

DOCUMENT RESUME

ED 362 045

FL 021 509

AUTHOR Schuster, Don, Ed.
 TITLE Journal of the Society for Accelerative Learning and Teaching; Volume 12, Number 1-4.
 INSTITUTION Society for Accelerative Learning and Teaching, Inc.
 REPORT NO ISSN-0273-2459
 PUB DATE 87
 NOTE 228p.
 PUB TYPE Collected Works - Serials (022)
 JOURNAL CIT Journal of the Society for Accelerative Learning and Teaching; v12 n1-4 1987

EDRS PRICE MF01/PC10 Plus Postage.
 DESCRIPTORS *Acceleration (Education); Administrator Attitudes; Adult Education; Classroom Techniques; Educational History; Elementary Secondary Education; Foreign Countries; Higher Education; Imagination; Instructional Effectiveness; Japanese; Memory; Mnemonics; Movement Education; *Music Activities; Program Descriptions; *Relaxation Training; *Retention (Psychology); Second Language Instruction; *Second Languages; Student Attitudes; Teacher Attitudes; Teacher Education; Teaching Methods
 IDENTIFIERS Africa

ABSTRACT

The basic focus on this journal, which publishes a wide variety of articles on suggestive and accelerative learning, is Suggestopedia theory, research, and application. Articles in the volume presented here include: "The Effects of Superlearning on Retention/Hypernesia of Rare English Words in College Students" (Lynn D. Anderson); "SALT in Africa: Unity in Diversity through Communication" (Frikki Van Kraayenburg); "An Accelerated Learning Magnet School: Attracting Teachers and Administrators" (Stephanie Merritt); "Vital Components for Effective Teacher Training" (Twyla S. Moschel); "Eurythmy: Art of Movement in the Waldorf Schools" (Earl J. Ogletree); "Teaching Adult Learners Using Accelerated Learning" (Elaine Voci-Reed); "Music as Mnemonic Device in Second Language Learning" (Linda Dejin Xia, Loren Alexander); "Music and Accelerative Learning: Some Historic and Current Applications" (Patrick S. Brislan); "Students' Attitudes Towards the Use of Music and Mind-Calming in their High School Language Class" (Uschi Felix); "Relaxation and Imagination Imagery" (Connie R. Hull, Gary F. Render, Charles E. Moon); "Japanese Language and SALT" (Hideo Seki); and "Dual-Plane Awareness Techniques Other Than Lozanov's for Accelerating and Enriching Teaching and Learning" (Win Wenger). (MSE)

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THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Volume 12, Number 1 & 2

Spring & Summer, 1987

ED 362 045



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Published by the Society for Accelerative Learning and
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ISSN 0273-2459

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FL021509

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

Guidelines for Contributors

The Editor welcomes submission of manuscripts on an interdisciplinary nature relevant to all aspects of suggestive learning-teaching-therapy counseling within the theoretical and procedural confines of Suggestology and/or Suggestopedia. The JOURNAL FOR THE SOCIETY OF ACCELERATIVE LEARNING AND TEACHING will publish a wide variety of articles - including critical reviews, theoretical analyses, speculative papers, case studies, quasi-experimental studies, as well as reports of empirical research (basic or applied) of major significance. The basic focus is Suggestopedia theory, research and application.

MANUSCRIPTS should be typed on one side of standard (8 1/2 x 11 non-corrasable) bond typewriter paper, clearly mimeographed or multilithed. Do not use ditto. The original and three copies (carbon or dry electrostatic copies) should be submitted. Authors should also keep a personal copy to check against proofs. All material must be double-spaced, with ample margins (1 1/2 in. on each side and 1 1/2 on top and bottom). Any paper should not be longer than 20 typewritten pages, excluding bibliography, footnotes, tables, figures, etc. In special cases, longer papers may be submitted for publication.

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The Journal of the Society for Accelerative Learning and Teaching
Psychology Department, Iowa State University, Ames, Iowa 50010

JOURNAL OF THE SOCIETY FOR
ACCELERATIVE LEARNING AND TEACHING

Volume 12, Numbers 1&2 Winter & Spring 1987

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Printed in the USA

**The Effects of Superlearning on
Retention/Hypermnesia
of Rare English Words in College Students**

Lynn D. Anderson
Northern Michigan University
and
Gary Render
University of Wyoming

Abstract. The purpose of this study was to determine if the Superlearning method, as defined by Ostrander and Schroeder, would produce hypermnesia in learning rare English words. The subjects were 189 sophomore and junior education majors. Subjects were randomly assigned by class section to either the control group or to one of four treatment groups. All groups received pre- and posttests. The control group, which consisted of two class sections, learned the words by using any method of their own choosing. They were tested for retention after one, two, and four weeks. One treatment group, also comprised of two class sections was tested one, two and four weeks after treatment. Each of the other treatment groups was tested only once at one, two, or four weeks after treatment. The same matching test was used as a pre-post-, and retention test. Subjects were not told their scores on any of the tests. An analysis of covariance, which removed the effects of the acquisition scores, showed that the control group performed significantly ($p < .05$) better, on all of the retention tests than any of the treatment groups. Reasons for these results are offered and recommendations are proposed.

* * *

Introduction

Georgi Lozanov studied the phenomenal memory capacities of certain yogis. Each member of the Stotra sect of the Brahmins memorizes all of the sacred text, so that if the text was destroyed and only one member of the sect survived the entire sacred text could be reproduced. Capacities of this kind, inherent to the individual, were concealed from the masses behind the veil of mysticism and the latter were deprived of them (Lozanov, 1973 p 73). In developing Suggestology, Lozanov sought to make these reserves available to everyone. Lozanov called this enhanced memory hypermnnesia and claimed that the production of hypermnnesia depends upon suggestion (Lozanov, 1978). Several aspects of Lozanov's method, also called Superlearning, utilize suggestion.

Clinical psychologists have defined hypermnnesia as an increase in retention over time, and have conducted studies investigating the conditions which produce hypermnnesia. It was found that hypermnnesia occurred over repeated trials (Erdelyi & Becker, 1974; Roediger & Payne, 1982; Roediger & Thorpe, 1978), and that the depth of processing influenced hypermnnesia (Belmore, 1981; Erdelyi, Buschke & Finkelstein, 1977; Erdelyi & Stein, 1981).

Philipov (1978) used Lozanov's method to teach a beginning course in the Bulgarian language and found 91% average retention of learned material. This level of recall was considered to demonstrate hypermnnesia. The treatment group performed significantly better ($p < .02$) than a control group, even though the treatment group spent only one third of the time in class that the control group had spent.

Method

For the purposes of this study, hypermnesia was defined in two ways. Both the clinical definition, that hypermnesia is an increase in retention over time, and Lozanov's definition of hypermnesia as enhanced memory were used. Ninety percent of the posttest score was applied as the reference criterion for enhanced memory. In order to satisfy this definition, groups were required to maintain the criterion score across all tests. Both definitions were used to analyze the data.

This study was conducted to determine if the Superlearning method, as outlined by Ostrander and Schroeder, would produce hypermnesia under either of two testing conditions. One group was tested for retention once after treatment, while the other group received repeated testing, i.e., three tests. A control group received no Superlearning treatment, but was tested at all three intervals, one, two, and four weeks.

Seven sections of the undergraduate course, Foundations of Learning, at the University of Wyoming, were used in this study. The course is required for all education majors, and most students are sophomores or juniors. Subjects were randomly assigned by section to either a treatment or control condition.

The following procedure was used with the treatment classes.

- 1) Each participant received a sheet explaining the series of steps to be followed.
- 2) A pretest was administered to provide a baseline score. The pretest consisted of 25 rare English words which were to be matched to their definitions. This same test was used as a pretest, a

posttest, and as the retention test; each test administration lasted approximately five minutes. Pretests were collected by the experimenter.

- 3) A list of the 25 words and their definitions was distributed to subjects. The researcher read the words and definitions aloud to subjects, during a two minute period. Subjects studied the words and definitions for two additional minutes. Lists were then collected.
- 4) A tape was played to relax subjects' minds and bodies. The tape suggested that learning would be easy. This tape played for twenty minutes.
- 5) A tape prepared by the researcher was played. This tape presented the words and their definitions using voice intonation, sequentially, normal, loud, and soft tones. Baroque music, with a 4/4 beat and 60 beats per minutes was selected to provide the background. Each word and its definition was given during a four second (four beat) period. A four second pause followed each word/definition. Subjects were instructed to breathe rhythmically, i.e. to hold their breath while information was being given, and to alternately inhale or exhale during pauses.
- 6) Immediately following the treatment, a posttest was given.
- 7) Subjects were tested, by class section, for retention, at one, two, and four week intervals. One section was tested at one week only, one section at two weeks, and one section at four weeks. Two class sections were tested at all three of these intervals. Subjects were not told any of their test scores, nor were they informed of which items they missed on any of the tests.

The procedure used with the control class consisted of the following

- 1) Subjects were given a handout describing the procedure to be followed.
- 2) The pretest was administered to provide a baseline score. This took approximately five minutes.
- 3) The list of words and matching definitions was distributed to students. The experimenter read the list to students, during a two-minute period.
- 4) Students were given twenty minutes (a time period equivalent to the relaxation tape used with the treatment group) to learn the words and definitions using any strategy they chose.
- 5) After twenty minutes, the lists were collected and the posttest was administered.
- 6) The control group was tested for retention at one, two, and four week intervals. Subjects were not informed of any of their test scores, nor of which items they missed on any of the tests.

Results and Discussion

A one-way analysis of variance was used to determine if there were any significant differences between classes. See Table I. Post hoc pairwise comparisons were performed using Tukey's test. It was found that the control class performed significantly ($p < .05$) better on the posttest, one week retention test, two week retention test, and the four week retention test, than any other group.

An analysis of covariance was then performed on the data to remove the effect of the acquisition score on the retention test scores. The control class scores were still significantly ($p < .05$) higher than the scores of the other groups on all tests of retention (Table II.)

Table 1: Means and Standard Deviations of Test Scores by Class and Retention Testing Intervals

Class	N	Pre	SD	Post	SD	Week 1	SD	Week 2	SD	Week 4	SD
1(Control)	54	.81	1.78	24.17*	2.02	22.85*	3.75	22.23*	4.25	18.32*	6.96
2(Treatment)	56	.20	.86	19.11	5.95	14.56	6.70	13.23	7.54	12.59	7.85
3(Treatment)	23	.13	.46	20.00	4.09	15.09	5.66				
4(Treatment)	26	.19	.63	19.40	6.20			12.86	7.91		
5(Treatment)	20	.80	1.30	19.60	5.68					9.16	5.27

*p < .05

Table II: Differences between Groups on Retention Tests

Week 1

<i>Source</i>	<i>SS</i>	<i>DF</i>	<i>MS</i>	<i>F</i>
Covariate: Posttest	3015.3	1	3015.3	304.9*
Main Effect: Class	179.7	2	89.8	9.1*
Explained	3195.0	3	1065.0	107.7*
Residual	929.7	92	9.9	
Total	4124.6	97	42.5	

Week 2

<i>Source</i>	<i>SS</i>	<i>DF</i>	<i>MS</i>	<i>F</i>
Covariate: Posttest	3663.9	1	3663.9	194.1*
Main Effect: Class	221.2	2	110.6	5.9**
Explained	3885.1	3	1295.0	68.6*
Residual	1604.4	85	18.9	
Total	5489.5	88	62.4	

Week 3

<i>Source</i>	<i>SS</i>	<i>DF</i>	<i>MS</i>	<i>F</i>
Covariate: Posttest	3197.1	1	3197.1	109.4*
Main Effect: Class	555.6	2	277.8	9.4*
Explained	3752.7	3	1250.9	42.8*
Residual	3213.3	110	9.2	
Total	6966.0	113	61.6	

* $p < .01$, ** $p < .001$.

Table II shows the results of the analysis of covariance. At week one, there was a significant main effect for class ($p < .001$). Significant main effects for class were also found at weeks two and four ($p < .004$ and $p < .001$ respectively). The analysis of covariance showed that the control group scores were still significantly higher than the scores of any of the treatment groups.

A decline in test scores over time was found in all treatment conditions. The data did not support the first definition of hypermnesia (increase in retention over time). The scores pertaining to the second definition of hypermnesia (enhanced recall) for each group are presented in Table III. None of the treatment groups showed enhanced recall at any interval. Additionally, the control group failed to show consistent enhanced recall on all retention tests. Therefore, hypermnesia was not demonstrated in any condition.

Table III: Mean Retention Scores

<i>Group</i>	<i>N</i>	<i>Week 1</i>	<i>Week 2</i>	<i>Week 4</i>
Control	54	94.5%	92.5%	75.8%
Treatment	56	76.2%	69.2%	65.9%
Treatment	23	75.5%		
Treatment	26		66.3%	
Treatment	20			46.7%

Note: Table entries are percentages of posttest scores.

Repeated testing in the treatment condition failed to produce hypermnesia. There were no significant differences between the scores of the treatment group

receiving repeated testing and treatment groups who were tested for retention only once.

The effectiveness of the Superlearning method may have been limited by the design of this study. The subjects in the study had no previous classroom training in the use of Superlearning relaxation techniques. Some subjects may have found it difficult to relax, as evidenced by brief laughter by one student in each of three of the five classes receiving treatment. The researcher had had no previous contact with any of the classes in the study, which may have resulted in a lack of instructor-class empathy.

The single treatment in this study may also have limited success. A longer treatment may prove to be more effective. On the basis of this study, it was found that Superlearning, as defined and used in this study, was not effective in facilitating retention or hypermnesia. However, it may be possible that if students were taught to use the method over an extended period of time, significant effects would be found. Previous research supports this view. In short, it may be unrealistic to expect significant results after a treatment of short duration.

Another design factor which may have affected the results was the amount of time the experimental and control groups were actually exposed to the vocabulary list. The experimental group was exposed to the vocabulary list for a total of about four minutes; the remainder of the time being used to relax the subjects in anticipation of the treatment. The control group was in possession of the vocabulary list for a total of twenty-two minutes. This time difference may have affected the performance of the groups.

Finally, it should be made clear that this study tested the Superlearning method, and not Suggestopedia or SALT. Different results may have occurred had Lozanov's method been more closely followed.

* * * * *

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* * * * *

Les effets de la Methode Accelerée sur la Retention: Hypermnésie de Rares Mots Anglais chez des Etudiants de Hautes Ecoles.

Le but de cette recherche était de déterminer si la Methode Accelerée, définie par Ostrander et Schroeder, pouvait produire une hypermnesia chez les sujets qui apprennent de rares mots de vocabulaire anglais. Les 189 sujets choisis furent des étudiants de 2ème et 3ème année niveau Hautes Etudes. Ils furent affectés au hasard par section de classe soit au Groupe-Contrôle soit à l'un des 4 Groupes-Traitement. Tous les groupes furent soumis a des examens avant et apres l'expérience. Le groupe-contrôle, qui consistait de 2 sections de classe, apprit les mots de vocabulaire en utilisant une methode de son propre choix, les sujets furent examinés pour leur abilité de Retention une, deux et quatre semaines suivantes. Un des groupes-traitement, qui consistait aussi de 2 sections de classe, fut également examiné une, deux et quatre semaines suivantes. Chacun des autres groupes-traitement fut testé à une seule reprise une, deux ou quatre semaines apres le traitement. L'assortiment l'expérience et ceux constituant les tests de Retention. Il ne fut revele aux sujets

leurs résultats à aucun moment. Une analyse de covariance, qui supprima les résultats du tout premier test, montra que, sur tous les tests de Retention, le groupe-contrôle sexécuta perceptiblement mieux que chacun des groupes-traitement. Des raisons de ces résultats sont offertes et des recommandations sont proposées

Auswirkungen des Superlernens auf das Behalten/Hypermnesia von seltenen englischen Vokabeln bei Universitätsstudenten

Der Zweck dieser Studie war es festzulegen, ob die Superlernmethode, wie sie bei Ostrander und Schroeder definiert ist, beim Lernen von seltenen englischen Wörtern Hypermnesia erzeuge. Versuchsobjekte waren 189 Studenten des zweiten und dritten Jahrganges. Die Studenten wurden in Gruppen entweder zur Kontrollgruppe oder zu einer der vier Behandlungsgruppen zugeteilt. Alle Gruppen erhielten eine Vor- und eine Nachprüfung. Die Kontrollgruppe, die aus zwei Klassengruppen bestand, hat die Wörter mit beliebiger Lernmethode nach eigener Wahl gelernt. Die Studenten wurden nach einer, zwei und vier Wochen auf das Behalten der Wörter geprüft. Eine Behandlungsgruppe, die ebenfalls aus zwei Klassengruppen bestand, wurde eine zwei und vier Wochen nach der Behandlung getestet. Alle anderen Behandlungsgruppen wurden nur einmal nach 1, 2, oder 4 Wochen geprüft. Die gleiche Prüfung wurde als Vor-, Nach- und Behaltentest gebraucht. Die Ergebnisse der Prüfungen wurden den Schülern nicht mitgeteilt. Die Analyse dieser Verdeckung, die die Auswirkungen der Vorprüfungsergebnisse beseitigte, zeigte, daß die Kontrollgruppe in allen Behaltensprüfungen bedeutend besser ($p < 0.05$) als irgendwelche der Behandlungsgruppen abschnitt. Die Gründe dieser Resultate sind hier aufgestellt und Vorschläge werden dargeboten.

Efectos del Superaprendizaje en Retencion/Hipermnesia en palabras raras del Inglés, con estudiantes universitarios.

El propósito de este estudio fue determinar si el método de Superaprendizaje, como lo definen Ostrander y Schroeder, produciría hipermnesia en el aprendizaje de palabras raras del Inglés. Los sujetos fueron 189 estudiantes universitarios, quienes fueron asignados al azar para una sección de la clase ya fuere para el grupo control o para un grupo de los cuatro en tratamiento. Todos los grupos recibieron examen antes y después del tratamiento. El grupo control, el cual consistió en dos secciones de la clase, aprendió las palabras utilizando cualquier metodo que ellos mismos escogieron. Ellos fueron examinados por retencion después de una, dos, y cuatro semanas. Un grupo en tratamiento, también abarcó las dos secciones de la clase y fué probado una, dos, y cuatro semanas más tarde del tratamiento. Cada uno de los otros grupos en tratamiento fueron examinados solamente una vez en una, dos o cuatro semanas después del tratamiento. El mismo exámen fué utilizado como pre-, post-, y exámen de retencion. A los sujetos no se les dijo el puntaje de ninguno de los exámenes. Un análisis de covarianza, el cual quita efecto al puntaje del exámen previo, demostró que el grupo control presentó mejor y significativamente ($p < .05$), todos los exámenes de retencion que los otros grupos en tratamiento. Las razones y recomendaciones de ertos resultados están ofrecidas.

