

In the 2nd stage on the following day the children should retell, or even re-perform what they have seen. In this the didactic problem must not be forgotten, which is the decisive factor within the performance.

Songs, rhymes and poems should be learned to support the learning process.

In the 3rd stage (again on the following day) the theme is treated generally within two lessons. One always proceeds from the performances, the didactic songs and poems. Afterwards one can continue with the didactic game. All of the different materials are directed toward teaching the children one and the same functional principle. It is explained to the children how to add $6 + 7$, which is the same as $16 + 7$ and $136 + 7$ etc.

4th stage (in the following days, one lesson each):

reinforcement of the materials taught, deepening of the knowledge, solving of creative problems. Short systematic checks are made in order to find out how well the material has been absorbed and what individual help the pupils need.

As soon as these checks show that the pupils have learned an average of 70 to 75% of the material, one can go on to the next theme. Experience shows that the entire material can be taught within 60 lessons. The period of time may be shortened or lengthened in some cases.

It is of great importance that the teachers always show the pupils by their own behavior that the material is very easy to learn. The instruction should proceed in a cheerful and "happy atmosphere. The pupils have to know about their progress. No homework assignments are given during the first semester because that would mean that there are great difficulties in learning and also because the parents are often inclined to demand too much of the children. If a child wants to solve problems at home on his own initiative and then shows the results to the teacher, this is to be encouraged. The teacher must not insist that the pupils do homework every day, unless they themselves desire to do so.

During the first year the progress into the teaching matter must be unnoticed and pleasant. To this end the parents should be instructed to send their children shopping and to require an exact accounting from them. In general, the school knowledge of the children should be introduced into their daily lives. This must not, however, remind them of any sort of test. The children are positively motivated by practical success.

Mistakes made by the children must be corrected very carefully and circumspectly and sometimes even overlooked. Attention should be directed to the correct solutions, which are to be stressed and emphasized.

The children should be periodically taken to visit institutions of interest to them, such as museums, exhibitions etc. In this way they can learn how important and interesting it is to learn arithmetic. Such excursions should be organized already at the beginning of the school year in order to create positive motivation.

The exercises to be solved must be related to the different topics. The texts must always contain interesting situations which appeal to the child's psyche, so that the child is genuinely interested in solving the exercise. E.g. if many pupils are interested in football, one will compute with actual results of recent games. This makes the lesson close to life and attracts the interest of the fans of the different teams. All exercises should be constructed on this pattern.

1. Integration of the media in the suggestopaedic arithmetic instruction in the 1st grade

The psychological, theatrical and didactic accent of the suggestopaedic media must always form a unity. It is wrong to direct the attention now only to the didactic and then later only to the theatrical and at another time only to the psychological media. All the suggestopaedic media are applied together by the teacher in any given situation.

At the 1st stage the pleasure in the presentation can be over-emphasized so that the didactic material becomes only a formal duty and this stage can become a purpose in itself, in which its important function in support of the assimilation of the new materials is lost. In the same way, if the strict teaching process in the 3rd stage is overemphasized, the effect of the theatrical media is lost and the teaching process resumes its traditional character.

2. Integration of the different stages in the suggestopaedic arithmetic instruction in the 1st grade

Basically, the four stages of instruction should progress from each other.

Elements from one stage must also be contained in the following stage in a somewhat reduced form. E.g. in the third stage important elements from the 1st and 2nd stages must reappear and at the same time an opportunity for a transition to the 4th stage must be created. The teacher must begin with the fairy-tale, the play or the song, and continue to the didactic material. During this process

he must return repeatedly to the fairy-tale, art and emotion. These elements should not be lacking in the 4th stage either, although a tendency frequently exists to make these into dry repetition and reinforcement of the content material.

3. Integration of the themes of the suggestopaedic arithmetic instruction in the 1st grade

The individual themes must not be connected to another only for the sake of transition.

Each theme is shown to contain the themes that have been treated already, and the fundamentals for a transition to the following theme.