**SALT in Africa:
Unity in Diversity through Communication***

**Suggestopedic Accelerated Learning Techniques for
Teaching English in Black South African Schools**

Frikkie van Kraayenburg
Lead the Field Africa (Pty) Ltd

Abstract. In 1985, after having introduced SALT to Stellenbosch University and various government departments, my company, LEAD THE FIELD, was granted the opportunity of introducing SALT to four state schools for black children at the primary school level. The vast majority of black children encounter English for the first time in their second grade at school. Vernacular and the two official languages (English and Afrikaans) are compulsory up to twelfth grade (school leaving) level. The project commenced with teaching English to Grade 2, 3 and 4 classes from 4 schools involving 560 students and 12 teachers in January 1985 and will extend over 2 academic years. Some of the classes consist of up to 55 pupils, from as many as 5 different ethnic languages (spoken at home). From the fifth grade all these pupils must have a sufficient command of English to be able to receive their education through the medium of English. Frikkie van Kraayenburg, a retired industrialist, was trained in 1979 by Dr. Lozanov and Mrs. Gateva

* Paper presented at 1987 SALT Conference in Ames, Iowa.

in San Francisco. He also visited Dr. Lozanov for further training in Sophia, Bulgaria, and has travelled extensively abroad in search of the best method for implementing in the above project. He is pioneering Suggestopedia in Africa and is convinced that this method is the key to the future success of education in South Africa.

* * *

The Challenge

Never before, anywhere in the world, has a challenge of this nature and magnitude been undertaken. Our projected outcome is to achieve UNITY IN DIVERSITY THROUGH COMMUNICATION. It is a union or coming together of third world minds, backed by thousands of years of culture, ethnic distinctiveness and diversity where *feeling* is predominant, and first world minds cast in traditional logic and educational systems where *reason* is predominant and a paramount prerequisite to success. SALT, resulting from natural evolution or a possible mutation of consciousness, is the catalyst in this exciting project. Our goal is to balance the scales of Logic and Feeling.

Background

Before telling you more about the actual programme, I would like to set the scene, as it were, by giving you some background information.

Situated at the southernmost tip of Africa, the Republic of South Africa can truly be described as the meeting point of East and West, dividing, as it does, the Indian Ocean from the Atlantic Ocean. Its coastline stretches from the Orange River mouth on the Atlantic

coast to Ponto do Ouro, the border with Mozambique on the Indian Ocean, a distance of almost 3,000 kilometers.

The total area of the country is 1,134,100 square kilometers - an area more than five times the size of Great Britain, three times the size of Texas, or larger than Germany, France and Portugal put together. The largest of our nature reserves, the Kruger National Park, is approximately the size of Israel, or Belgium.

Population

The population of South Africa shows great diversity. It totals almost 315 million and consists of substantive permanent communities (not random groups of individuals) representing the cultural identity of three continents: Europe - the Whites; Africa - nine distinctive Black peoples; and Asia - the Indians and Chinese. There is also a large community of people of mixed origin known as Coloureds. Where did all these people come from?

White People

The white community traces its origins to the first Dutch settlement at the Cape of Good Hope in 1652 - a year before New York was founded. Some thirty years later they were joined by a small number of French Huguenots, fleeing the religious persecutions of their homeland. Later admixtures were the British settlers of 1820, who numbered 5,000, and various groups of Germans, who arrived from 1848 onwards.

In the Boer War of 1899 - 1902, England declared war on the two Boer republics, i.e., Transvaal and Orange Free State, where more than 30,000 white Afrikaner women and children died in concentration

camps. After the British victory, immigrants mainly from England, Ireland and Scotland, complemented the white community

More recently large numbers of Portuguese have settled in South Africa making Portuguese the third largest European language spoken in South Africa.

The two main languages are English and Afrikaans; the latter, by the way, is the only Germanic language to have originated outside of Europe. The white people number 5 million today.

Mixed Races

The early Dutch settlers, unable to procure labor locally, imported slaves, principally from their East Indian territories, such as Malaya. Their descendants today form a group known as the Cape Malays who are all staunch Muslims. In those days, of course the Dutch had all rights to ownership over their slaves and the children born from such unions became ancestors to the present Coloured or mixed race community totalling 2.5 million today.

Indigenous

Populating vast areas of Southern Africa at this time were the Khoi-San people, more commonly known as the Hottentots and the Bushmen. Although quite different from the Pygmies of Central Africa, these people are also small of stature, with mongoloid eyes, high cheekbones and, as Sir Laurens van der Post, a noted authority of the Bushmen, says, "apricot coloured skin".

Another distinctive feature is steatopygia or large deposits of fat on the thighs and buttocks especially of the women - a feature, I might add, said to be hugely attractive to their men!

These were stone age people, principally hunter-gatherers (although the Hottentots did have sheep and cattle which must have found their way from Asia and down Africa many, many centuries before). They lived in family groups in complete equilibrium with nature, following migrations of the animals which they hunted with small bows and arrows.

The Hottentots were prepared to barter their sheep and cattle with the Dutch but generally were not interested in working for them - a concept quite foreign to their way of life.

So, we have very small groups of Khoi-San wandering around throughout Southern Africa, being overwhelmed by the larger and stronger people moving north-eastwards, i.e. the white people.

Obviously there were many clashes between these migrant groups, resulting in today, the Bushmen living in the less hospitable and drier areas in the west of the country, the Bantu-speaking people inhabiting generally, the higher rainfall areas both inland and along the east coast.

Today there are some 200,000 Bushmen in South Africa of whom approximately 20,000 are pure-blood Bushmen still living a stone-age existence in remote areas of Southern Africa.

Asian

After the liberation of the slaves throughout the British Empire in 1833, many Indians offered their services as laborers for ridiculously little pay - anything to escape the abject poverty in which they were living at home - and they began to make their appearance in many parts of the British Empire.

Sugar cane was initially grown commercially in South Africa in 1860 and, as the country was then a British colony, Indians were brought over as indentured laborers to work in the cane fields. Most of these people were Hindus from the southern part of India. They were followed by fare-paying passengers from the northern part who, mainly Muslims, came to seek new markets as merchants and traders.

As the contracts of the laborers expired they were given the choice of remaining in South Africa or returning to India. The vast majority decided to remain in South Africa and today the city of Durban on the East coast, has the largest Indian population of any city outside of India and Sri Lanka.

There are five different Indian languages spoken here - Tamil, Hindi, Gujarati, Urdu and Telegu - although these languages could disappear in the foreseeable future as the youngsters apparently prefer to communicate in English and nearly all their schooling is in English. East Indian people number 1 million today.

Blacks

We now come to the black people of Southern Africa. Where did they originate? It is generally accepted that they migrated southwards from somewhere in central Africa, perhaps the areas where Zaire or Cameroun are to be found today. The reason for the southerly migration was probably the result of a population explosion in the area which caused small family groups to move further and further away in search of pasturage for their livestock and arable ground for the cultivation of their grain. These were iron age people and although one or two archeological smelting sites have been found which date back to about 300 AD, the major migration seems to have started somewhere around the 1400s.

They moved, as I mentioned, in small family groups, loosely linked, rather like the clans of Scotland and settled in the most hospitable areas, often ousting with their superior size and strength, any previous inhabitants, such as the Bushmen.

There were clashes between the clans, mainly for territorial reasons, and some of them joined together for greater strength or protection. It was only in the early 1800's however, that we see the emergence of large and powerful groups, such as the Zulu under the leadership of the brilliant military tactician, Shaka. The total black population today is approximately 22 million.

Languages Spoken

Generally, the languages spoken by these people belong to one large group subdivided into four smaller groups, rather like, the division of the large Indo-European group of languages in Europe which can be divided into Romance and Germanic languages.

Amongst the Bantu-speaking people there are four main language groups, each one further sub-divided into ten separate languages, which, in turn, can be spoken in many dialects. The word "bantú" or a form thereof, meaning "people" is common to all these languages, hence the grouping together under one name of the black people of Southern Africa.

These language groups are:

 Nguni - to which Zulu, Xhosa, Swazi and Ndebele belong.

 Sotho-Tswana - to which North and South Sotho and Tswana belong.

Tsonga - to which Shongaana and Tsonga belong,
and

Venda - which only has one language.

Within each group the languages are sometimes related in a similar way to, say Italian and Spanish, whereas the difference between others such as the North and South Sotho is more a matter of pronunciation and different usages and forms of words rather like American and English!

Today we have two official languages in South Africa, namely English and Afrikaans which all citizens learn at school.

Development

The largest black concentrations in urban areas lie in the industrial areas which developed around the diamond and gold mines which are to be found mainly in the interior of the country.

The Country

It is a fascinating country, with modern cities and the most advanced technology, but with vast areas of unspoilt nature where large numbers of the original inhabitants, namely lion, elephant, rhino, giraffe and numerous different species of antelope wander freely.

The people inhabiting this southernmost tip of Africa are equally fascinating, from the little Bushmen, still living a stone-age existence, to some rural people still living a traditional tribal life, to the modern, Westernised city dwellers.

Clustered around industries where most work-opportunities are to be found, the more fortunate people live in good homes with beautiful gardens, and others, live in the far less attractive, poorer areas, which are to be found as part of any urban sprawl anywhere in the world.

The choice facing the central government was whether to build better, but fewer houses, or simpler but many more houses. They chose the latter. The houses are known as matchbox houses consisting of basic essentials, i.e., usually 2 but sometimes 3 bedrooms, a combined living/dining area and a kitchen. Toilets were built in the back garden. Since then we have seen other designs for economic housing being built to replace the slum areas. More recently the private sector, in the form of large industries, has contributed towards the cost of housing for their employees and today a visit to a black city like Soweto reveals a rich variety of housing styles from the simple matchboxes mentioned earlier, through alterations to these basic structures resulting in very pleasant homes to quite splendid mansions.

It is interesting to note the absence of high-rise apartment buildings in these areas. Only in the past 2 to 3 years have apartment buildings, with a maximum of three floors, been built in Soweto, a black city near Johannesburg.

Other land is being made available for more housing but the provision of electricity, roads, sewage and other services must first be provided by government. Because of the tradition of extended families all living together, many of the older and smaller houses are overcrowded and, in the rural areas, electricity is not always readily available.

Before we go any further, however, I would like to make it quite clear that I am neither condoning the situation nor condemning it. That is not within the realm of this paper. In giving you the background and setting the scene, I am dealing only with the reality of the situation. It is not my intention to discuss politics.

Education

Before dealing with our SALT project in four schools, let us look very briefly at the history of education in South Africa. The very first school was, in fact, a school for slaves at the Cape where owners of slaves could send them to improve their skills (many were highly skilled craftsmen like carpenters and builders). These were Malayan slaves imported by the Dutch. The children of the Dutch settlers also attended this school.

Later, as the settlers moved further and further away from Cape Town itself, it fell to the ministers of the church communities to instruct their flocks in the 'three R's' of reading, writing and 'rithmetic as well as to care for their spiritual needs.

Missionaries set up schools where they instructed the converted in the ways of Western society and religion, some of these later growing into fully fledged schools and universities today. With the opening up of the interior of the land by the pioneers, itinerant teachers wandered from farm to farm offering frequently very meagre teaching skills in exchange for board, lodging and a pittance

Apart from the establishment of private schools there was very little formal education available until after the formation of Union in 1910, at which stage the

central government concentrated primarily on catering to the needs of the whites and the problems imposed by the presence of two languages as home languages.

As a result education for other groups has lagged behind, and although immense efforts have been made over the last ten years and are continuing to be made, there is still some discrepancy between the qualifications of some black teachers and white teachers.

In the past teachers with a Std 8 (grade 10) qualification could obtain a teaching diploma after one further year of study allowing them to teach in the primary schools. This is no longer the case today and all prospective teachers (white and black) must have successfully completed Std 10 (grade 12) and a three year diploma before being qualified to teach.

But what about those with inferior qualifications still in the teaching profession? They are being encouraged to upgrade their qualifications through part-time study, knowing full well the benefits that will accrue, not only better salaries but greater self-confidence and self-esteem.

- * Cash grants are paid to those who complete one, or more than one, university course in their spare time
- * One year specialization courses have been introduced to train teachers for subjects where the shortage is most acute.
- * Teachers can enroll at adult education centres (the equivalent of the American night school" system) to improve their qualifications. There were about 4,000 such enrollments in 1985.
- * Special in-service training centres have been established. One of the largest, near Pretoria at Soshanguve, was recently expanded to accommodate about 480 teachers.

At this point it would be interesting to look at some figures. There are more than six million black pupils now at school in South Africa. The total percentage of school-age children at school in South Africa is 65% compared with Egypt (64%), Ghana (52%), Tanzania (50%), and Ethiopia (29%). Adult literacy percentage in South Africa is 71% compared to that of Kenya (47%), Egypt (38%), Nigeria (34%) and Mozambique (26%).

About 1800 million Rand (approximately \$900 million) is now being spent annually on teacher training and schooling for black pupils. On average fifteen new classrooms are built every day of the year by the Department of Education and Training alone. This means, on the basis of 40 pupils to a classroom, provision is being made for 600 more pupils every day, an average of one entire school every day of the year!

But in spite of these vast improvements, we are still faced with the reality of a very high drop-out rate, especially after the 4th grade once all instruction is given in English. One of the main reasons for this high failure and drop-out rate is the appalling level of communication skills in English, as most of the black teachers either lack the necessary linguistic skills or are completely unqualified to teach through the medium of a second language

With the burgeoning growth of the black population the situation is deteriorating as the teacher-pupil ratio is on the increase. It is clear that no ad hoc or conventional effort, or approach, will improve the situation. Although there are people working on birth control and the advantages of smaller families are gradually being made apparent to black people, we are still faced with the realities of the situation at present. The average population growth rate amongst black South Africans exceeds 35% per annum.

The SALT Programme

We come now to our programme which commenced in January 1985, and is directed towards improving the standard of English and academic qualifications. Our project involves:

- (a) 560 pupils and 12 teachers, in 4 primary schools and
- (b) 850 pupils and 56 teachers, in secondary schools. Running parallel with the school programme, is another programme for adults, i.e.,
- (c) 120 black supervisors and 2 teachers in a gold mining complex.

Project (a), which began with the academic school year in January 1986, is being monitored and evaluated over a two year period by the Human Sciences Research Council, an independent agency, and is being closely observed by representatives from several universities around the country.

The Human Sciences Research Council will report on the results to the Department of Education. The three schools are all situated in the greater area of Pretoria and Johannesburg, and vary from the relatively small and less well-off farm school of Ennis Thabong to the larger, modern school of Wedela which is well equipped with many of the latest teaching aids, including computers.

The secondary school project covers topics such as creative imagination, mind mapping, speed reading, memory training and self-esteem. At the same time it was also extended to a project teaching English to adult black mine supervisors to enable them to obtain blasting certificates. A literacy programme is about to be launched.

The SALT method developed by Dr. Lozanov and as presently being used in adult education had to be adapted to the teaching of a second language at primary school level. Because so much emphasis is placed on learning and using English, the development of basic skills in the mother tongue is also very weak. The development of reading and writing skills in English must be built on a solid foundation of literacy in the pupils' mother tongue. The programme therefore begins with comprehensive reading and writing training in the vernacular, which is concentrated in Sub B (second grade) but introduced in Sub A (first grade) and used in a remedial form in Stds 1 and 2 (grades 3 and 4).

In this way the pupils in the four pilot project schools are properly prepared to undertake the study of English as a second language. Both the vernacular, or mother tongue, programme and the English programme incorporate mathematics as an essential element of language as it was found that the major areas of pupil failure in the lower grades were reading and writing in the mother tongue, English skills and mathematics.

The stories and elaborations employed in the teaching of English incorporate not only the essentials of elementary mathematics, but also themes drawn from other curricular areas, such as geography, history, health and hygiene and environmental studies.

In this way the students develop a broad command of English, and at the same time are being prepared to receive their entire school instruction in English.

Because of the large classes (there were 65 pupils in one of the classes last year!) and unqualified teachers with a poor pronunciation of English, innovative methods had to be introduced.

The typical Lozanov model of informal, small groups exposed to a highly trained and articulate teacher presenting two concerts was impractical. We compensated by introducing a puppet show once a week which is presented in 3 concert sessions of approximately 12 minutes each.

In the 1st concert, the teacher sets up a puppet theatre and presents an animated show with hand, or glove puppets, each one ethnically sculptured. The show is accompanied by a pre-recorded tape played through a high quality sound system. The story unfolds, based on the required syllabus and vocabulary, employing professional English speaking voices and Baroque music

During the 2nd concert, the pupils follow the text of the show whilst listening to the same recording. In the 3rd concert, they just listen passively to a recording of one voice reading the text in the style of a Lozanov second concert. The teacher decodes the information using games, songs, grammar and reading during the rest of the week, the classes totaling 7 x 30 minute periods for Grades 3 and 4 and 10 x 30 minutes for Grade 2 per week.

Structured lessons are worked out for each teaching period and the teachers supplied with the printed plays for the puppet show as well as suggested lesson plans. Each pupil is supplied with a script of the puppet show which in turn is based on the lessons in the readers and language books currently used by all classes.

The teachers are further provided with a comprehensive Teachers Manual to assist them in the delivery of the lessons and to guide them in the proper use of all the instructional materials.

Teacher Training

Prior to all this the teachers underwent training in the SALT method. In November 1985 three instructors from the California Language Institute were brought by me to South Africa and trained, who trained the teachers at the Alpha Training Centre. The 16 teachers and principals of the four schools allocated to the project by the Department of Education and Training were exposed to a three week course in Spanish.

This was thought to be the best way of proving to them that the method works and of demonstrating how it should be applied. Spanish was chosen as it is a language not generally heard in South Africa. The instructor was Miss Lupé Escamilla

The teachers also received thorough instruction in the application of the method. A group of Grade 1 pupils, who have no English, were brought from a nearby school for Lupe to demonstrate the effectiveness of only one lesson. At the end of the three week course, the students gave a special presentation in Spanish to demonstrate their proficiency. An experienced puppeteer gave a concentrated week-end course in puppetry. This was followed up by further training in the handling of puppets and the preparation of scripts

Once-a-month 3-day workshops for the teachers are held regularly during which talks are given on theoretical and practical matters. At these sessions the teachers have the opportunity to discuss their problems, ask for advice, compare notes with their colleagues and to demonstrate their efficiency in handling the puppets and conducting classes in the Lozanov way

In addition the schools are visited at least once a week by one of our co-ordinating team (themselves trained in the SALT method) in order to help solve problems, give encouragement and assess the capabilities of the teachers. The efficiency of the teachers and the enthusiasm ranged from excellent to poor. It is encouraging, however, to see how even the poorest teachers have improved since the beginning of the programme.

Regular tests are written by all students. This will serve as a basis against which to measure the results of further tests. These results are being monitored and towards the end of the year it will be possible to produce a graph showing the overall pattern and improvement in the standard of English. The same test is being given to control groups at other schools where English is taught in the traditional way and these results compared with our SALT schools.

In the adult programme conducted at the gold mine, English is taught in the conventional Lozanov style.

Small groups of 12 persons spend up to 5 hours per day in an informal classroom where they listen to concerts one and two from texts specially written for this purpose. A computer based programme is employed to support the grammar and writing aspects of the instruction. Remarkable success is being achieved with the method. Interest by several large organizations has been expressed, but due to a shortage of skilled instructors, this opportunity can only be explored in 1988.

In the secondary school programme which only commenced during February 1987, we adopted the following procedure:

- (a) Orientation of school management and heads of department in order to get a commitment from them.
- (b) Orientation and training of all teachers in SALT methodology.
- (c) Training of pupils in the method, i.e., self-knowledge and brain power skills such as rapid reading, mind maps, creative thinking, relaxation and imaging, memory training, ambidexterity, time management and goal setting.

Regular weekly visits to the schools involve monitoring of students in speed reading, mind maps, imaging and attitudes towards desired academic outcomes and self-esteem.

Cost

The cost of this project which was privately funded for the 1986 year amounted to 192,700 Rand (\$96,350). Donations were received to the value of 19,000 Rand (\$9,500), the shortfall being funded by my company.

Conclusion

I am convinced that SALT can make a major contribution to our country's progress towards Unity in its Diversity, ensuring happiness and a good life for all its people

* * * * *

SALT en Afrique | Harmonie dans la Diversité grâce à la communication, Techniques Suggestopediques de la Methode Acceleree en vue de l'Enseignement de la Lan-

gue Anglaise auprès des Ecoles pour Population Noire en Afrique du Sud.

En 1985, après avoir introduit SALT à l'Université Stellenbosch ainsi qu'auprès de divers secteurs gouvernementaux, ma compagnie LEAD THE FIELD se vit octroyée l'opportunité d'introduire SALT auprès de 4 écoles primaires noires d'Etat. La grande majorité des enfants noirs font face à l'Anglais pour la première fois en 12ème. La langue nationale, l'Anglais et l'Afrikaans – les deux langues officielles de l'Etat – sont obligatoires jusqu'à la fin des études secondaires. Le projet commença avec l'enseignement de l'Anglais en 12ème, 11ème et 10ème années au sein de 4 écoles primaires impliquant 560 écoliers et 12 professeurs au mois de Janvier de l'année 1985; le projet s'étendra sur une période de 2 années académiques. Certaines parmi ces classes comprennent jusqu'à 55 élèves qui parlent jusqu'à 5 jargons ethniques différents (à la maison). Arrivés en 9ème, tous ces élèves doivent avoir acquis une maîtrise suffisante de l'Anglais pour pouvoir dorénavant recevoir leur éducation en langue anglaise. Frikkie van Kraayenburg, un industriel pensionné, fut formé à San Francisco en 1979 par le Dr Lozanov et Mme Gateva. Il rendit visite au Dr Lozanov à Sofia, en Bulgarie, pour une ultérieure formation et a voyagé de façon extensive à l'étranger dans sa recherche de la meilleure façon de suppléer à la méthode qui lui permettrait de réaliser le projet décrit ci-dessus. Pionnier de la Suggestopédie en Afrique, il est convaincu que cette méthode est la clé du futur succès de l'Éducation en Afrique du Sud.

SALT in Afrika. Einheit in Mannigfaltigkeit durch Kommunikation; Suggestopädische Beschleunigende Lerntechniken für das Englischlernen in schwarzen südafrikanischen Schulen.

Im Jahre 1985, nachdem SALT der Stellenbosch Universität und verschiedenen Staatsministerien vorgestellt worden war, wurde meiner Gesellschaft LEAD THE FIELD eine Gelegenheit gewährt, SALT in vier staatlichen Schulen für schwarze Kinder auf Grundschulstufe eingeführt. Die Lokalsprache und die zwei offiziellen Sprachen (Englisch und Afrikaans) sind bis zum zwölften (Entlassungs) Schuljahr obligatorisch. Der Projekt begann im Januar 1985 mit dem Englischunterricht an Zweit-, Dritt- und Viertklässer aus vier verschiedenen Schulen (560 Schüler und 12 Lehrer) und wird sich über zwei Schuljahre erstrecken. Einige Klassen haben bis zu 55 Schüler, die zu fünf verschiedenen ethnischen Sprachgruppen gehören. Ab 5. Schuljahr müssen alle Schüler genügende Englischkenntnisse besitzen, um ihre Ausbildung durch das englische Milieu erhalten zu können. Frikkie van Kraayenburg, ein pensionierter Industrieller, wurde 1979 von Dr. Losanov und Frau Gateva in San Francisco ausgebildet. Weiterhin besuchte er Dr. Lozanov für eine zusätzliche Ausbildung in Sofia in Bulgarien und ist dann auch ausgiebig gereist, um die beste Methode zum Ausführen dieses Projektes herauszufinden. Kraayenburg bahnt den Weg für Suggestopädie in Afrika und ist überzeugt, daß diese Lehrmethode der Schlüssel zum zukünftigen Ausbildungserfolg in Südafrika ist.

SALT en Africa. Unidad y diversidad a través de comunicación. Técnicas Sugestopédicas Aceleradas para el Aprendizaje en la enseñanza del Inglés con negros en escuelas Sur Africanas.

En 1985, después de haber introducido SALT en la Universidad de Stellenbosch y en varios departamentos del gobierno, a mi compañía, LEAD THE FIELD, se le concedió la oportunidad de introducir SALT en cuatro

escuelas estatales para niños negros a nivel de la escuela primaria. La mayoría de los niños negros en segundo grado encontraban dificultades con el Inglés por primera vez. Vernacular y los dos idiomas oficiales (Inglés y Africano) son obligatorios en doceavo grado (último grado). El proyecto comenzó en enero de 1985 el cual se extendería en dos años académicos enseñando los grados: 2,3 y 4, en cuatro escuelas de 560 estudiantes y 12 maestros. Algunas de las clases tienen 55 alumnos, que provienen de 5 idiomas étnicos diferentes (que hablan en casa). Los alumnos de quinto grado deben de tener suficiente conocimiento del Inglés para continuar su educación en Inglés. Frikkie van Kraayenburg, industrial jubilado, fué entrenado en 1979 por el Dr. Lozanov y la Sra. Gateva en San Francisco. El también visitó al Dr. Lozanov en Sofia Bulgaria para adquirir mayor entrenamiento, también ha viajado por el extranjero investigando intensivamente para obtener e implementar el mejor método con respecto a este proyecto. El es un pionero de la Sugestopedia en Africa y está convencido que este método es la llave del éxito, en el futuro de la Educación en Sur Africa.

An Accelerated Learning Magnet School: Attracting Teachers and Administrators*

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Abstract. Through the modeling of Lozanov's liberating/stimulating approach to education, and the use of music, imagery and metaphor, a continuing education course inspired teachers to implement accelerated learning in their classrooms. As a result, an entire elementary school has become an accelerated learning magnet school. Demographics about the school and excerpts from the proposal are given.

* * *

At a time when a "back to basics" philosophy and the resulting stress and anxiety of both teachers and students permeate public education, the San Diego City School District views accelerated learning as an attractive, viable and unique educational program. This fall the Horton Elementary School will launch one of the first schoolwide accelerated learning programs in the country. The San Diego school has become a total school magnet that will draw students from the entire district into its specialized program for the purpose of promoting racial harmony.

* Paper presented at the 1987 SALT Conference in Ames, Iowa.

In the spring of 1986, I taught a 45-hour course at the University of San Diego in the Merritt System of Accelerated Learning. This system is based on Suggestopedia combined with the Guided Imagery and Music technique developed by Helen Bonny of the Institute for Music and Imagery, and the use of metaphorical story read to music. Five of the 38 teachers enrolled in my class were from Horton School. They were so enthusiastic about accelerated learning that they began to implement it in their own classes. It worked. Six months later, when the school district office approached Horton administrators and asked them to suggest a program for a new magnet school, the teachers recommended accelerated learning, never seriously expecting it to materialize. A proposal was written by the district after I met with a committee several times and agreed to be the consultant for the program. It was passed by the School Board in spring, 1987. The proposal outlines background information on Lozanov's approach and research support based on Lozanov's *Suggestology and Outlines of Suggestopedya* (1978) and my own *Successful, Non-Stressful Learning: A Guide to Teaching the Lozanov Method* (1985).

The Horton School is located in Southeast San Diego and enrolls 800 students, 48.8% of which are Black, 23.4% Hispanic, 18.1% White, and 9.7% Asian and other ethnic groups. While an existing Spanish Language Immersion program, established as an optional school-within-a-school magnet, will be maintained, the entire staff will now be trained in the accelerated stress-free approach to learning for other subjects as well as foreign languages. To the extent possible, teachers will integrate all of the subject areas. The focus will be on social studies, science and art (the more open-ended afternoon program). However, without distracting from the AGP (Achievement Goals Program), it will be possi-

ble to integrate all areas by incorporating reading, language and mathematics into the other subjects. The goal will be to present a global, inter-related view of knowledge that will help children to learn and to retain what they learn.' (Horton Proposal, 1987). Teachers who feel the method is not suited to their particular style, or who are not open to the accelerated learning philosophy have been offered positions at other schools in the district. Only two teachers chose not to be involved in the program and were replaced. Class size has been reduced to 25 students per class, and six teachers have been added to the staff.

In considering accelerated learning for the new magnet school, certain features of this approach rendered it a choice candidate. According to the proposal, the holistic presentation of subject matter, and the use of music, games and the arts to promote learning, coupled with promising student outcomes, made it a potentially popular magnet program. Particularly attractive to the School Board was the fact that "accelerated learning does not change what is taught in the school curriculum. Rather, it aims to change teaching habits and modes of thinking that are based on left brain conditioning and which perpetuate unbalanced development of thinking skills" (Horton Proposal, 1987). It seems to be much more viable to change the process of learning than to change the content.

The fact that students are able to learn more material in less time with less effort was, of course, a very appealing prospect. But just as compelling was the prospect of relieving the trauma and stress children normally experience in school, by creating a positive, joyful learning environment that would give students confidence in their abilities, . . . help them to become more focused and receptive to learning, and promote

their mental, physical and emotional health' (Horton Proposal, 1987). Teachers and school administrators are becoming more and more concerned with the psychological needs of their students in these stressful times of dysfunctional families and child abuse. They are realizing more than ever, how much the well-being of their students affects the learning process. Lozanov had called his method 'psychotherapy in education' (Lozanov, 1978). He claimed that 'Suggestopedya could become a universal educational system applicable to every level of school and university life,' and that it would require 'creating an atmosphere of profound psychological understanding, in which the personality is liberated and stimulated from early childhood' (Lozanov, 1978). In order for students to be free to develop their potential, teachers must first liberate themselves from the restrictions imposed on them by the rigid conditioning of educational programs and by society at large. Recently, with the focus on "keeping control" of their classes, some teachers have actually been warned by their administrators not to smile until after Christmas.

Two of the Horton teachers shared with me the things that had won them over to accelerated learning. One of the major influences was that they themselves experienced the liberating, stimulating effect of Lozanov's approach. They said that as their teacher, I had modeled a kind of learning that was fast, fun and effortless, and they wanted their students to experience that same joy. They began to introduce the concept at Horton School, as spring was an excellent time to experiment with new ideas. Each week, when they returned to their school after experiencing my accelerated learning class at the University, they would teach their colleagues all they had learned the night before. The teachers would gather in the school lounge in a spirit of contagious excitement. Each week, they tried

accelerated learning strategies and found that they brought new life into their classrooms. Many of them began to incorporate classical music into their curricula, selecting it carefully and using it appropriately. They used it for stories and dialogs, for rest periods, for smooth transitions from one activity to the next, for stimulating creative writing, for silent reading and math, and as a catalyst for self-exploration.

The teachers began to organize their units in a more global, holistic way, as outlined in my new book, *Successful, Non-Stressful Learning: Applying the Lozanov Method to all Subject Areas* (Merritt, 1987). They found that the students' greater motivation and interest led to higher test scores and happier children. They started to notice how their body language and voice tone were affecting their students, and they made positive changes by integrating the paraconscious influences into their teaching. Most important, these teachers gave themselves permission to enjoy their teaching by developing a suggestopedic attitude, one of natural spontaneity, positive attitude and relaxed focus. A teacher from another elementary school claimed that the accelerated learning class freed her to do things she knew intuitively were right, but seemed not to be the things a teacher should do, such as playing music during work time and oral reading, smiling, and being playful.

Learning to know and love classical music was another motivating factor for teachers. Many of them who had had little exposure to it, felt that having experienced classical music had changed their lives. As one teacher put it, "It seems to add such a sweetness to the atmosphere." Another teacher said, "Since listening to classical music I actually like my class and see the students in a totally different light. I listen to music before the children come into class and this relaxes me

and makes me more receptive to the children. Before this class I viewed this totally as a job and I had to be strict and could not have fun. Teachers who had been Burned-out and frustrated with their work were able to get back in touch with their love of teaching. They learned to use music to energize, relax and motivate both themselves and their students.

The Horton teachers felt that the music-imagery technique I used in class was very therapeutic for them, and I was able to combine this technique effectively with Suggestopedia. Music-Imaging, a group adaptation of the Guided Imagery and Music (GIM) method enabled teachers to make major breakthroughs in opening up to their own unconscious thoughts and feelings (Bonny, 1973). Releasing the dominance of the left brain through relaxation, and stimulating right hemisphere thinking by using a non-verbal medium such as music encourages the development of whole, healthy and creative individuals (Summer, 1981). This is true for teachers as well as students. When teachers entered the class each week, filled with distracting thoughts, tension and fatigue, I opened each class by suggesting a place in nature and asked them to notice visual images, memories, colors or feelings the music was bringing to them. I followed this with a piece of classical music to evoke imagery, such as those suggested by the Institute for Music and Imagery (Keiser, 1986). After listening to music in this relaxed state, teachers drew their impressions and then shared them with the group. The sharing is an important part of the experience, as it acknowledges and clarifies the imagery and encourages openness and connection among the members of the group. The music softened their armor, broke down their rigidity, brought them back in touch with their emotions, and opened their hearts to each other. They began to use Music-Imaging in their classes and found that students

abreacted unconscious material that broke through learning blocks. A teacher who had been experimenting with music and drawing remarked, "One kindergartner, who had been abused, told a very vivid story about monsters and other frightening things the music brought up for him. I feel it released a lot of stress and fear. He settled down the most in the group, although he is the most hyper" (Merritt, 1987). For teachers and children alike, the joyful, peaceful feelings that music can evoke is therapeutic as well. When these music and art activities culminated in creative writing teachers reported that the writing was not only more prolific and spontaneous, but that grammar and sentence structure had also improved.

There is no doubt that implementing accelerated learning in a school system in order to convince administrators that it works may be more effective than writing a proposal and submitting it to a school district that has not yet experienced its successes. The Horton teachers, several of whom have already been implementing the new method, were trained in the Merritt System of Accelerated Learning for one week in August, 1987. I will observe their classes and give ongoing workshops on a monthly basis throughout the school year. My new book, *Successful, Non-Stressful Learning: Applying the Lozanov Method to All Subject Areas* is being used as the training manual for the program.

The Horton School offers optimal conditions for the pioneering of an accelerated learning school. The administrators are openminded and humanitarian, the teachers are loving, supportive and talented human beings, a spirit of cooperation and integrity permeates the environment, and three of the teachers are writing new units of study based on accelerated learning for their Masters

Degree in Curriculum Writing. The program will be evaluated by the school district according to their own design for implementation evaluation.

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Une Ecole-Aimant de la Methode Acceleree Attirant
Professeurs et Administrateurs

Grâce au modèle de l'approche libératrice-stimulante du Dr. Lozanov envers l'éducation, et l'emploi de la musique, des images et de la métaphore, un certain cours pour la continuation de l'éducation inspira des professeurs à employer la méthode accélérée dans leurs classes. Le résultat qui s'ensuivit fut que toute une école primaire devint un modèle, une école-aimant de la méthode accélérée. Des éléments démographiques sur cette école et des fragments du projet sont donnés.

Eine Lernbeschleunigende Magnetschule: Anlocken von Lehrern und Verwaltern.

Ein Weiterbildungskurs nach dem Muster von Lozanovs befreiende-anregender Einstellung zur Erziehung und der Gebrauch von Musik, Verbildlichung und Metaphor hat die Lehrer zum Gebrauch von der beschleunigenden Lernmethode in ihren Schulzimmern angeregt. Daraus folgte, daß eine gesamte Grundschule zur lernbeschleunigenden Magnetschule wurde. Bevölkerungsstatistiken über die Schule und Auszüge aus dem Unternehmen werden dargeboten.

Aprendizaje Acelerado en una Escuela Magnetica: Maestros y Administradores atrayentes.

A través del modelo de Lozanov en liberación, estimulación como acercamiento a la educación, y el uso de música, imaginación, metáfora y cursación continuada inspirada a los maestros a implementar el aprendizaje acelerado en sus salones de clase. Como resultado toda la escuela elemental se ha vuelto una escuela magnetica en aprendizaje acelerado. Demografía con respecto a las escuelas escogidas están dadas.

Vital Components for Effective Teacher Training*

Twyla S. Moschel

Abstract. The purpose of this study was to impact the effectiveness of teacher-training courses in the use of accelerative learning principles and techniques through assessing the needs and experiences of teachers trained to use this teaching and learning system. This study pinpoints to what degree teachers used the different components of the system and why there was a variation in usage among the components. The study also identifies difficulties teachers had in implementing the system and why these difficulties occurred. In addition, teachers described strengths and benefits of the system as revealed by their experience. Given this information, instructors can determine how best to design teacher-training courses and follow-up programs that provide the kind of training and support that enables teachers to better utilize the system as a whole as an ongoing instructional method.

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Introduction

Suggestopedia, the foundation for accelerative learning, is a philosophy and system for teaching and learning that enables students to maximize the use of their

* Paper presented at the 1987 SALT Conference in Ames, Iowa.

potential. However, it is not a system one learns to use simply by reading articles and books. One can learn about suggestopedia from the literature, but one learns how to teach using this system by observation, by participation in a class that is taught with this system, and by training and practice with the techniques. One gains in expertise through experience and continued study.

Acceleration, or the increased use of potential, can be measured by improved academic achievement, by learning a greater amount of material than is usual in a given amount of time, by learning a given amount of material in less time than is customary, and by improved retention and recall of material learned.

The outcomes associated with accelerative learning are the result of the combined and cumulative effect of positive expectancy, relaxation, whole-brain instructional orientation and teacher competency. That teacher competency in the use of this system is a prime factor in the success of the system is suggested in the results of comprehensive studies reported by Applegate and Jensen (1983) and Schuster and Gritton (1985). The academic gains among the accelerative-learning classes were reported to be idiosyncratic to each teacher and attributed to teacher competency. When one compares the differences in achievement gains among other reported studies in the United States (Moschel, 1986) one further concludes that teacher expertise with the accelerative learning system is a crucial factor in the success of the system.