Set theory, e.g., must not be treated only in the first theme. It can be illustrated and deepened by a variety of examples in the next theme. Geometry can also be introduced unnoticed by easy to understand illustration into the first theme. While learning the numbers (2nd theme), a natural connection to addition and subtraction (3rd theme) can be created. Addition must be at the same time connected to multiplication.

Addition and subtraction, as well as multiplication and division must always be seen as a check of one computation with another.

In this way every moment of the arithmetic lesson illustrated all previous moments and created the basis for all which follow.

4. Integration of the subjects in the suggestopaedic arithmetic instruction in the 1st grade

The integration must also extend to the other subjects, such as reading, writing, handicraft, drawing, physical education and gymnastics, singing. The teacher's maturity and experience shows itself in the integration of the subjects. In this way suggestopaedia in the arithmetic instruction becomes a truly global teaching system.

All of this must create pleasure in learning, because a number of depressing mental influences are overcome and the most important need of a personality is satisfied - the insatiable desire for information.

The suggestopaedic instruction took place in the subjects reading, writing and arithmetic. During the first semester all the lessons - with the exception of music and physical education - were accompanied by classical music (Mozart, Beethoven, Bach, Haendel, Chopin). The children were not supposed to pay attention to the music and in fact they soon became accustomed to the music and often could not say whether music had been played or not. During the second semester the tapes were used only during the presentation of new teaching matter and during individual silent work, e.g. reading.

Before Dr. Lozanov's departure to Sofia the procedure for the following three weeks was discussed in the presence of the director of the training school and the headmaster. The two teachers received written instructions.

Because of the positive motivation the pupils were able to complete a relatively large amount of material. This greatly surprised the parents. Comparison of the children receiving suggestopaedic instruction with those receiving conventional instruction showed the superiority of the new method. The parents' praise was an additional positive motivation, which caused the pupils to work even harder.

After these general remarks we would like to come back to the report itself:

Reading: The teachers of the one A and one B constructed and reproduced reading booklets for the children, because no suitable texts were available in German. By the beginning of November it was possible to begin reading from books. According to the instructions by Dr. Lozanov, the class first read out loud with the teacher and followed along by pointing to the word being read. Then individual children read alone, and attempted to retell what they had read. The letters were not treated separately. By October some children were able to read totally new words, and 2/3 of the class could reach this stage by Christmas. Two children required until February. Comprehension was very good from the beginning.

Writing: They began to write sentences in lined notebooks without any previous exercises during the second week of school. The sentences were chosen so that all letters of the alphabet appeared

in them within two weeks. Each sentence was written on the blackboard by the teacher and then each sentence was written again with twice the normal distance between letters and words. The letters were named and the children then read the individual words and the sentence as the teacher called on them.

Next the blackboard was erased, the sentence written once more and copied by the children in their notebooks. Difficult words were practised separately and finally the teacher dictated the sentence to the children.

After some difficulties at the beginning good results were achieved so that cursive writing could be mastered between Christmas and Easter.

Arithmetic: Writing of the numbers up to 10, counting, addition and subtraction up to 10 were begun in the second week of school. Set theory, which is included in the official curriculum, was not treated. The numerical range could be expanded up to 1000 in October. A short introduction into multiplication and division was also given and the first simple equations in such forms as $8 + 4 = x - 3$ were included. Examples with carrying and borrowing appeared after Christmas. In April the learning of the multiplication table was begun. Division and measuring were practised at the same time.

Prof. Lozanov placed great importance on the mechanization of those processes and the demonstration of analogies. Poorer pupils had great difficulties, because visual aids were discarded at a very early stage. Later such children were allowed to use a number board. The children used the first grade arithmetic book until March and then received the second grade book. They used the books only as extra material and would probably have benefitted greatly from the second grade book if it had been available to them already in December. By the end of the school year the better pupils were working with four-digit numbers, and the weaker ones with three-digit numbers. These pupils used visual aids in more difficult assignments. The children were very interested and cooperative, and no harmful effects from overwork could be noticed. A different time plan for the arithmetic instruction should be considered, because of the difficulties which the poorer pupils had as a result of the fast pace in this subject.

The grades at the end of the first grade correspond to the high achievement standard. According to the Austrian grading system 1 to 5 the following results were achieved:

Subject	1	2	3	4	5	Σ
Reading	15	11	6	0	0	32
Writing	15	14	3	0	0	32
Arithmetic	7	13	12	0	0	32

At Dr. Lozanov's request a commission of three officials from the Education Department inspected the classes and came to the following conclusions:

Report on the final discussion for the assessment of the experiment in suggestopaedia in a 1st grade of the practice school.

I. It is the goal of the school-experiment to achieve the instructional aim of the 1st grade in the areas of reading, writing and arithmetic in a shorter period of time; in particular, new working methods for pupils and behavioral patterns of the teachers are to be tested.

The general outline of the procedures was the following:

During the 1st semester all work was done at school, in the 2nd semester homework assignments were given five times a week (appr. 30 minutes each). In addition to that, new content material was tried to improve motivation.

Special elements for relaxation were

- 1) Transmission of new content material by means of puppets and plays,
- 2) instruction of the teacher,
- 3) presentation of classical music during difficult procedures,
- 4) indirect presentation of visual material, which was later cognitively presented to the children by games,
- 5) expansion of teaching and learning matter based on psycho-physical factors,
- 6) motivation through closer contact with parents.

II. Report of the experiences of the teacher in charge of the class

Because of organizational factors, puppets and plays could not be utilized to the planned extent. The special position of the experimental class within the school community must be considered as another motivational element in addition to those cited in pts. 2 to 6.

It was not easy to make clear to the parents that homework assignments were not necessary in the 1st semester. The teacher was given guidelines for the teaching matter to be presented, and for the teaching methods. The wider range of material in reading and arithmetic had positive effects on the children.

II. Result of the experiment after 10 months

- 1) Arithmetic: The teaching goal of the first grade was certainly reached, and 2nd and 3rd grade materials were also taught successfully. The parents concerned are in complete agreement with the achievements.
- 2) Reading: It was the goal of the experiment to bring the children to a high reading ability and comprehension. For that purpose they were offered more reading material than the other 1st grades.
By November many children could already read well. The teaching goal in reading for the 1st grade was already reached by the end of the 1st semester.
- 3) Writing: In this subject the teaching goal of the 1st grade was reached, and a large part of the achievement goals of the 2nd grade as well.
- 4) In the remaining subjects not included in the experiment the teaching goal was reached.

V. Parents' Opinions

A total of three discussions with Prof. Dr. Lozanov, the parents, the teacher, the department head and the principal were held during the 1974/75 schoolyear. Periodic discussions between the teacher and the parents also took place. No negative opinions were expressed by the parents.

V. Summary

Teachers, parents, supervisors and scientific observers (Dr. Hödl, Dr. Hulesch, OSTR. Wilhelm) are satisfied with the results achieved and recommend the continuation of the experiment. The procedures listed at the beginning will be continued in the 2nd grade. A final evaluation can only be made at the end of the experiment.

VI. Planning for 1975/76

More visual aids, inclusion of an amateur theater-group, improvement of the reading units, inclusion of further elements of language, arts and general education.

Vienna, June 19th, 1975

Signed:

Spreitzer, Rieder, Brosch, Lozanov

In the meantime the plans were made for the 1975/76 schoolyear. The school-experiment was to be continued in the second grade, and repeated in the first grade. Once again a number of parents were interested in the experiment. An excellent young teacher from the practice-school of our College was chosen to lead the first grade class.

Although Dr. Lozanov was expected at the beginning of September, his arrival was postponed several times. The teaching matter was repeated at the beginning of the second grade, and because of Dr. Lozanov's continued absence we attempted to continue the experiment on our own. The experiment was cancelled in the first grade and conventional instruction was given.