Lozanov (1978), the originator of suggestopedia, contends that the acceleration in learning and the positive affective gains attributed to the use of this system are greater than the sum of the components of the system. He cautions that using bits and pieces of the

suggestopedic system will be counterproductive and will detract from the cognitive and affective effectiveness of the system. To this end Lozanov ideally advocates selection of those who will teach using this method, careful training in the system, and ongoing supervision of teachers using the system.

In support of ongoing supervision, Rand-Barzakov (1986) reports that presently there are teachers in the suggestopedic schools in Bulgaria who have lapsed into previous ways of teaching. Because Lozanov is no longer with the Institute of Suggestology, he is unable to provide the training and supervision deemed necessary.

Schuster (1985) to emphasize the importance of knowledge and competence, cites an example of an individual in Germany who, after attending a basic SALT workshop and with no further training, became an "instant expert" on SALT. The tapes and books this person produced did not follow sound system principles and those who used them did not achieve the expected results. It is likely that there are other instances where accelerative learning is used by persons who, for various reasons, are less than competent with the system. Schuster suggests that some form of certification in accelerative learning should be considered to protect the integrity of the system.

Proponents of teacher competency in the use of suggestopedic based instructional systems are justifiably concerned. Not only do old habits die hard, but the teacher using accelerative learning may be an island unto himself/herself in a setting where other educators use a different instructional method. Proficient use of accelerative learning requires knowledge, skill, and practice. Because this system is still evolving (Rose, 1985) prac-

titioners need to keep abreast with new developments in the field. Therefore, supervision and or training follow-up become paramount to continued effective application of the principles and techniques of the system.

How, then, does a prospective accelerative learning teacher acquire the training and continued support needed to effectively teach using this system? In reality, those wishing to use accelerative learning as an instruction method will find that the training, supervision, and educational setting in the United States is quite different from Lozanov's experimental schools in Bulgaria. In all likelihood, training will consist of an intensive three-day or one-week workshop with little or no follow-up once the teacher is back in the classroom. In some instances, an additional advanced training course is available on a similar three-day or one-week basis. Occasionally two or three-week training programs are offered. Because training generally takes place outside the standard university teacher-training programs, the courses or workshops have had to be designed to accommodate the time that teachers have available for personal training aside from the demands of their employment. Hence, the short, intensive workshop format.

Teachers desiring to use accelerative learning come from a wide variety of instructional settings. Therefore, practitioners and trainers in the United States suggest that, after training in the philosophy, principles, and techniques of this system, one should begin implementation with the component(s) with which one is most comfortable. Then, as one learns more about the system and gains in expertise with the techniques of the system, other components of the system can be incorporated into the instructional process until as much as possible of the system as a whole is utilized (Barzakov,

1984; Brownlee, 1982; Merritt, 1985; and Schuster & Gritton, 1985).

Given the time constraints for teacher training, what can be done to assure that teachers desiring to use accelerative learning will receive the kind of training that will enable them to successfully use the system in their classroom? Teachers who have received training and who practice an accelerative learning method in varying degrees can provide valuable insight into what constitutes an effective training course. This study is based on a survey directed to teachers who were trained to use an accelerative learning system. The survey provides insight into the degree that the different components of the system were used and why there was a variation in usage among the components. The survey identified difficulties that teachers had implementing the system and why these difficulties occurred. From personal experience, the teachers described the strengths and benefits of the system. Analysis of the survey provides information and guidance to those who design and instruct teacher-training courses in accelerative learning.

Survey

A twenty-two item survey was sent to seventy-five educators who had participated in either a three and one-half week OPTIMALEARNING™ Summer Institute in San Francisco, California, or a one week Joy of Learning summer workshop in Cedar Falls, Iowa or Cedar Rapids, Iowa. Of those seventy-five surveys, sixty-four percent were returned usable for tabulation. The respondents included elementary, junior, and senior high school teachers, junior college instructors, and university professors. A variety of academic subjects was represented. Although the majority of the respondents had

used accelerative learning for less than one school year, twelve respondents had used the system from two and one-half to seven years.

The questionnaire identified the components of accelerative learning, and respondents indicated the degree that they used each component by giving each component a rating of one to five (five indicating planned integrated use) on a Likert-type scale. Respondents identified a reason from a given list of possibilities for each item rated one, two, or three. Five open-ended questions enabled the respondents to comment on positive results from the use of accelerated learning, specific difficulties encountered, future plans for incorporating accelerative learning, feedback from students, colleagues, administrators and/or parents, and personal benefits from the use of this system. Although the respondents could remain anonymous, the vast majority of those responding signed the survey.

Analysis

An analysis of the degree of usage of the components of accelerative learning reveals a distinct difference in the degree of usage among the components. Those components with a significantly higher percentage of four or five ratings (high usage) were music for relaxation, music to create a mood, reverse motivation, educational feedback on student in-class contributions, physical relaxation exercises, global theme, integration of the arts, whole-brain instructional orientation, and a planned, enriched classroom environment. There was a fairly even split between the four and five ratings and the one, two, or three ratings (low usage) on imagery for relaxation, imagery to review or teach content, and concert reading for long term memory. Those components with a significantly higher percentage of one, two,

or three ratings (low usage) compared to four or five ratings (high usage) were best performance imagery, pseudo-personality, metaphor and/or story line, and invention/recreation

The majority of respondents rating any of the forms of imagery with a one, two, or three indicated that they didn't feel sufficiently skilled in the component or that they were uncomfortable using the component. A few respondents related that they didn't use the component because student response was discouraging.

The most frequent reasons given for a one, two, or three rating for the use of pseudo-personality, story line and/or metaphor, concert reading for long term memory, global theme, physical relaxation, and invention/recreation were also that respondents didn't feel sufficiently skilled or didn't feel comfortable using them. Another common reason cited for lower usage by a few respondents was that those components required too much time either in teacher preparation or in class time.

Occasionally a respondent assigned two of the given reasons for a one, two, or three rating. In most of the cases where a respondent declined to assign a reason for a one, two or three rating it was noted that the component was not used because, in his opinion the component was not applicable or appropriate to the course of instruction or the instructional setting. In some cases respondents indicated they declined to rate an item because they were confused by the terminology.

In addition to the rated items, five open-ended questions provided the respondents with the opportunity to comment on positive results, difficulties encountered, future plans, reactions of colleagues and others, and

personal 'life-activating' benefits. A synopsis of those comments follows.

When asked about specific positive results, the respondents answered in reference to themselves that they felt more creative, relaxed, energetic, and inspired. They reported that teaching was more fun, student-teacher rapport was good and that there were more 'ahas' for the teacher as well as for the students. In reference to the students the respondents said that the students had a higher success rate, they were more interested and inquisitive, they learned easier, up-tight students performed better and that students were happier and more involved. Teachers also reported that students had better understanding, their work was more detailed, and their writing was more descriptive.

In response to inquiry about specific difficulties encountered a significant number of the respondents commented on the amount of time involved in preparation with an accelerative learning method. Teachers who traveled from room to room reported that there were logistical problems in room set-up and in bringing in equipment. Many teachers noted that it was difficult to secure appropriate music. Several teachers observed that some students just couldn't or wouldn't give things a chance, felt uncomfortable with the techniques and/or couldn't accept that learning could be fun. Several respondents commented that they felt like 'pioneers' and needed more contact with other teachers using accelerative learning as an instructional method.

Almost without exception respondents had plans for the future. Those things mentioned most frequently were to increase the use of music, the use of different kinds of imagery, and the use of relaxation techniques. Many teachers stated that they wanted to gain more

expertise with the techniques and that they wanted to use them in more of their subject areas and in a more systematic, consistent manner. Respondents also frequently mentioned that they wanted to learn more about whole-brain learning and become more knowledgeable about accelerative learning

In reference to feedback, respondents most frequently noted student enthusiasm for and enjoyment of imagery and music. Several respondents related that parents had requested music for use at home. While some teachers found that their administrators were neutral, others reported that administrators were supportive or enthusiastic. One teacher was cautioned by an administrator to not do anything "too strange". Whereas one respondent reported that parents requested a workshop for parents, a few other teachers said that some parents indicated that this method was "too non-traditional". While several teachers reported colleague interest in accelerative learning, one teacher related that colleagues couldn't understand how kids could have fun learning. Several respondents expressed the opinion that accelerative learning methods should be introduced carefully and slowly to help ensure a positive reception from the educational community. Teachers who had students who thought accelerative learning methods were boring or silly or who were otherwise disinterested, felt that perhaps it was because they, as teachers, were not confident and/or expert enough in the use of the system and/or specific techniques. Other teachers said that, aside from a small minority of students, students who at first were skeptical became positive.

Because OPTIMALEARNING™, an accelerative learning system, has been termed a "life-activating" system by its creator, Ivan Barzakov, respondents were queried

about personal benefits. The following phrases are representative of respondents comments: life is fun . . . there isn't enough time to do all I want to do . . . a lot of work but I enjoy the challenge . . . use music and imagery for relaxation and best performance . . . have taken on better health habits . . . broadened my interests . . . want to explore OPTIMALEARNING[™] more . . . greater awareness of my need to relax . . . whole-brain learning most useful . . . have done more reading for learning in other areas . . . increased personal motivation . . . increases awareness of the need for aesthetics in my home . . . more energy . . . more creative ideas . . . picked up on previous hobbies . . . taught myself to play the guitar and composed a song that was used at school . . . began piano lessons . . . more aware of alternatives . . . use some of these techniques to help my own children with homework . . . more aware of the importance of my own life . . . better memory . . . have become more assertive . . . more positive attitude . . . am more funny in the classroom . . . have studied more in the subject area I teach for fun . . . communicate at a deeper level . . . accomplish more with my time .

Information gleaned from this survey will provide direction for those who develop training courses in accelerative learning and for those who seek training in accelerative learning. The following recommendations are made in the context of a training course of optimum use for educators.

Recommendations

- 1 In order to avail oneself of the best possible training, a prospective accelerative learning trainee should seek a course that is taught utilizing the accelerative learning system. The medium is the

message, and the message is the medium. In that way the trainee experiences the system firsthand while learning the system.

- 2 The course should provide a foundation in the basic philosophy and principles of accelerative learning as well as the techniques of the system. This promotes confidence in the system and assists the participants in becoming articulate about the system.
- 3 The course should be taught by an instructor who is well grounded and trained in the philosophy, principles and techniques of the accelerative learning system, who is experienced in the use of the system, and who models the system when teaching. Thus, the integrity of the system is maintained.
- 4 The system should be offered as an alternative to the instructional method that the participant is currently using. It appears that teachers who effectively use this system have an affinity for this philosophy and style of teaching. They are ready for or have begun some form of personal transformation. This is a system for teaching and learning, not a curriculum.
- 5 Direct classroom application is more easily made when the course is designed specifically for teachers. Demonstrations and examples of lessons and units of study for a variety of grades and subjects should be provided to assist teachers in personal adaptation and application. Some teachers relate that they need a bridge from course context to personal application.
- 6 Ample opportunities should be provided for individual and group practice with the techniques of the system accompanied by feedback. This is especially crucial for imagery, concert reading, relaxation exercises and the use of metaphor and story line as these are techniques with which

teachers, in general, are least familiar and, therefore, most uncomfortable using

7. The course should clearly compare and contrast accelerative learning with common educational practices and should include education-related research that supports and explains the techniques and results attributed to an accelerative learning system. This will enable the novice to implement the system with confidence and to explain the system so that it can be better understood by others.
8. Participants should be given the opportunity to outline sample lesson and unit plans that utilize the system. Feedback should be given. Near the end of the course participants have found it helpful to formulate a "plan of action" through which they can begin to implement accelerative learning in their instructional setting.
9. A course that provides follow-up is ideal. The follow-up could be in the form of advanced courses that can be repeated as desired, periodic symposiums, and/or periodic interest group meetings directed to perpetuating the study and use of accelerative learning. Follow-up provides needed support and encouragement, and fosters further growth.

Additional Comments

The Society for Accelerative Learning and Teaching has become the umbrella organization for accelerative learning and could take an ongoing active role in impacting teacher training. In the interest of the integrity of accelerative learning and the quality of the use of this learning system, it is suggested that the SALT organization:

1. develop guidelines for course content (core components).
2. develop guidelines for assessing instructor (trainer) competency.
3. provide course and instructor endorsement.
4. promote a commonality of accelerative learning terminology so that terminology will be uniform among instructors, practitioners, and proponents of the system and acceptable to American educators.
5. actively facilitate the formation and working of local accelerative learning interest groups for networking and study.

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Composantes essentielles pour la formation efficace du professeur.

Le but de cette recherche était d'assurer l'efficacité des cours de formation des professeurs dans leur utilisation des principes et des techniques de l'Enseignement Accéléré à travers l'évaluation des exigences et des expériences de ces professeurs mêmes, entraînés à appliquer ce système d'enseignement. Cette étude indique à quel degré les professeurs utilisèrent les différentes composantes du système, et les raisons pour lesquelles ils les manipulèrent de façon variée. L'étude identifie également les difficultés rencontrées par les professeurs dans leurs efforts à suppléer au système et les raisons pour lesquelles ces difficultés apparaissent. De plus, les professeurs décrivent les points forts et les bienfaits du système au fur et à mesure de leur expérience. Grâce à cette source de renseignements, les instructeurs à leur tour ont l'opportunité d'ébaucher les meilleurs modèles de cours de formation pour professeurs et d'augmenter l'efficacité des programmes fournissant ce genre de formation ainsi que le support permettant au professeur un meilleur emploi du système dans son entité, en tant que méthode d'instruction.

Vitale Komponenten für wirkungsvolle Lehrerausbildung

Der Zweck dieser Studie war es, die Wirksamkeit der Lehrerausbildungskurse in lernbeschleunigenden Prinzipien und Techniken durch das Festlegen von Bedürfnissen und Erfahrungen der Lehrer, die in dieser Lern- und Lehrmethode geschult waren, zu beeinflussen. Die Studie hebt hervor, zu welchem Grad die Lehrer die verschiedenen Komponenten des Systems gebrauchten und warum es Unterschiede im Gebrauch der Komponenten gab. Die Studie erkennt auch die Schwierigkeiten, die die Lehrer beim Anwenden der Methode hatten und warum diese Schwierigkeiten eingetreten sind. Außerdem beschrieben die Lehrer auch die Stärken und Vorteile des Systems. Mit dieser Information können die Lehrer bestimmen, wie sie am besten Lehrerausbildungskurse und weitere Programme darstellen sollten, welche diejenige Ausbildung und Unterstützung bietet, die es den Lehrern ermöglicht, das System als Ganzes als eine fortdauernde Lehrmethode besser zu gebrauchen.

Componentes Vitales para un Entrenamiento Efectivo en el Maestro

El propósito de este estudio fue impactar la efectividad en los cursos de entrenamiento del maestro usando los principios del aprendizaje acelerado y las técnicas por medio de las necesidades y expijadas en los maestros entrenados para utilizar este sistema de enseñanza y aprendizaje. Esto estudia puntos claves en que grado los maestros usaron los diferentes componentes del sistema y por que hubo variacion al uso entre los componentes. El estudio tambien identifica las dificultades que el maestro tuvo implementando el sistema y por que ocurren estas dificultades. Tambien los maestros describieron fuerzas y benefic-

ios del sistema como revelación de su propia experiencia. Dada esta información, los instructores pueden determinar como es mejor para diseñar los cursos de entrenamiento para maestros y siguiendo los programas que proporcionan la calidad de entrenamiento y ayuda a capacitar a los maestros para que utilicen mejor el sistema como continuación de todo un método instructivo.

Eurythmy: Art of Movement in the Waldorf Schools*

Earl J Ogletree

Abstract. Eurythmy is a form of controlled therapeutic movement developed by Rudolf Steiner (1861-1925), the founder of the Waldorf schools. Eurythmy is employed in the arts, education and medicine. It is used in the Waldorf curriculum to facilitate physical and psychological development of children and to enhance the areas of speech, language arts, geometry and physical education.

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Many children are frustrated by their failure in a society that places great emphasis on intellectual development and academic achievement. The emphasis has been on the abstract, the theoretical and sometimes the meaningless aspects of education, rather than the concrete, the physical and emotional aspects of learning. As a consequence of this neglect, coupled with the increased sedentary activity of TV viewing by young

* The Waldorf Schools, founded in 1919 in Germany by Rudolf Steiner, are among the largest independent school movements in the world. There are now 400 Waldorf Schools internationally, including approximately 80-90 in the United States. See Ogletree, E.J. (1980) Waldorf Schools: An Artistic Approach to Education, *Journal of the Society for Accelerative Learning and Teaching*, 5(2) for additional information.

children, there is an alarming increase in the number of children who lack adequate motor coordination and body management skills.

Physical movement in learning is particularly important for children in terms of the way they get to know their environment, the world. They are first active, dynamic moving beings and are emotionally and motorically involved in learning about themselves and experiencing their surroundings. Cognition is the last step in the learning process. For children, movement is the first step in the learning process. Purposeful movement stresses the unity of the person--linking and coordinating the physical, emotional, social and intellectual in productive activity.

Raymond Barsch (1965) founder of Movigenics--the study of the origin and development of movement patterns leading to learning efficiency--concluded:

Movement has survival value to the human organism. When energy forces must be managed, informational data processed and behavior organized in ever increasing complexity, a program devoted to achieving optimal movement holds promise of making a significant contribution to learning efficiency (p. 16).

Wholistic learning approaches exploit the hidden physio-psychological potentialities of the human being. By adhering to the maturational readiness stages of learning, wholistic learning becomes an integral part of the learning process. The teacher is able to take advantage of the psychic reserves of the learner, thereby making learning compatible, efficient and impressive. Similarly, suggestive education or Suggestology economizes the learning process by impressing

what is being learned in an efficient manner, as does rhythmical motor activity. Rhythmical activity provides experiences that are compatible with the child's learning style and lays the foundation for later conceptualization and abstract learning. As with Suggestology, rhythmical-based learning is not harmful to the child, it enhances learning, interest and attention and reduces anxiety.

The child grasps the meaning and significance of what is being learned without reliance on the analytic processes of cognition. The very act of disciplined rhythmical movement enables the child to experience academic content without being aware that he/she has done so. Suggestive education also enables the learner to participate actively which enhances the ability to concentrate and respond quickly. Research shows that learning gained via motor activity is more rapidly acquired and more stably formed than learning acquired passively (Haggard and Rose, 1944). Allport (1960) stated 'The perception of meaning is incomplete without full manipulation and bodily movement' (p. 185). Learning is possible only when there is active assimilation which subsequentially transforms the learner. Rudolf Steiner (1861-1925) had more or less the same idea regarding the influence of controlled motor-movement when he developed the art of Eurythmy in 1912. Eurythmy (which is not to be confused with Dalcroze's 'Eurythmics', a form of dance to melody), is instead, a form of disciplined movement of the arms and the body that expresses the vowels and consonants of speech and the rhythm and intervals of music. Eurythmy is an art form (performed by groups or by individuals) and also a form of therapy. There are three types of Eurythmy--speech, tone, and curative (remedial). Speech Eurythmy is associated with speech, and tone Eurythmy with music. Both are utilized in the performing arts on the stage and a technique of teaching subject matter in

the school. Both have an artistic and pedagogical function. Curative or therapeutic Eurythmy, on the other hand, is based on the gestures and movements of artistic and pedagogical Eurythmy (speech and tone) except that the movements are emphasized more dynamically, and are given and supervised by a medical doctor.

Eurythmy is not merely an arbitrary movement, nor a form of dance to music that has been intellectually thought out nor is it aerobics. It is a disciplined art developed out of a particular concept of human development--the idea of what the human should become. Steiner concluded that the movements of the organs of speech when producing speech sounds were similar to the movements of the dynamic or energy forces in the body. Steiner (1932) adopted, transformed and extended these speech formations made by the speech organs, to the movements of the whole body, particularly to the arms and the hands.

Wallace (1942), a curative Eurythmist, explained the relationship between speech, the inner dynamic forces of the body and Eurythmy:

The whole connection between the sounds of speech and the inner dynamic of our whole organism was clarified by Steiner. He showed that the dynamics which produce the smallest movements of speech are the same as the creative (energy) forces which construct and maintain our organism; that speech is only a weak reflection or condensation of these forces (p 8).

In fact, speech is the resounding product of energy forces. It is an artistic expression, a performing art. It is used to facilitate speech development, and it is used therapeutically to enhance and rebalance the development transformations of the body

The purpose of teaching Eurythmy, according to Karl Van Oordt (1955) an Eurythmist is that:

If we keep alive this stream of life through our body and let it enliven us again and again, we should be able to stand more firmly in life, would be able to bring our intellectual knowledge, what we learn in our heads, into the limbs, into our motivations and into our actions. That is what we want to achieve when we do Eurythmy with the children

She adds that Eurythmy facilitates: ... nature forces--living, growing life forces--to stream freely and unhindered through our body--not wildly and chaotically, but consciously guided by the personality which abides in the body, by our real selves (ego) (p. 7)

What Van Oordt is referring to is that every physical gesture of movement we make requires energy and dynamic creative forces of growth. By means of the disciplined movements inherent in Eurythmy, these dynamic forces are brought under the control of the person doing Eurythmy. What occurs is an enhanced coordination of motor-movement, emotions and thinking as well as having a healthful influence (i.e. the energy or forces of physical growth are the same forces used for cognition)

The movements in speech and tone of Eurythmy are prescribed and taught by the Eurythmists. However, curative Eurythmy requires a physician to diagnose the malady and prescribe specific movements. The difference between curative and other forms of Eurythmy is the form and emphasis of the movements. A specially trained physician is generally associated with a Waldorf

school. The physicians are trained in Steiner's anthroposophical (wholistic-homeopathic) form of medicine and Eurythmy. There are probably hundreds of such specially trained medical doctors, mainly in Europe. However, the limitations of this paper do not permit a detailed exploration of Steiner's theory of child development and medicine.

In curative Eurythmy, the consonant and vowel sounds of speech such as B, "U", or "A", "E" are expanded into and overtly expressed in the larger movements of Eurythmy using the arms and body, which, when intensified in curative Eurythmy exercise, work or are reflected back into the organism to activate (and stimulate), the dynamic upbuilding forces of the body," rather than turning them outward in artistic expression. (See Figure IV)

Wallace (1942), a curative Eurythmist for over forty years, says: "Curative Eurythmy is used to stir into normal activity those upbuilding forces which have become too sluggish to maintain health." According to Wallace, the consonant sounds performed Eurythmically have a relationship to and an effect on the organs and functions of the body; "diseased organs often can be rebuilt and disturbed functions normalized." She adds that "one combination of consonant exercises wakes up the stolid type of person both physically and mentally, while another builds more stamina into the (weak) body of the oversensitive type."

The Eurythmic vowel sound exercises have an effect upon the psychological development of the person. For example, the "E" sound and its corresponding Eurythmic exercise help the uncertain, shy or weak person to gain confidence and self-directed activity. Whereas a carefully chosen combination of consonant and vowel exer-

cises can help to harmonize and unify physical, mental and intellectual development, making the physical body more amenable for the developing personality.

Like the consonants, these movements are done in various positions and intensity. Curative Eurythmy works with the single sounds of speech, based on medical advice. Not only are single sounds and certain sequences of sounds used, but walking and moving in certain patterns, e.g., spiral, lemniscate, pentagram, etc., and rhythms are integral parts of Eurythmy. Hexameter, iambic and trachee rhythms are used to treat different types of personality disturbance and pathological conditions. Wallace (1942) stated that Eurythmy is used to help the physical body to become a more pliable instrument for the child's developing personality and intellect. She added

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Toward adolescence special exercises help to harmonize the whole organism, making the transition period less chaotic. The wide variety of problems range from correction of posture and pronated ankles to disturbance of the metabolic (respiratory) and nervous systems, from difficulties of a psychological and temperamental character to serious illness (p. 6)

Tone Eurythmy is also used therapeutically. Music has always been thought to have a healing effect on the human being. Beat, rhythm, tone and intervals, the basis of the Eurythmy, are related therapeutically to the respiratory, nervous and the metabolic systems. In addition, to the medical aspects of Eurythmy, in the Waldorf schools it is basically used to help bring harmony between the child and his/her own body so that he/she develops his/her best faculties. Eurythmy is taught to the child to help his/her personality grasp his/

her own physical body in the proper way, thereby gaining conscious control over his/her activities to integrate the child's physical development with his/her psychological development--the basis of gross and finer motor skill development.

Pedagogical Eurythmy is also employed to introduce and teach a myriad of academic subjects such as speech, reading, geometry, drama, poetry and music.

By means of Eurythmic exercises the children experience the sounds of speech with their whole body, and enhance the skill of proper listening. Young children find pleasure in imitation and delight in movement. In the teaching of writing and reading, the characteristic sounds and forms of letters spring into life as they perform them Eurythmically. For example the rolling movement of the "R" is expressed Eurythmically by that of rolling wheels in motion: See Figure IV.



To complete the letter for "R", as they write the verse:

Restlessly rushing, rippling, rolling, races the
river down to the sea.

Poetry and music are incorporated to support these gestures, allowing the child to experience these subjects through ear, eye and movement, so that the child's whole being is involved in the learning process, not just the intellectual. The Waldorf children learn most of the letters of the alphabet in this manner, conveying to them the feeling that the letters are intimately related to them. The letters become their friends, so to speak. Learning becomes play--movement--fun

Also in the early grades, the children run geometric forms Eurythmically to the accompaniment of musical themes. Here the child experiences a straight, curved and bent line with his/her whole body. He/She is experiencing it before he/she intellectualizes it. Children are learning subject matter without really realizing they are learning it, because learning is fun.

Heydebrand, a Waldorf teacher, says that the marking of rhythm in poetry is cultivated. "Meter is marked by children taking long and short steps in pacing to recitation." Listening is developed by the children clapping their hands and running with their feet to simple rhythms of poetry. Also moving in Eurythmic forms to music enhances the childrens feeling and appreciation for it.

Little children love to express high and low, loud and soft, long and short sounds in movement. And at ages nine and ten children enjoy listening to and expressing minor and major scales Eurythmically. Eurythmy not only assists children in learning the musical scales in an overt expressive manner, but helps them "to pass unscathed through the difficult early stages of learning to play a musical instrument" Learning is couched in activities that are compatible with their natural style of active participation in their environment.

Musical movement is also associated with the rhythmical forms and patterns found in geometry. In the lower grades the children learn to run straight and curved lines, beginning with the forming of the circle. Harwood (1958) concludes, "Here the foundations of geometry are laid." "The children step, walk and run--to music in varying rhythms--the forms of the square, circle, pentagram, lemniscate, and so on. Eurythmical gestures are an integral part of the lessons. This is

carried over into their form drawing lessons, which form the basis of writing. In the Waldorf schools form free-hand geometry drawing precedes the writing of letters and numbers, and writing precedes learning to read. They first learn to read what they have written and, in the later grades, to read from a printed page. See Figure 5 (at the end of the article), geometric form patterns.

Form drawing is used to facilitate the coordination of motor movement and mind, perceptual-motor development. An examination of the geometric forms in Figure 5 shows the forms evolve from simple to complex--from simple wavy to complex metric patterns. Via repetitive exercises children learn to execute the forms accurately. What was initially a conscious-cognitive-motor exercise gradually unfolds into instinctive motor control. This transition becomes therapy, i.e., as the form drawing becomes a less conscious activity, perfection in execution is the result. The perfection of a motor activity lies in the forgetting of the conscious process. For example, we learn to perfect our driving and writing skills by means of instinctive responses because the actual process of accomplishing the activity sinks into the subconscious and is consciously forgotten. Form drawing is taught in grades one through five, followed by plane, perspective and projective geometric exercise using compass, protractor and ruler in grades one through nine. The Waldorf children experience geometric patterns and figures prior to learning their mathematical bases. Not only do the children develop voluntary control over their gross and fine motor systems and expand their concentration abilities, but they also acquire the feeling for form, geometric relationships and harmony

The geometry in Eurythmy is taught simultaneously with the learning of number forms and the movements of the alphabet, which correspond to the vowels and consonants, in the first and second grades. (The alphabet method of reading is taught in the Waldorf schools.)

In the third grade, the Eurythmic movements for different sounds are sufficiently developed to present word pictures and sentences. The language of poetry, its content and inner beauty are stressed in the Eurythmy lesson.

In the elementary grades, Eurythmy exercises are given to develop alertness, a feeling for space and mobility, still others for the purpose of awakening social feeling by performing Eurythmy in group activities.

As the children progress through the grades, the manner of forming the Eurythmic gestures become more disciplined and precise. For example, Eurythmy is also used to correct careless handwriting and to bring the nine year old child into more conscious relationship with his/her environment.

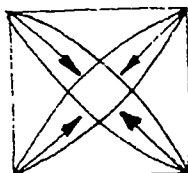
In the fourth and fifth grades, language is grasped more consciously through grammar in which the grammatical elements of speech are practiced through Eurythmic movements in space. Heydebrand (1966) explained

The child should make the forms in speech for doing words and for nouns. A line which runs forward awakens a different feeling from a curve running backwards. Through such forms which are the expression of the essential nature of the word, the child grasps the grammatical element of the language, not only with his head.

but with his whole feeling and will for life (p. 25).

At this time period, geometry in Eurythmy now includes the formation and the shaping of patterns as a group, 'knowing that in a square, for instance, each one is only a fourth of the whole and that they have to consider the movement of the three others in order to form the moving square shape' as in Figure 1

Figure 1



The children experience the feeling of a square by running the four sides, running the diagonals (which are longer than the sides), and finally running from the four corners to the center of the figure (arrows) and back to the corners again. The abstract square becomes real to the child. According to Van Oordt, "this is a cooperative effort that helps to build up a social feeling in their whole being."

Spiral Eurythmic exercises are employed for treating certain types of developmental, personality and physical disturbances. For example, the nervous, unconcentrated child can be quieted and strengthened psychologically through the use of the ingoing spiral (See Figure 2)

Figure 2



In contrast, the outgoing spiral is used for the withdrawn, self-conscious, slow child (See Figure 3).

Figure 3



In the fifth and sixth grades, Eurythmy is the vehicle for learning the classic melodies of Schumann, Mozart, Haydn and Bach. In addition, the content and various moods of poetry are stressed and experienced by means of Eurythmic movements. More complex geometric patterns, concentration exercises, exercises in control and group Eurythmic forms are practiced with the purpose of not only learning the subject, but to harmonize motor-movement, feeling and thought. In every school subject there is movement and motor activity

Eurythmy, which provides a compatible medium for learning and activity, brings feeling and will power into the educational process so that children led into this element cannot remain motionless or intellectual. Intellectual learning to elementary school children is pale.

passive, non-stimulating, and, in many cases, ineffective. However, learning that involves their whole being creates enthusiasm, eagerness to learn, interest and strength of character and physical body.

Since Eurythmy is a disciplined art of movement it not only is an ideal vehicle for vitalizing the learning process, making learning more concrete and practical, but it also forms the basis of a developmental motor-perceptual, body management program for all children. It helps to develop self-and space awareness, balance, coordination, a sense that the child, through carefully selected exercises, makes the effort himself/herself toward overcoming motor coordination and body management deficiencies. The physical body becomes a more responsive instrument to the mind.

There are many other aspects of Eurythmy. A description of this art of movement is highly inadequate in terms of understanding and feeling it. Seeing it and experiencing it is the only real basis for knowing it.

To become a professional Eurythmist requires four years of full time training, plus an additional year of training to become a curative Eurythmist. There are Eurythmy schools located internationally, and a list is available from the author. The two schools in the United States are:

School of Eurythmy, Dorthea Mier--Artistic Director,
285 Hungry Hollow Rd., Spring Valley, NY 10977.
Telephone: 914-352-5020.

Eurythmy Association of North America, RR 3 Box 76,
Great Barrington, MA 01230. Telephone:
413-528-0605.

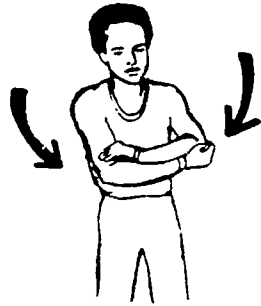
To understand Eurythmy, it is necessary to read Steiner's and other publications, visit Waldorf Schools (of which there are over 400, internationally) to see it being used, and, of course, attend an Eurythmy school.

The Eurythmic gestures not only provide a basis for learning to read and understand geometry, but also have a balancing influence on the participant. For example, the vowel movements express moods and emotions and help subtle difficulties of temperament and emotions. From a curative (therapeutic) aspect the A & B gestures enhance self concept and awareness, B facilitates the flow of secretions in the body, K and R help the digestive and metabolic processes while L assists the respiratory process and the U gesture facilitates the blood circulation in the lower extremities (Glas, 1971). Eurythmic gestures are illustrated in Figure 4

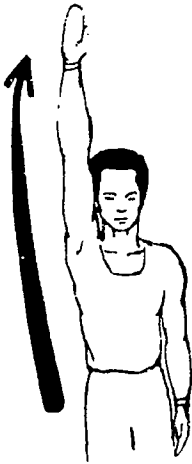
Fig. 4: Eurythmy Gestures



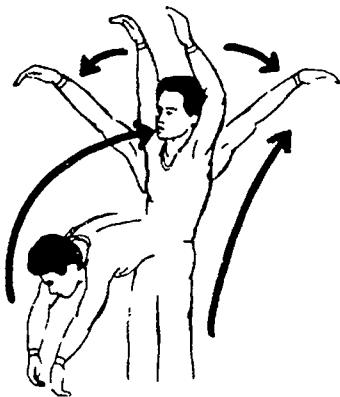
The vowel "a" movement is a crossing gesture of the arms. It can also be done with the legs.



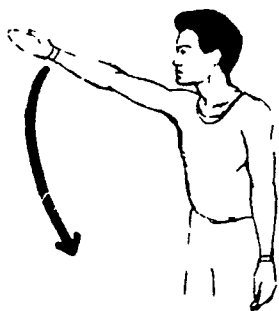
The consonant "b" movement is an embracing or cradling gesture, similar to cradling a small infant.



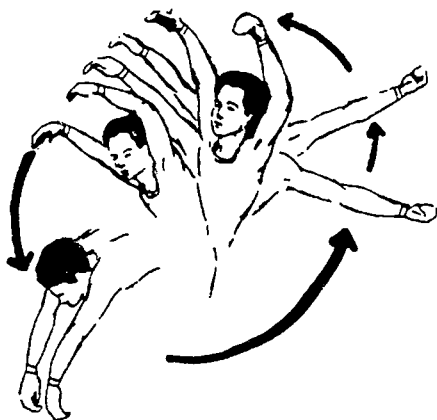
The vowel "e" movement is a thrusting (pointing) gesture with one arm pointing upward, the other downward.



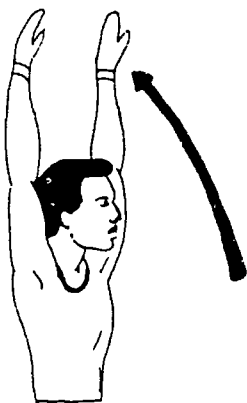
The consonant "l" movement is a vertical, upward gesture using both arms in unison. The motion is similar to the cascading of a water fountain, beginning at a single source at the base and dispersing at the crest in manifold arcs.



The consonant "k" movement is a downward, cutting gesture with one or both arms fully extended.



The component "i" movement is a forward rolling, rotating, or cartwheel motion of 360° with both arms.



The vowel "u" movement is an upward and/or downward gesturing of both arms held parallel, forming a "u".

* * * * *

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L'Eurythmie Art du Mouvement dans les Ecoles Waldorf

L'Eurythmie est une forme de mouvement thérapeutique contrôlée développée par Rudolf Steiner (1861-1925).

fondateur des Ecoles Waldorf. L'Eurythmie est utilisée dans le domaine des Arts, de l'Education et de la Médecine. Elle est employée dans le curriculum Waldorf afin de faciliter le développement physique et psychologique des enfants, et d'intensifier les domaines de l'elocution, des qualités linguistiques, de la géométrie et de l'éducation physique.

Eurythmie. Kunst des Bewe-gens in Waldorfer Schule

Eurythmie ist eine Form von kontrollierter therapeutischer Bewegung, entwickelt von Rudolf Steiner (1861-1925), dem Begründer der Steiner Schule. Eurythmie wird in Kunst, Erziehung und Medizin eingesetzt. Im Waldorfer Lehrplan wird sie gebraucht, um physische und psychische Entwicklung der Kinder zu erleichtern und um die Gebiete des Sprachvermögens, der Sprachkunst, der Geometrie und des Turnens zu vergrößern.

Euritmia: Arte de movimientos en las escuelas Waldorf.

Euritmia es una forma controlada y terapeutica del movimiento desarrollada por Rudolf Steiner (1861-1925), el fundador de las escuelas Waldorf. La euritmia es empleada en las artes, educación y medicina. Es utilizada en el círculo Waldorf para facilitar física y psicológicamente el desarrollo de niños y para mejorar las áreas del lenguaje, artes del lenguaje, geofísica.