In the spring of 1976 a cultural exchange agreement was made between the Austrian and Bulgarian nations, in which special priority was given to cooperation in the area of pedagogical research. The parents and children of the second grade looked forward to the continuation of the school-experiment.

In July 1976 a Ludwig-Boltzmann-Institute for pedagogical research was founded; this institution will be described at the end of this paper.

In the fall of 1976 the suggestopaedic instruction could be continued in what in the meantime had become the third grade.

During the summer a primer based on the suggestopaedic method of instruction was compiled with the help of Prof. Lozanov. Since September 1976 we have had suggestopaedic instruction in another first grade class as well.

In November a delegation from the Ludwig-Boltzmann-Institute visited Bulgaria. They were able to visit elementary schools in Sofia, Varna and Michailovgrad and were deeply impressed by the outstanding results achieved in reading, writing, arithmetic and English.

In Bulgaria there are detailed lesson plans, as e.g. for arithmetic in the first grade: 7 hours of instruction are scheduled for the numbers up to 10 and the meaning of 0, larger-smaller relationships, equality and inequality, elements of set theory, membership or non-membership in sets; 9 hours for the numbers up to 1000, writing of numbers; geometry 3 lessons; 13 lessons for addition within 1000 without carrying or borrowing, including written adding and subtracting.

From these few examples it is clear that a detailed curriculum exists in Bulgaria and the schoolsystem is gradually being reformed according to this. The aim is a shortening of the schooling. The schoolyear lasts only about 8 months. Lessons are given 5 days a week for a total of 20 lessons each week.

For the time being we in Austria have other goals.

First we want to test the suggestopaedic method so that we can eventually apply it on the broadest possible scale. Our main goal is not to demand too much of the children. We would consider it great progress if we were able to supply the children with sound knowledge in an atmosphere free of stress and without homework in the time presently available for schooling.

At the same time it should be possible to lessen the number of pupils who must repeat grades.

It would be ideal if this method should help us introduce the five-day schoolweek, a topic which is actively being discussed in Austria now.

At the same time we do realize that there is still much work to be done in order to reach these goals.

Of course it will not be easy to find many teachers, who will be able to give up the traditional methods and approach the suggestopaedic system without prejudices.

So far the experiment has been confined to one school in Vienna, but we are now training teachers from our other states to use the suggestopaedic methods.

3.0. Results of the school-experiment

The school-experiment was carried through in two first grade classes during the 1974/75 schoolyear. Suggestopaedia was only applied in the subjects reading, writing and arithmetic.

The pupils of the one A class had attended an intensive preschool class in the schoolyear 1973/74. They showed significantly better results in the intelligence-, vocabulary- and picture-test, as well as concerning the professional qualifications of their parents, than the one B and one C pupils. The suggestopaedic instruction was discontinued in the one A group in February because of differences between Dr. Lozanov and the teacher concerning the teaching methods. At that point the school achievements of the one B pupils were already better than those of the one A.

By the end of the schoolyear the one B pupils had not only reached the teaching aim of the first grade in arithmetic, but had also learned some materials belonging to the second and third grade goals. The teaching aim in reading had already been reached by the end of the first semester.

In writing the teaching aim of the first grade was fulfilled and the greater part of the second grade material was mastered.

In the remaining subjects, which were not included in the experiment, the teaching goal was reached.

Teachers, parents and scientists were satisfied with the results achieved and recommended the continuation of the experiment.

The average grades in arithmetic were 2,16, in reading 1,72 and in writing 1,63. No 4s and 5s were given and no children were released from school. In Austria children who are not judged mature enough to complete the first grade are released from school and begin the following year.

In the final tests the psychologists found the children's calmness and balance remarkable. No nervous disturbances were noticed.

The beginning of the second grade (schoolyear 75/76) was a review and then simply improvised for the rest of the year. Third grade work was mastered.