Teaching Adult Learners Using Accelerated Learning*

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Abstract. This article describes a college level course taught to adult learners using a humanistic, global, and accelerated approach. It highlights the outcomes of replacing the traditional, industrial age student-teacher relationship with one that is student-centered, and collaborative. It suggests that teachers must provide education for the whole person, by sharing themselves in a contactful, energized relationship with their students.

* * *

Introduction

In the Health Arts Bachelor's Degree program at the College of Saint Francis, "Principals of Management" is a required, four credit course lasting 15 weeks. The degree program attracts primarily nurses, and other health care professionals. Many of them have not attended school for over 20 years, and doubt their ability to achieve success in the classroom.

*Paper presented at 12th Annual SALT Conference,
April 1987, Ames IA.

These evening school students bring with them the effects of a traditional public education: they expect the teacher to be the authoritarian expert who imparts knowledge primarily through didactic lecture, and then judges students by their performance on exams. At the end of the term, the teacher assigns a letter grade designating students from the "best to the worst." Students expect to play the passive role of absorbing data, and regurgitating it on exams, all the while conforming to rigid rules, and in search of the right answer.

The 23 students in my class were all females, ranging in age from 21 to 55 years; they are employed as nurses in hospitals or nursing homes. They pursue a BA degree to meet increasing career demands of their field. A secondary goal for many is to achieve personal growth and self-actualization.

Attendance in the weekly class meeting represents a number of sacrifices for students: they must meet in the evenings after working all day, they must forego time with their families, and they must place themselves in a potentially stressful environment where competition and resourcefulness are challenged.

Goals

The 15 week class was structured around the following goals:

- 1) I wanted the students to be actively involved in their own education, to see themselves as partners with me, and to have an experience of success in the classroom
- 2) I wanted them to see management from a global perspective, and to understand the impact

of the Information Age on management practices, and its implications for the future.

- 3) I wanted the students to be empowered as women, to recognize and appreciate the unique strengths that women bring to the workplace

Methods

The methods applied to teaching the course included:

- a) a pre-class letter of introduction greeting the students, instilling energy and enthusiasm for the upcoming class
- b) distributing copies of the Final Exam on the first night of class to firmly convey my belief in the goal of true education, to draw out of students what they already know, and to further demonstrate my relation to them as a coach and a partner in their learning discoveries
- c) lecturettes lasting no more than 45 minutes, plus the use of metaphors, and story-telling in the presentation of materials
- d) group activities, including experiential exercises, group discussion, film-viewing, and self-assessment instruments on management style, listening skills, assertiveness, etc
- e) guest lecturers on two evenings, presenting real world issues in management
- f) independent projects on subjects chosen by the students for their interest and relevance.
- g) a circular seating arrangement so that everyone could feel part of the whole group and be able to make eye contact with each other
- h) bonding activities, including a pitch-in supper at the end of the semester and encouragement to share special events within the group (promotions, awards etc)

- i) what's happening board for posting poetry newspaper articles, book reviews, and other items of interest to the class, especially related to women in management.
- ji) a brief relaxation exercise during the last 15 minutes of each class to help members make the transition from class to the return trip home, and to encourage the use of relaxation methods for enhanced health, learning, and, creativity
- k) the assignment and inclusion of Toffler's *Third Wave*, and Peters and Waterman's *In Search of Excellence* as texts, as well as a standard management text.
- l) the showing of the video, "The Global Brain" by Peter Russell, and "One Fine Day" by Kay Weaver.

Results

Each of the 23 students completed the class; there was an extremely low incidence of absences during the semester and a high level of enthusiasm as the semester progressed. One student remarked on the last night of class that she had been "depressed" during the day as she realized that we would no longer be meeting on Thursday nights and that the semester was at an end. No student achieved below a B grade level for the course as a result of their participation, creativity, and thorough understanding of the material presented

One clear demonstration of the enthusiasm level were the 12 different independent projects presented in class; they covered a multitude of topics, including, Women in the Media, The Art of Listening, Management with Enhanced Perception, Androgyny in Management, Motivation and Leadership, and Selling Yourself in Today's Market. While some students presented by themselves, others worked in collaborative pairs, all of

them chose topics based on their genuine desire to explore such areas. Many of the presentations showed great creativity, one team's project was in the form of an original skit, another was a video tape made of the subject, and another combined a video with music and a decorated cake that spelled out 'Motivation.'

Three of the students subsequently accepted promotions into management at their place of employment; another three attended a weekend retreat for women that I co-led during the month after the semester closed. Two of the women left nursing, and began actively networking into new careers, and, finally, several students were responsible for recruiting me as a presenter at a statewide occupational health nurses conference, and at a mental health association workshop for women. Perhaps one of the most pleasant experiences for me occurred towards the end of the semester, when students discovered it was my birthday, and they sent me flowers with a card inscribed 'To our mentor with Thanksgiving on your birthday.' I have had letters and phone calls or personal visits from several of the students since the class met last, and have enjoyed the continuing contact.

The following is a sample of student evaluations

The entire class was a study in leading people by using new age management principals. The class was participatory, student-oriented you shared all the information (some of which we co-created). There was diversity, flexibility, and cooperation. We were empowered to be creative and take charge of our learning. A picture is worth a 1,000 words, and you painted one that I will remember. Bravo!

This course has given me more self-confidence and has made me realize that there are other ways to manage people besides the hospital's way. This course has encouraged me to grow . . . If I were to manage, I believe I would be much less authoritarian than I would have been before. I feel I would be more respectful of other human beings and their thoughts and dreams."

The relaxation exercises I loved! I'm a person who *never* relaxes, and I just loved learning how to do that, let go and learn so easily."

This class has given me confidence in knowing that I can succeed in college . . . I like one-on-one teaching . . . I can see how the world has shrunk and continues to do so with the wake and explosion of the New Age. It's exciting to know I can live to be a part of it, to see the transition. Thank you for making this class fun for me . . ."

"This course is the first one I've taken that I felt comfortable and truly receptive to feedback. Giving the independent project increased my communication skills because I was able to get verbal and written feedback which was very helpful."

I have learned one's personal and professional life are closely interwoven. A person who feels good about herself is more likely to be successful in a professional managerial role."

Self-esteem is the most important value I have obtained. In spite of this being a terrifying time in history, this class gave me the greatest gift of all -- and that is HOPE!"

By giving a presentation to the class on the subject I find very interesting and worthwhile. I found that I could easily express my ideas and feelings. The meditation helped me to *believe* I could do it, but I think that the key was that I felt *what* I had to say was worth hearing. Possibly, if I could see my own ideas as a bit more worthwhile, I'd have no trouble expressing them. A flash of insight!

Discussion

Accelerated learning represents much more than a method, or strategies for helping people learn quickly. Its most basic premise is to create a learning environment in which persons can be fully engaged emotionally, intellectually, and spiritually. It reaches the whole person in the context of a team where teacher and student are equal partners. Towards this goal, the student's comfort, confidence level, and ideas are respected and paramount in importance to the teacher. It is a caring relationship.

Adult learners have special needs: the demand upon their time and energy levels are often great. Accelerated learning is an especially attractive approach for this population, given its attention to a relaxed atmosphere in the classroom and its promotion of easy learning.

In addition, nurses are a unique group of students and their long history of service has not demanded a college education in the past. Indeed, three year nursing programs were considered the premier method of training. Over the past decade, however, pressures have been exerted to require at least a BA degree in order to meet hospital administration policies, and the American Nurses Association standards. While younger nursing students attend degree programs during the day

on a full-time basis, many older nurses must work full-time and go to school in the evenings. They must juggle the roles of nurse, homemaker, parent, and student. School, for these individuals, is one more burden to be borne in a fast-moving world.

Furthermore, nurse-managers are struggling to achieve greater autonomy in decision-making, and more respect from physicians and hospital administrations.

To teach a course on management to these students without taking into account these issues and conditions would be ineffective. Also, it is important for students to recognize the "Big Picture", and to understand how the dramatic changes in nursing are happening elsewhere. Health care, after all, does not exist in a vacuum; what goes on there is subject to all the outside influences that occur within a shifting culture, and an increasingly global economy.

A humanistic orientation toward teaching, in combination with accelerated learning techniques is a powerful approach to meeting the needs of contemporary students. In this mode, teachers can work in concert with students to capture information, make it fun to learn, create a challenging yet relaxed atmosphere, and make the connection to the real world that the student works in daily

* * * * *

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Enseigner aux élèves-adultes en utilisant la méthode accélérée

Cet article décrit un cours enseigné à des adultes - au niveau de hautes études - avec l'emploi d'une méthode humaine, globale et accélérée. L'article met en lumière les résultats obtenus en remplaçant le traditionnel rapport professeur-élève de l'ère industrielle par un rapport de collaboration, centré essentiellement sur l'élève. L'article évoque l'idée qu'il est très important que les enseignants entourent l'élève dans son entité et qu'ils prennent part à l'accomplissement de leur but en créant un rapport énergétique et riche en contact humain avec leurs élèves

Erwachsene Schüler werden gelehrt, das beschleunigende Lernen zu gebrauchen

Dieser Artikel beschreibt einen Universitätskurs für Erwachsene, der mit humanistischer, globaler und beschleunigender Methode gelehrt wurde. Die Betonung

liegt auf dem Ersetzen einer aus dem Industriezeitalter traditionellen Schüler-Lehrer Beziehung durch eine, die Schüler-konzentriert und zusammenarbeitend ist. Es wird vorgeschlagen, daß der Lehrer eine Ausbildung der ganzen Person festsetze, indem er selbst an einer kontakt- und energievollen Beziehung mit seinen Schülern teilnimmt.

Enseñando a adultos aprendices utilizando Aprendizaje Acelerado

Este artículo describe un curso a nivel universitario en lo cual enseñaron a adultos aprendices utilizando humanístico, global, y acercamiento acelerado. Es como si altas luces de afuera vieran a reemplazar lo tradicional, la edad industrial del estudiante-maestro y la relación con el estudiante-centro, y colaboración. Esto sugiere al maestro que debe proporcionar educación para la persona en sí y compartir con ellos mismos en un contacto lleno y energizado en la relación con sus estudiantes.

Music as Mnemonic Device in Second Language Learning*

Linda Dejin Xia and Loren Alexander
Kansas State University

Abstract. This study is based on a ten-week Chinese musical program to teach 34 American fourth graders in a local elementary class to learn Chinese conversation. The course was divided into 20 sessions with 45 minutes for each session. The experiment investigates the application of mnemonic principles such as imagery, chunking, serial learning, association, context and rhyming in musical TPR, language songs and imagery music. Qualitative outcomes of the study show positive effects on learning motivation, language acquisition, creative expression and learning retention.

* * *

Introduction

The Chinese language has generally been regarded as the most difficult foreign language by many Americans. Despite a common attitude that learning Chinese is very difficult, the statistics also indicate objectively that to reach the same level of language proficiency, it takes 2-3 times longer in the study of Chinese than of the European languages (Omaggio, 1986). However, the fact

* Paper presented at the 1987 SALT Conference in Ames, Iowa

that music is a daily experience for most people regardless of age, sex or social background gives credibility to its significance for language learning. Since Lozanov first used Baroque music to create conditions for relaxation and subconscious learning with adult learners, the relaxing and soothing effects of music have been adapted to students of any age at any level of second language proficiency (Lozanov, 1978; Schuster & Gritton, 1985; Schaefer, 1980; and Bancroft, 1982). If one compares musical tempo with speed of speech, rhythm with cadence, melody with intonation, and lyrics with written text, one will find that music and human language share many common aspects (See Appendix). It is interesting to see that these dynamic units of music can be used to their best advantage as a springboard to overcome both psychological and pedagogical barriers in second language learning.

Jakobson (1980) categorizes language into two aspects, the intellectual language to the left hemisphere and the emotional language to the right hemisphere. Based on his neurolinguistic research on subjects with cerebral lesions, he discovered that though the speech components depend on the left brain, all other audible stimuli such as environmental noises, intonation, coughing, laughing, yawning and so on, are tied to the right side of the brain. Paivio (1979) pointed out that information is processed by two mental systems: the imagery system, which stores information in nonverbal memory representing spatially organized events, concrete objects, and imagination; and the verbal system, processes with either auditory or visual images of words. Although the verbal mediator operates in a more nearly symbolic and linear level, Paivio believes that memory images are a crucial mediating mechanism for verbal expression. Since traditional second language teaching

approaches have often been preoccupied solely with verbal learning, music can certainly integrate the emotional components into the linguistic skills to increase learning retention.

Introduction of the Study

Subjects for this study were 34 local elementary fifth graders, ages 10 to 11. The program consisted of ten musical lessons, which were taught in 20 sessions. Songs and music used in this program to enhance language instruction were composed, sung or played (on piano) by one of the authors (Linda Xia). During the whole course, spoken language instruction was comprehended mainly through pictures, nonverbal cues or contexts instead of using the first language translation. Listening comprehension, oral production and motivational aspects were evaluated at the conclusion of the course through a picture multiple choice test, memorization game, and a student feedback questionnaire. The purpose of the study was to investigate if different strategies of using music can lower psychological barriers in second language acquisition and accelerate learning.

The following is a discussion of three self-designed musical projects in this program.

Language Song

Language songs used in this program were made from dialog, rhyme, or texts consisting of five or six sentences. The melodic lines in language songs are generally based on the intonation of natural speech, as are the rhythmic patterns. Another feature of language song is its application of imitative words and repetition, such as Little dogs, little dogs, bark bark bark bark under the tree; little cats, little cats, miao miao miao miao by the tree, little birds, little birds, twitter twitter twitter twitter on the tree

Generally Linda Xia used three steps to teach a language song:

- (1) Achieve comprehension of the lyrics through various comprehensible channels -- contexts, pictures or nonverbal cues.
- (2) Rhythmic reading of the lyrics with exactly the same rhythmic pattern that is going to appear in the song.
- (3) Singing: Add melodic lines to the lyrics. The singing could be repeated 4-5 times until the students can sing in chorus without the help of the instructor. Most of the songs are combined with acting during singing. Generally one or two songs are taught for each session and all the songs will be reviewed in the same steps: comprehension, rhythmic reading and singing.

Discussion and Results

Eight language songs were taught during the whole course. In response to one of the questions in the questionnaire at the conclusion of the class "Music and songs helped me a lot to memorize Chinese characters", 33 students out of 34 marked 'yes' and only one student marked "undecided". Responding to another question in the same questionnaire: "I can sing more than five Chinese songs now", 25 students answered "yes", six students answered "undecided", and only three students out of thirty-four answered "no". A language song also helped lessen the boredom of repetition by building up a communicative atmosphere. It was noticed that the greeting song "Hello" was repeated six times in one session and "Hello" in Chinese was sung at least 24 times. However, it is significant that there was not the least sense of boredom indicated on the part of the learners.

Musical TPR

Total Physical Response (TPR) is a teaching method focusing on listening comprehension by eliciting physical response from the listeners (Asher, 1977). Musical TPR uses dramatic changes of tempo, rhythmic pattern and intensity in music to suggest physical movements together with oral commands. Tempo and rhythm are two key factors in musical TPR; however, a dramatic change of intensity can also change the mood of the action. Musical TPR can be used for isolated commands as well as for nonverbal story performance. In musical TPR stories students merely react to the music and the narration by physical movements, such as acting the story "Race between Tortoise and Rabbit".

Discussion and Results

It is believed that TPR activity involves primarily the use of the right hemisphere of the brain, though at the beginning stage the left brain is activated in reasoning and comprehension. With this logic, music combined with TPR activity may further emphasize the functioning of the right brain and thus increase relaxation, subconscious learning, imagination and emotional involvement. One student wrote in her diary about musical TPR: "Today, we played a neat game. I wish we could play it more." Another student remarked, "I think the music is helpful. I could do better when you (Linda Xia) mixed your order with the music." Again, written observations on musical TPR show that the students succeeded in responding to the melodic suggestion of the music while they failed to do so to the oral commands.

Imagery Music

Imagery music is used in the background for story telling or vocabulary introduction or skit performance. To present a vivid image of a certain character, such as

a boy, a dog or a bird, is to find out the right pitch and volume (high or low, loud or soft), and the typical speed and rhythmic pattern to indicate the character's physical movements or personality, then create a musical theme or imagery by combining the melody with the above factors. For example, the image of a bird can be reproduced on piano by playing a trill in the higher octaves, and the dog can be created by playing some inharmonious chords in the lower octaves. Delicate little animals such as the squirrel or the lamb are usually played softly; violent creatures such as the lion, the wolf or the monster are often represented by rough and heavy touches on the keys.

Discussion and Results

Imagery music not only enriches the environment for language acquisition, but also acts as an indirect channel to convey language instruction in a suggestive way. In a musical story, imagery music vivifies the characters, provides food for the students' imagination, and thus encourages greater student participation. It is interesting to see that when the character's leitmotiv was played with the narration for the second or the third time, the students naturally joined the activity by imitating the barking or crawling of the dog, or straining their voice to talk like a bird. One student said after the class that the language was hard, but music had made it easy.

Summary and Discussion

Through using the soothing Baroque music in Suggestopedia, and the suggestive effects in musical Total Physical Response, imagery, music and language songs are correlated closely with the meaning of words. While relaxation in Suggestopedia is achieved through a certain period of "Pseudopassivity" (Lozanov, 1978), a stress-free atmosphere in the above musical projects

was acquired through active stimulation of the melodic images. In an informal memorization game (say the picture objects in Chinese) to test the retention of 30 objects learned in this program, the retention rate was as high as 85 per cent.

It is amazing to see that the mnemonics which have been practiced for many centuries are working in harmony with the recent holistic brain approach in this musical program. It is suggested in numerous memory studies that subjects gain accelerated learning speed when they are in a better mood for learning, when abstract and unfamiliar words are associated with concrete and familiar things, when vocabulary is presented in meaningful contexts, when isolated words are neatly grouped into chunks or arranged in serials, when (actual or imaginary) physical movements are related with language instruction, and when imagery is used to assist comprehension (Higbee, 1977, Atkinson, 1975; Dean, 1983; Gadzella, 1975; & Halpern, 1984). Obviously, the suggestive effects of music, or rather the suggestive music in language songs, musical TPR and imagery music can play an active role in fulfilling the following tasks:

- 1 *To Lower Anxiety:* The aesthetic effects in music and songs, rather than their soothing effect, create learning enjoyment, active participation and motivation.
- 2 *To Enhance Physical Response:* Tempo, intensity and rhythmic pattern, which are combined together as a dynamic portion in musical TPR, add imagination and excitement in language learning.
- 3 *To Suggest Context:* The emotional and imaginative force of music can indicate a specific theme or a certain atmosphere, which creates an assimilated and contextual learning environment in language acquisition.

4. *To Associate:* When lyrics are sung with music, new and unfamiliar words would become associated with pleasant melodic expressions. The melody can later on serve as a cue for lyric memorization
5. *To Organize:* Discrete sentences are chunked into a pattern or flowing thought with the melodic continuity. People recite songs better than stories as the information is processed in a more organized manner and they more easily retrieve the information through the key of chunking and serial learning.
6. *To Activate the Right Brain:* When language instruction is taught in the form of music, the imagery system as well as the verbal system is activated. The suggestive effects of music on imagery, physical movements, context and emotional atmosphere obviously tap the rich mental reserve of the right brain. Thus more accelerated learning acquisition and learning retention can be accomplished

Although the impact of music is probably too subtle to assess at various psychological levels, findings of this study reveal a close relationship between suggestive effects of music and accelerated learning retention. When music and songs are used popularly in the second language classroom, the science of music in second language learning and teaching will surely become an area of more intensive research

* * * * *

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* * * * *

Appendix

Basic Components of Music Relative to Language

MUSIC	LANGUAGE
1. Musical Note. Harmonious sound, denoting tones of the 12-tone scale of European origin	1. Linguistic Unit: Basic linguistic sound produced by the human voice
2. Quality: Variance of tone color produced by different instruments or people.	2. Quality: Pitch and color of the human voice which varies from person to person.
3. Melody A group of musical notes in a succession to express a certain thought.	3. Intonation. Change of stress and pitch in oral communication in order to be expressive.
4. Tempo Speed of beat in a musical piece	4. Speed of Speech The rate at which a person speaks.
5. Rhythm A group of tones organized in a recurring time pattern	5. Cadence Pause and change of speed in expression.
6. Lyric Words or sentences sung harmoniously with melodic lines, usually rhymed	6. Sentences Words combined linguistically to express thought.
7. Imagery Musical notes grouped in certain rhythmic and melodic patterns to present musical ideas	7. Word Description words or sentences constructed to describe a certain object, thought, feeling or situation
8. Musical Theme. Certain musical style to suggest specific atmosphere or setting	8. Context: A series of sentences incorporated to suggest a specific situation
9. Mood The emotional part of a musical piece communicated by melody in particular.	9. Way of Expression Choice of words or use of tones to indicate the state of mind and feeling
10. Intensity. Loudness or softness of the acoustic effects in musical performance	10. Volume of voice. The amount of sound a person uses in his/her speech

La musique: moyen mnémonique dans l'étude d'une seconde langue.

Cette recherche est basée sur un programme de musique chinoise d'une durée de 10 semaines aux fins d'enseigner la Conversation en Langue Chinoise à 34 jeunes écoliers américains de 9ème année auprès d'une école primaire locale. Le cours fut réparti en 20 sessions de 45 minutes chacune. L'expérience permit d'examiner en détail les résultats de l'application de principes mnémotiques tels l'image, l'arrangement partiel, l'étude en série, l'association, le contexte et la rime dans le TPR musical, les chansons en langue-cible et la musique imagée. Les résultats qualitatifs de cette expérience révèlent à quel point la motivation des élèves, leur acquisition de la nouvelle langue, l'expression de leur créativité et leur capacité à retenir la matière répondent affirmativement aux effets positifs de la musique.

Musik als Gedächtnishilfe beim Fremdspracheunterricht

Diese Studie basiert auf einem zehnwöchigen Chinesisch-Musikprogramm. 34 amerikanischen Viertklässlern in einer lokalen Grundschule Konversation auf Chinesisch beizubringen. Der Kurs war in 20 Sitzungen, je 45 Minuten, unterteilt. Der Experiment erforschte die Anwendung von mnemotischen Prinzipien wie Bildersprache, Klumpen- und Setielernen, Assoziationen, Kontext und Reim bei musikalischem TPR (physisches Erwidern), Sprachlieder und bildliche Musik. Qualitative Ergebnisse dieser Studie zeigen positive Wirkungen auf Lernmotivation, Sprachaneignung, kreativen Ausdruck und Behalten.

Musica como estratagema mnemónica en el aprendizaje de un segundo idioma.

Este estudio está basado en diez--semanas de un programa musical Chino para enseñar a 34 Americanos en una escuela elemental local para aprender conversación China. El curso fué dividido en 20 sesiones con 45 minutos para cada sesión. El experimento investigó la aplicación de principios mnemónicos tales como imaginación, aprendizaje seriado, asociaciones, concursos, y ritmo en musica TPR (con actividades psicomotrices), canciones en el idioma e imaginación con música. La cualidad viene del estudio y demuestra efectos positivos como motivación en el aprendizaje, adquisición del idioma, expresión creativa y retención en el aprendizaje.

The Magic Feather:
The Truth about Special Education

by Lori and Bill Granger
E.P. Dutton, New York, NY 1986. pp. 259 \$16.95

Reviewed by Earl J. Ogletree
Chicago State University, Chicago, Illinois.

Are too many children being labeled as handicapped? According to recent articles, such as "State Suspicious of Handicapped Label on Students," that appeared in the October 7, 1984 issue of the *Chicago Tribune*, the reported disproportion of minority children in special education programs (The School-age Handicapped, Contract Report, U.S. Dept. of Educ., 1985) related studies and the current book, *The Magic Feather.....*, there appears to be an 'overkill' in special education placements.

Some may question the objectivity of *The Magic Feather.....* written by the authors who revolted against the public school system when their child Alex was mislabeled as having an IQ of 47 and a learning disability. Alex's parents were told by school psychologists administering the tests that the test results were incontrovertible, and Alex would have to be placed in a special education classroom, despite the fact that the child could read several years above his grade level-- and proved it. The book is not only a story of their battle to save their child from the Special Ed Trap and criticism of their nonscientific basis of special education as a field of knowledge but to help parents who face real problems with the schools and their children.

Bill and Lori Granger, although involved in the emotional turmoil of fighting for the future of Alex's edu-

cation and life, are well qualified to write this investigative-reported book. Bill is a columnist for the *Chicago Tribune* and the author of 16 novels and a contributor to national journals. Lori Granger is a teacher, writer, newspaper editor, political consultant and a doctoral candidate at the University of Chicago. The proselytizing somewhat biased narrative is balanced by statistical data, interviews and expert testimony. The authors appear to make a damning case against special education and its overuse:

1. Nearly 11 percent of the nation's school children are currently confined in special education, while only 3 percent, at best of all school-age children might benefit from special education placement.
2. "More than one million school children are classified as mildly handicapped."--learning disabled, mildly retarded or emotionally disturbed.
3. National surveys show teachers identify nearly 60 percent of their students as needing special or remedial help.
4. According to the National Center for Education Statistics, teachers identify a little over 20 percent of their students as being handicapped and in need of special education.
5. Racial and ethnic segregation are enforced by using special education programs. For example, current national data show blacks make up only 16 percent of the students in the U.S. but they account for 39 percent of the students in the educable mentally retarded population. In 1980 a parent group in Chicago protested the misplacement of over 7,000 children in Special Ed classes and also found that black children were twice as likely to be placed in such classes as white children. A 1985 U.S. Department of Education report concluded, "The proportion of blacks in schools for seriously emo-

tionally disturbed students is higher by two thirds to three-quarters than the comparable proportions of whites.

- 6 Since the passage of PL 94-142 (The Special Education Law), the number of children classified as handicapped has increased dramatically.

The authors believe that there is something wrong with a system that increasingly justifies its growing failure rate (54 percent of Chicago public school students dropout before the twelfth grade) by calling more and more children mentally defective. They also claim there is a profit motive behind the rush to classify in that for each child successfully placed in a special education program, a school district receives four thousand dollars in government monies. The Grangers support this assertion by their experience. They took their son, Alex to an Evanston, Illinois hospital for independent testing, for which they paid, hoping to get a more honest and objective appraisal. They relate,

We still remember the happy psychologists who had cried 'I've got one! I've got one!' We discovered that the local school district would gain more than \$4,000 in salaries, contracts and supplies, if Alex were placed in full-time special education.

The Grangers blame the misdiagnosis of children as mental and behavior misfits and the disproportionate assignment of the Hispanic and Black children to special education programs to the nebulous speculations as to what constitutes a special education child or program. No one knows what a "learning disabled" child is, and the difference between him and another called "emotionally disturbed" or "retarded" may be non-existent. What the authors learned via investigative reporting is

"there is no accepted body of scientific knowledge that has found the causes of school-based problems--or agrees on the cures." They claim that educators who say they are basing their diagnosis or conclusions about a child on scientific findings are lying. They also adamantly assert that what labeled special education children have in common is that the regular classroom teacher rejects them. "They do not fit in, and their teachers did not like them."

Another reason for the mislabeling, according to the writers, is how retardation or disability is measured. They claim "Very imprecisely. Instead of getting information from parents' real descriptions of the child's out-of-school behavior, educators rely on the old "standbys," the IQ tests and teachers judgments. This increased reliance on testing and labeling, according to Gerald Coles of the Rutgers Medical School in *Harvard Education Review*, is that,

"By positing biological bases for learning problems, the responsibility for failure is taken from the schools, communities, and other institutions and is put squarely on the back, or rather within the head, of the child . . . It is the classic example of blaming the victim."

Bill Granger vented his frustration with Special Education in his weekly *Tribune* column. As expected he attracted supporters (parents, teachers, principals to school-system superintendents and organizations) as well as detractors who attempted to get him fired from his column. To Alex's good fortune Dr. Daniel Hast, an optometrist who read the column, contacted the Grangers, stating he could help the child. He found that Alex had a lazy eye that prevented him from focusing both eyes in unison. Eye glasses and therapy corrected

the problem. Alex's IQ, reading scores, attention span, speech and handwriting improved rapidly. The Grangers received a stream of testimonials from parents and educators who had similar experiences in which the basis of seemingly diagnosed mental disabilities turned out to be visual, hearing or medical problems. Thousands of parents and educators shared their own problems with special education with the Grangers in the course of writing their book.

The Grangers are on a crusade. The intent of the book is to relate their own experiences with a misdiagnosed child, their interpretation of the bases and special problem in laymen terms, advise on what is wrong with them, and to remind parents that they are the "primary" teacher and no one is going to save their child except themselves.

Although, *The Magic Feather.....* gives only one side of the special education issue, the troubled parents' viewpoint, it makes one aware of the quality of American education and provides another view and, perhaps, a much needed evaluation of Special Education from the lay person's perspective. The Grangers' book should be read by parents, educators, psychologists and legislators in hope that the diagnostic techniques, education and treatment of children who are different will be enhanced.

THE JOURNAL OF
THE SOCIETY FOR ACCELERATIVE
LEARNING AND TEACHING

Volume 12, Number 3 & 4

Fall & Winter, 1987



*Published by the Society for Accelerative Learning and
Teaching, Inc.*

ISSN 0273-2459

012

THE JOURNAL OF THE SOCIETY FOR ACCELERATIVE LEARNING AND TEACHING

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For subscription, send order to: SALT Journal, Psychology Dept., Iowa State University, Ames IA 50011. Subscription rates \$20.00 per year, individual subscription. Outside U.S. add \$15.00 per year for air mail (Canada and Mexico, same as US). Back issues \$7.00 per copy, \$12.00 per doubled copy. List of available back issues sent on request. Copyright 1986 by the Society for Accelerative Learning and Teaching, Psychology Dept., Iowa State University, Ames IA 50011.

Mailing Permit 190, Ames, Iowa 50010

Printed in the U.S.A.

Music and Accelerative Learning: Some Historic and Current Applications*

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Abstract.

Music has long been recognized as an art, science and form of therapy, in myth and legend. Modern scientific methods have enabled objective studies to be undertaken which show how music can exert both harmful and beneficial influences on the individual's psychological, physiological and neurological make-up. The acoustic environment, which includes music as well as other sounds, has undergone profound changes over centuries resulting in altered "soundscapes". Since musical sound has the capacity to promote well-being, which is in turn an essential pre-requisite for effective accelerative learning, then appropriate uses of musical sound need to be thoughtfully applied. This paper reviews reports of three different investigations into specific uses of music: as an aid to language discrimination in young children, as a means of alleviating laboratory-induced stress, and as a positive influence on the regulation of some functions of the autonomic nervous system.

* * *

This paper examines some ancient and evolutionary uses of music in society together with some current applications. For many people, music is an art, or science, or recreation, or perhaps even a "spiritual force", but as I hope to illustrate, it is certainly more than these things. Music has long been recognized as a "harmonizer of the spirit", as a healing and therapeutic agent and as a backdrop - often unconsciously perceived - to many aspects of daily life. In this capacity, the use of music may be planned or spontaneous, obtrusive or helpful. Music has a vital part to play in the educative process - and particularly in accelerative learning, but we need to reflect on some of its historical associations before *thoughtfully* applying it in a modern scientific manner.

There are many references from antiquity which we can peruse for reflection. Some of our sources are historians, some illustrations and relics, and some great works of literature such as the scriptures. Some examples are:

Plutarch reported that at human sacrifices in *Phoenicia*, centuries before the Christian era flutes and drums were used 'so that the cries of the wailing should not reach the ears of the people' (Sendrey, 1974).

The ancient Hebrews regularized the use of song as 'enhanced speech' for religious incantations, but 'song' probably grew out of primitive speech formulae which gradually crystallized into song - the first 'tunes'. Instrumental music, on the other hand, probably began as a reaction to the motor impulses of the body; it was

* Paper given at the SALT Conference, April 1987 in Ames, Iowa.

certainly unemotional and at its lowest stage was entirely *rhythmic* (beating thighs, stamping on the floor, use of drums, pipes and horns or trumpets (Sendrey, 1974).

The Hebrews gradually developed choral and instrumental music as part of their religious life – this was called *prophesying* in the Bible, and according to the author Alfred Sendrey, must have exercised a fascinating, even hypnotic effect upon the people of those times, as evidenced by the experiences of Saul and his messengers:

'And Saul sent messengers to take David: and when they saw the company of the prophets prophesying, and Samuel standing as appointed over them, the Spirit of God was upon the messengers of Saul, and they also prophesied.'

Notice how 'prophets' and 'prophesying' are separable.

Another interesting Biblical reference (there are many) is to be found in the superscription of the Fifth Psalm which uses the expression; "To the chief Musician upon Nehiloth".

One scholar, Mowinckel (Sendrey, 1974), has claimed that this psalm was used specifically 'against sickness', however, it was the supposed healing power of music that accounts for many of the legendary tales throughout the centuries, perhaps David's curing of Saul's melancholy' by playing the harp being the most famous.

Also, we have many accounts from earliest times of the use of worksongs to relieve stress, boredom, fatigue and drudgery. Often these worksongs were in fact Psalms. Another scholar, Chrysostom, mentions

some of the professions in which singing was customary because of its rhythmic regularity: nurses' rocking babies, wagoners' driving animals, vintagers' treading grapes, sailors' pulling the oars, weavers' tossing the shuttle. However, a talmudic report states:

'The singing of sailors and ploughmen is permitted to facilitate their work, but that of weavers is prohibited because weavers sing out of frivolity' (Schafer, 1977; p. 64).

But the Talmud also reports another use of music - the blowing of the sacred horn, the *Shofar*, at public places in hard economic times such as the decline in trade or decrease of money's buying power (i.e. inflation) (Sendrey, 1974).

The legends and achievements of Orpheus over thirteen centuries B.C. have been recognized by a modern neurologist, Schipkowensky, as those of a healer-songster 'who would tame wild beasts, that is, man's passions, by his enchanting music; move rocks, that is, reach the bottom of even the most unfeeling hearts, cure patients, and even revive the dead.' (Schipkowensky, 1977). It is interesting to speculate that at a time of comparative clinical primitiveness, the 'clinically dead' and the 'actual dead' were often not correctly identified.

In the old Olympic games dating from seven centuries B.C. music and singing accompanied the processions (Sendrey, 1974). By contrast, everyone is familiar with the music used at the modern Olympic games - for example, the playing of national anthems at the medal ceremonies.)

Incidentally, a special Greek instrument - the Aulos - a kind of double oboe - was used to accompany such

sporting activities as the discus, high jump and javelin - this may be compared with the modern aerobics class, with its apparently compulsory accompaniment of beat-oriented rock-type music.

Such specifically applied use of music was also the predominating influence in the later Roman empire, during which in particular, the use of brass instruments for military and outdoor entertainment purposes was strongly developed. Again according to Sendrey (1974), 'The basic principle of Roman music is generally considered to have been *solida utilitas* - practical usefulness'.

'However the greatest merit for the creation and development of the musical science of the Greeks belongs to the philosophers, Plato, Aristotle and Aristoxenos. Although Plato was no expert in music he developed basic thoughts about the influence of music upon the mind and character of man, and is the originator of the doctrine of ethics in music. Aristotle's conception, was that music possessed, by its very nature, the faculty to influence the soul of the listener in a specific way. (And it was widely held that) by its power of healing, music could also achieve moral purification and recovery (or *katharsis*)' (p. 380).

I will touch on some contemporary aspects a little later.

All of the examples chosen for this brief survey illustrate one or more of these ancient uses of music -

- (1) to mask other sounds,
- (2) as a heightened form of speech,
- (3) as a calming or soothing agent,
- (4) as a therapeutic agent,

- (5) as an accompaniment to other activity such as work, religious or secular ritual, and recreative activity such as sport.

A most enlightening approach to the history and ethics of environmental sounds and music has been made by the author Murray Schafer in his book *The Tuning of the World*, (1977). In this fascinating account Schafer has surveyed the history of environmental sounds from antiquity to the present day, with conclusions drawn from a number of researchers involved in an international study called the World Soundscape Project. The word "Soundscape" is here analogous to "landscape" and refers to the sounds - both natural and artificial - pleasant and unpleasant, in the changing social environments over the centuries. Schafer reminds us of the significance of many sounds - some now extinct - which provide a backdrop to daily living - and profoundly influence the community. Some examples include church bells, military bugles and drums, the posthorn, the fog-horn, the curfew bell, the cathedral organ, folk music and dancing, street musicians and songs of work - there are obviously many others. All of these sounds in the Soundscape carried emotional and aesthetic messages which provided a backdrop to daily life.

Most of these sounds were affected in turn by the change from rural to urban life - some disappeared and new ones were created. For example, the advent of the industrial revolution brought a new range of mechanical sounds - the clatter of machinery, conveyor belts, steam engines and whistles, jacks and hammers. The ambient noise level rose (and incidentally remains high today.) Against this backdrop it was no coincidence that worksongs and street musicians gradually faded away, and that music gradually moved indoors.

As Lewis Mumford (1934) put it in *Technics and Civilization*, 'Labor was orchestrated by the number of revolutions per minute, rather than the rhythm of song or chant or tattoo.' Not surprisingly, the first of many subsequent laws enforcing noise abatement were enacted (Schafer, 1977).

By far the most important influence on environmental music and sound came in the nineteenth century - in what Schafer calls 'The Electric Revolution'. Its gradual consequences led to the electric cell, the dynamo and the electric arc light, the telegraph, telephone, phonograph and radio (later, the tape recorder). Radio was particularly revolutionary; never before had sound disappeared across space to reappear again at a distance. As Schafer says: "The community, which had previously been defined by its bell or temple gong, was now defined by its local transmitter" (p. 92). And "the radio has actually become the birdsong of modern life, the 'natural' soundscape, excluding the inimical forces from outside" (p. 93).