After the completion of the cultural agreement plans were made to continue the experiment this year. The teacher of the second grade reported that this plan was welcomed enthusiastically by the pupils and with satisfaction among the parents.

During the summer holidays Dr. Lozanov and Dr. Messerer planned the third grade. We have been able to carry out this plan and the goals of the fourth grade will certainly be reached this year.

Because of differences in the material offered, it is not possible to compare the achievements of the experimental pupils with a control class. Their achievements in the third grade might possibly be compared with those of a normal fourth grade.

One of this year's first grades is also being taught according to the suggestopaedic method. This time the pupils of the experimental class are generally superior to those of the control classes.

The following achievements could be reached by mid-March:

Arithmetic: The children compute very well with numbers up to 1000 with no carrying. They carry and borrow up to 20 and understand the analogical relationships up to 100. They are familiar with numbers up to 1000 and have no difficulties with greater than - less than relations (including the symbols). Multiplication is confined to numbers up to 10, including multiples of 10.

The achievements in arithmetic are homogeneous, with the exception of a small remedial group.

The pupils work quickly and independently.

Reading: In the beginning the fastest and most surprising progress was made in this area. In the meantime the disparities have become rather great. A relatively large top-group (about a third of the children) read fluently. The remedial group, however, has various difficulties (consonantal clusters, diphthongs, compound words etc.). The children enjoy reading, but are not really different from other classes in this respect. The most positive result appears to be an inclination to read independently.

Writing: The first script to be taught was cursive. By the end of the first semester the children could rewrite printed texts in cursive script. The unusually fast writing speed is remarkable. A systematic spelling course has been followed since the beginning of March.

The teacher's interim report says that in contrast to the fears of some colleagues the subjects not covered by the experiment do not suffer. "In summary I can say that the experiment is extremely interesting. I am quite satisfied with the results up to now; the Bulgarian results are, however, significantly better. It would be

very desirable to get more exact information about their techniques. Some areas, in which we have been feeling our way, might be covered more effectively." *)

Summing up the results of 2 1/2 years of the experiment, we can say:

- 1) It has been possible to master a considerably larger amount of material with the help of suggestopaedia. The achievements are both quantitatively and qualitatively better. We are on the lookout for any symptoms of overwork (exhaustion, lack of concentration, neurotic symptoms such as thumb-sucking) and we reduce the tempo as soon as we notice any of these.
- 2) School, instruction and learning have a positive connotation. This is an obvious advantage of the experiment. The results are
- 3) a genuine relationship of trust between pupils and teachers.
- 4) The acquisition of knowledge takes place in a playful atmosphere and motivates the children to find work more and more pleasurable. The children go about their work with snooping curiosity.
- 5) The children become continuously more creative.
- 6) Aggression, which can be observed in comparable classes, appears much less frequently and in a much reduced form (psycho-hygienic effect).
- 7) The wide range of material offered means that the pupils who learn more quickly are always occupied and not restrained by the usual repetition of the same material.
- 8) The pupils are stimulated to experiment by the intensive material offered to all their senses.
- 9) Dictation, checking results and reading to the class confirm the achievements and spur on to more intensive work.
- 10) Because of high reading ability and comprehension the book becomes a source of information already in the first grade (the children look things up).
- 11) One class is now in the third year of the experiment. So far there have been no pupils who repeated a year or were released. The usual rate of repetitions and releases is 8% in Austria.
- 12) The school success and the opportunity to observe in the classroom make the parents interested in the school and adds indirectly to the motivation of the children.

*) Ingeborg Lustig, Jahresbericht 1976

These advantages must be considered against the following disadvantages:

- 1) In Austria the suggestopaedic method is still in the experimental stage. Thus the teacher trades the certainty and comfort of working with the existing aids (books etc.) for improvisation, pioneering and enormous effort. He must not only learn the method itself and then adapt it, but also
- 2) must produce the teaching and learning aids (e.g. worksheets etc.) himself.
- 3) A much larger variation of achievement exists because each pupil works at his own capability. Therefore the teacher must individualize instruction.
- 4) The poorer pupils get no additional practise through homework. This necessitates more intensive contact with the parents.
- 5) The teacher has to mobilize his last reserves in order to do justice to the experiment. (This includes preparation of the puppet plays, use of video-tapes, tapes etc.)

The open question remains whether this quickly acquired knowledge will be retained over long periods or will soon be forgotten.

The answer to this question will only appear after several years.

4.0 Planning for the 1977/78 schoolyear

Because of the success to date in Vienna the school-experiment is to be expanded to other Austrian cities next year. All the Colleges of Education have been asked by the State Department of Education and Science to participate in the experiments.

The experiment will be carried through in the following places:

Vienna: 2 first grades

1 second grade

1 fourth grade

Linz: 2 first grades

Graz: 1 first grade

Klagenfurt:

1 first grade

8 classes in four towns

5.0. Tasks of the Ludwig-Boltzmann-Institute for pedagogic research

5.11. Dr. Lozanov's method of suggestopaedia is to be adapted for use in Austria in consultation with him. The first phase of the experiment is to take place in the first four grades and later to be extended to grades 5 to 8.

Next fall English instruction is to be given in intensive blocks rather than the customary one hour per week, as early as the 2nd semester of the 2nd grade.

5.12. Suggestopaedic courses of foreign language instruction were held for adults in 1974/75 with surprisingly good results. In order to generally introduce suggestopaedic foreign language instruction into the school it will be necessary for the College of Education to train the required teachers.

5.13. In March 1977 the rehabilitation center at Hohegg, Austria, began to use suggestology.

5.2. Research projects

5.21. The Ludwig-Boltzmann-Institute will cooperate with the State Department of Education and the Department of Science and Research in a project to plan and organize school-experiments with the five-day schoolweek.

5.22. Influenced by the Bulgarian research work the Institute will investigate bioelectrical activities in the learning process with and without suggestopaedia. For this purpose a telemetric laboratory is planned. The data will be evaluated by the Institute for Psychology of the University of Vienna.

Appendix 1

In his proposal Dr. Lozanov requested permission for a suggestopaedic experiment in two 1st grade classes, beginning with the 1974/75 schoolyear. The aim of the experiment is to reach the teaching goal of the 1st grade in a shorter period of time in the fields of reading, writing and arithmetic.

The following measures are to be taken:

- 1) Reorganization of the present curriculum
- 2) Alteration of the educational materials to correspond to the proposed plan
- 3) Deletion of homework assignments in the usual sense
- 4) Additional use of theater, indeed twice a month
- 5) Use of the teaching material provided by himself
- 6) Continuing discussions between classroom teachers and director of the experiment
- 7) Provision of the material requested.

For the assessment of the experiment an initial psychological test at the beginning of the schoolyear and a follow-up test at the end of the year are necessary. The experiment will be discontinued should any circumstances arise after the first semester, which cause the teachers or the director to judge sufficient for stopping the experiment. The Department of Education has to provide for the duplication of material, telephone costs and working space, and the tests.

Appendix 2Opinion of the parents

The teacher prepared a questionnaire for the parents. All of the parents answered that they did consider this method generally effective. The advantages they mentioned when this method was compared with traditional methods included "learning without pressure", the "lack of obligatory homework", "higher achievement", "better motivation" and "pleasure in learning". As a disadvantage some parents questioned whether the material was thoroughly learned. When asked about their children's attitude towards school and learning, all of the parents confirmed a positive attitude in general without any preference for individual subjects. The parents reported that nearly all of the children read additional books and even newspapers at home.

About 40% of the parents regularly do extra work with their children. Compared to older children in the family the pupils' achievement in arithmetic was especially noticeable; some parents, however, were concerned that their children might be overworked.

Although the responses to the questionnaire were overwhelmingly positive, a few negative comments especially about arithmetic were voiced.

One parent mentioned that the child seemed tense after school, and one other family reported that their child seemed generally nervous, especially about writing.