Of course the electric revolution has brought many more advantages than disadvantages; for example, we can listen to music of our choice anywhere and at any time - though sometimes there is a small price to pay in the way of some discomfort.

So with the increase in variety and volume of unwanted noise modern acoustic engineers have turned their attention to methods of using sound to mask other sound, and to using music as a painkiller - what Schafer calls *audio-analgesia*. "The use of audio-analgesia extends in modern life from its original use in the dental chair and wired background music in hotels, offices, restaurants and many other public places" (p.96) including, I may add, the cabin in aircraft prior to take-off and after a successful landing!

It may appear that objections to the abuse of music in this and other ways are trivial and that such music helps to 'brighten up' the environment, however the abuse of this practice led, in 1969 in Paris, to the following resolution being passed unanimously by the General Assembly of the International Music Council of UNESCO (Schafer, 1977):

"We denounce unanimously the intolerable infringement of individual freedom and of the right of everyone to silence, because of the abusive use, in private and public places, of recorded or broadcast music. We ask the Executive Committee of the IMC to initiate a study from all angles - medical, scientific and juridical - without overlooking its artistic and educational aspects, and with a view to proposing to UNESCO, and to the proper authorities everywhere, measures calculated to put an end to this abuse." (p.97).

Since then acoustical engineers have come up with a kind of solution - the use of 'white noise' to mask distracting sound, the sort of sound which is conveniently emitted from air conditioners and heating furnaces. Sometimes this 'white noise' is amplified if the natural source is not loud enough. A memorandum from one firm of acoustic engineers ran as follows: '*Music Library*: There should be enough mechanical noise to mask page turning and foot movement sounds'. Its proponents prefer to call it 'acoustic perfume' but I think a more accurate term is 'acoustic deodorant'.

What are we to do? How are we to overcome these obstacles and create a more satisfying musical soundscape? Well, there are a number of things that can be done. Firstly, we can attempt to find out how

and what music alleviates stress, since the rise in volume of ambient noise is one of the unconscious stress-increasing factors; secondly we can consciously attempt to apply musical sound - even in an elementary way - in the field of education, and thirdly, we can conduct scientific experiments to discover how suitable music can aid our psychological and physiological well-being. All of these measures have obvious implications for accelerative learning, and in the final part of this paper I'd like to illustrate each of these strategies through three research reports presented in the last ten years or so. Before doing so, however, it will be helpful to look briefly at the classification of sounds.

According to Schafer sounds may be classified in several ways:

1. According to their physical characteristics
Acoustics
2. According to the way in which they are perceived .
. . . Psychoacoustics
3. According to their function and meaning Semi-
otics and Semantics
4. According to their emotional or affective qualities .
. . . Aesthetics

In the first of the research reports I mentioned previously, an interesting laboratory experiment was conducted on 120 volunteer male students (not majoring in music) at Florida State University. This study, by Judith Jellison, entitled 'The Effect of Music on Autonomic Stress Responses and Verbal Reports' (1977), sought to demonstrate the effects of music, measured physiologically, on the volunteers who were placed in a stress situation. There were 4 groups of 30 volunteers: a control group, 2 groups given music stimuli and 1

group given 'white noise'. The two music stimuli were labelled 'exciting' or 'calming' due to the influence of previous research, and they were the first two minutes of the fourth movement of Dvorak's 'New World' Symphony, and the first two minutes of Bach's 'Air on a G-String'. The sound segment for the 'white noise' stimulus consisted of two minutes of intermodulatory 'white noise' recorded from the FM broadcast band. The control group was tested in silence.

The experimental design was as follows:

1. All subjects had shock electrodes fitted to the fourth and fifth fingers of the left hand and were individually tested for delivery of a shock which was set at a 'pain' intensity for all subjects and treatments.
2. All subjects were also 'wired up' to record changes in Blood Pressure, Galvanic Skin Response (changes to skin resistance in the fingers) and Finger Pulse Volume.
3. All four groups, including the silence control group then received 4 treatment-shock conditions over a 12-minute test period, and their physiological responses were recorded.
4. At the end of the session all subjects provided a verbal report, these were assessed by the State Anxiety scale of the State-Trait Anxiety Inventory - a psychology test developed in 1969.

The results showed some inconsistencies in the average changes for physiological responses, due for example to the habituation effect of the electric shocks, and the 'exciting' Dvorak music in having the effect of a smaller change in Galvanic Skin Response. However the verbal reports were very revealing. It was found that:

1. Both music stimuli treatments (Dvorak and Bach) resulted in significant decreases in Anxiety-State scores suggesting a reduction of verbal stress responses.
2. The music stimuli groups did not differ significantly in the reduction of verbal stress responses.
3. The 'white noise' treatment resulted in significant *increases* in Anxiety-State scores, suggesting an increase in verbal stress responses.
4. The 'white noise' group was significantly different from both of the music stimuli groups; the scores of the 'white noise' group indicated significant *increases* in verbal stress responses; the scores of the music stimuli groups indicated significant *decreases*.

Apart from anything else, this study, I think, should give us pause to consider the desirability of continued use of background 'white noise as an 'acoustic deodorant' in modern buildings and other public places.

A simple but illuminating study entitled 'The Use of Music Stimuli in Teaching Language Discrimination' by Clifford Madsen, Charles Madsen Jr. and Donald Michel, at Florida State University (1977) shows that through the systematic application of music and tones, language discrimination for those children with discrimination disabilities can be improved. The use of simple tones paired with the words was shown to increase significantly the child's ability to discriminate between words which are similar in sound (such as 'web-wed'). This study was based on the rationale that discrimination capacity for tones and melodies develops prior to language discrimination.

The carefully controlled study involved 216 black 5-year-olds from culturally different backgrounds who

had learning problems with standard English. Using 40 paired words from a standard text the children were tested before and after the music treatment sessions and a story was read which incorporated all the words from the text. There were five music treatment sessions over two weeks. For the test words which were similar, a different sound was used for each, if the words were the same sounding, the same sound was used. The musical sounds were designed to facilitate discrimination, not to serve as discriminative stimuli, and so the tonal cues were randomly recorded to occur .5 second before the word or .5 second after the word.

In addition to this material the stories using all the words were set to music and sung by a musically trained teacher. So the four treatments over five sessions in the two weeks were as follows:

1. Repetition of words
2. Repetition of words plus music tones
3. Stories
4. Stories plus music

For the second treatment the volume of sound of the music was gradually reduced to zero by the fifth session. The control groups used for comparison were given only treatments one and three over the test period

The researchers concluded that.

1. Problems of forgetting are not the same with musical melodies as they are with words.
2. It would seem that if the primary ability in learning to read standard English involves discrimination between language sounds, then merely talking or reading to the child with a different background is inadequate and inefficient.

Table 1. Number of words discriminated vs. experimental musical treatment (Madsen, Madsen & Michel, 1977)

	<i>Pretest</i>	<i>Posttest</i>	<i>Difference</i>
Repetition plus tones (n=35)	12.8	19.0	6.2
Stories plus melodies (n=34)	16.0	22.1	6.1
Contact control (n=35)	11.7	13.9	2.2
Verbal repetitions (n=33)	13.9	16.1	2.2
Stories (n=33)	16.9	17.1	0.2

- Perhaps the next step is to devise a beginning reading technology which employs music in a systematic procedure.

The final research report, which is really a collection of separate reports compiled after a series of laboratory experiments, is entitled 'Music, Emotion and Autonomic Function', by Harrer and Harrer (1977) from the Department of Psychology at the University of Salzburg. The effects of music on such autonomic functions as strength and frequency of pulse, muscle activity and respiration, they found, were influenced by a number of factors such as the 'tone' of the autonomic regulatory processes which in turn are affected by constitution, age, sex, mode of life, physical fitness, general state of health, or such temporary factors as fatigue, drinking alcohol or coffee; or emotional reactivity and attitudes

toward music, the importance of music in the subject's life, and also upon the subject's immediate attitude towards the piece of music presented in the test situation. Some of these findings can be briefly mentioned.

This diagram illustrates some of the changes taking place when the subject listens twice to the same piece of music - the second time without emotional involvement. The interesting findings are:

1. The PGR (not rated too highly by the researchers because of difficulties of calibrating the signal, and fatigue in the response, despite being the most sensitive indicator) is shown to be markedly different.
2. Although the emotional involvement is reduced on the second learning the enjoyment of music may be just as profound, and
3. Music may lead to an autonomic reaction although the sounds are not consciously perceived, for example, in sleep and with 'background' music.

This latter finding is obviously highly significant in applications of music in accelerative learning situations.

It is also found that in some persons psychological stimuli such as stress give rise to respiratory changes predominantly, whereas in others marked circulatory or galvanic skin response alterations are elicited by the same type of stimuli.

Not surprisingly, it was also affirmed that pieces of music such as dance music or orchestral marches produced predominantly motor responses, while other types of music are more likely to elicit respiratory or cardiovascular responses.

Fig. 1 Vegetative diagram

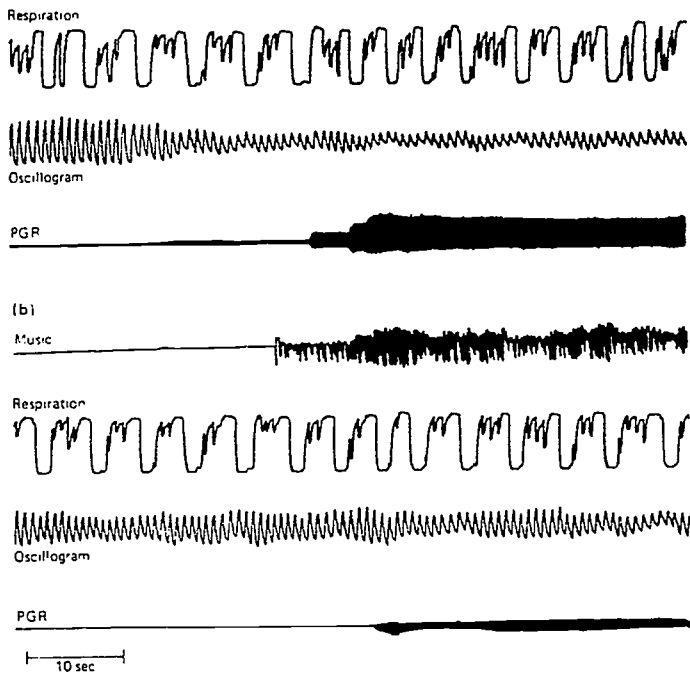


Figure 1 Vegetative Diagram. (a) with and (b) without emotional involvement.

Recordings of respiratory movements during the playing of music were particularly interesting. The next illustration is of Pneumograms of five different people while listening to the same piece of music (African drumming from Uganda).

The features here are:

- A. Gradual adjustment of the respiratory rate to the gradually accelerating and temporarily slowing beat.
- B. Is similar, but the respiratory rate is much slower. A 'sighing' respiration is caused by subjective fatigue.
- C. Demonstrates a rate of period of respiration intermediate between the other two.
- D. Is characterized by a slowing of the respiration at the period of the fastest drum beat; this type of response is found when an intrinsic biorhythm is unable to follow the extrinsic pacemaker any further, so a shift is made to a different periodic relation between the intrinsic and extrinsic rhythms.
- E. More consistent and smaller rates of change.

The most interesting finding was that these individual modes of response were widely reproducible whenever the tests were repeated with the same piece of music. Such responses correspond with considerable differences in attitudes towards the drumming. In conventional or 'classical' music the inter-individual respiratory differences were less significant, and certain pieces of music elicited responses in all subjects. In reaction to pieces of music with a prominent acceleration or deceleration of the rhythm, some of the subjects showed a tendency towards a primary pulse synchronization, others tended to exhibit synchronization of the respiratory rhythm. All of these factors also have implications for music used in accelerative learning.

Fig. 2. Pneumograph of 5 Ss

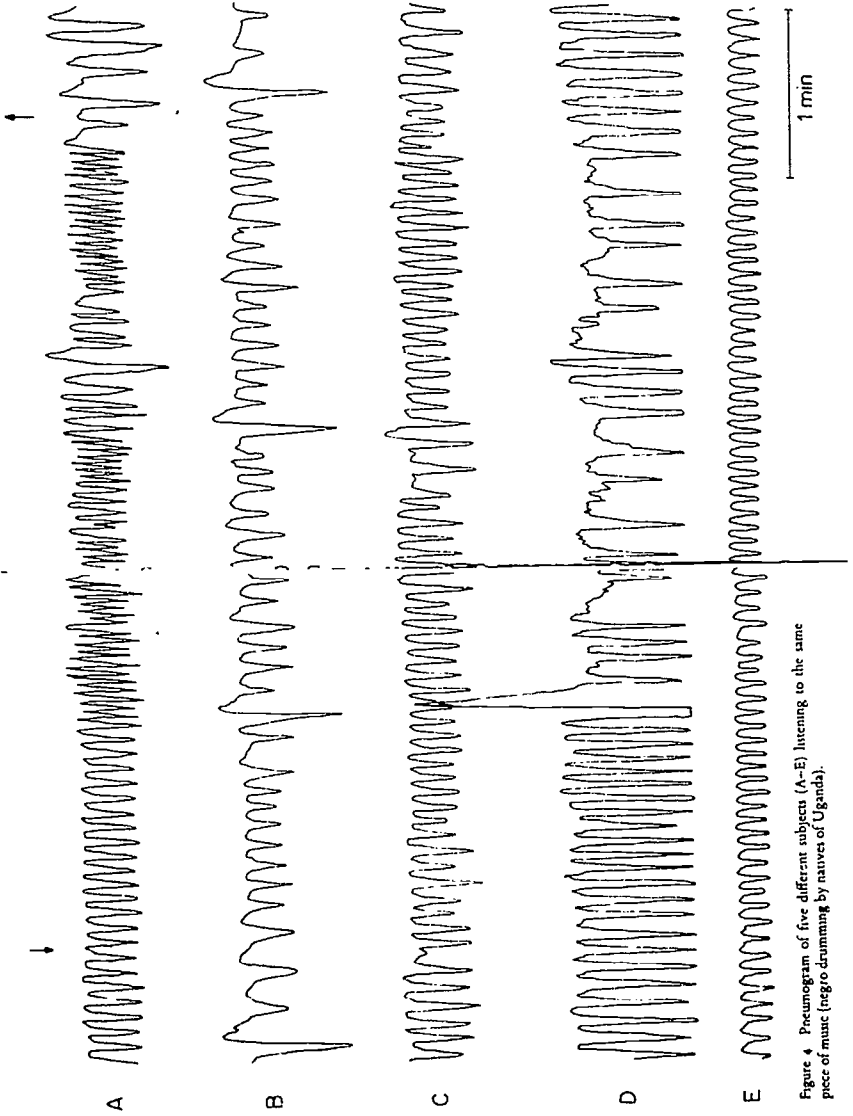


Figure 4. Pneumograph of five different subjects (A-E) listening to the same piece of music (negro drumming by natives of Uganda).

Other tests during the perception of music under laboratory conditions were concerned with muscle activity which was measured electromyographically. Fig. 3 illustrates this measurement of muscle action potential with some informative comparisons.

The subject had been asked not to move during the test and there was no muscular movement as far as could be judged from observation, even at the height of the electromyographic discharges. A simultaneous recording of body movements showed no response.

The final illustration is one of a polygraph of a subject listening to Bach's Brandenburg Concerto No. 1.

Measurements are shown for muscle activity (or muscle action potential), the oscillations of the pulse rate, the pulse rate, a graph for the music and the respiratory rate.

The features are:

1. Muscle Activity: There was some increase even shortly before the music began. Fluctuations of muscle activity are shown *and these changes were reproducible by repeat performances, and they occurred at the same passages.*
2. The pulse rate increased at the beginning of the presentation and continued at a raised level.
3. The respiratory rates accelerated at the beginning of the music, temporarily coupled with a reduced respiratory volume - in other words the breathing became faster and shallower - but subsequently showed an increase in volume.
4. At the end of the performance the respiratory rate fell to levels which were less than half those at the peak.

Fig. 3. Integrated muscle activity

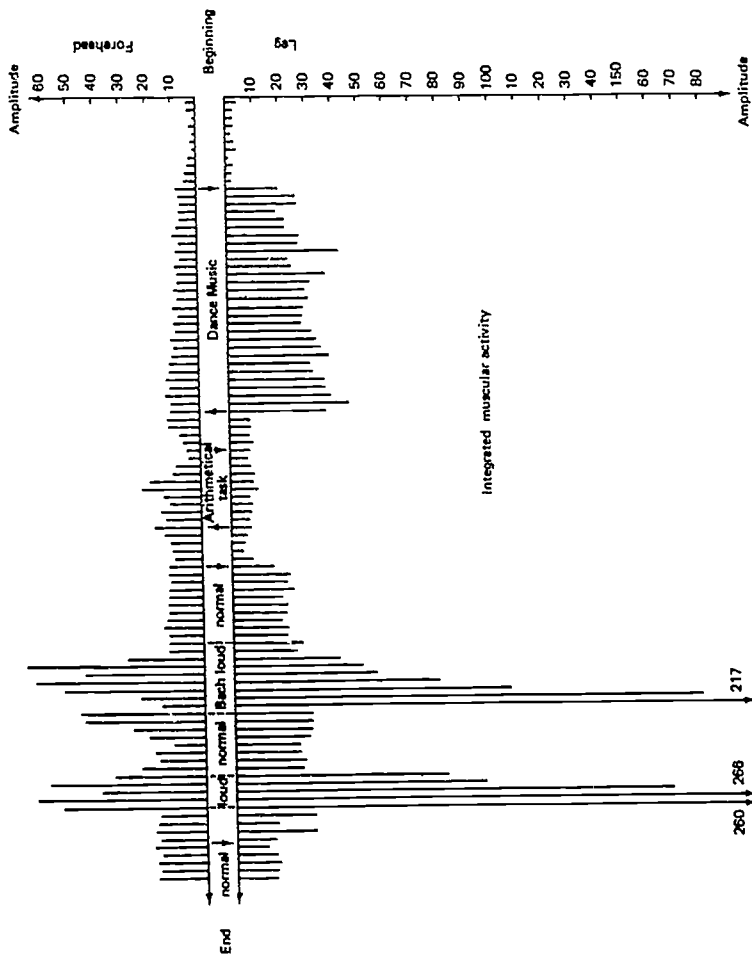


Figure 5 Integrated muscular activity shown electromyographically. Differences between the region of the forehead and of the legs while the subject is listening to dance music, during an arithmetical task; and listening to Bach's Brandenburg Concerto No. 6.

4 1 2
4

Fig. 4. Polygraphy & Bach

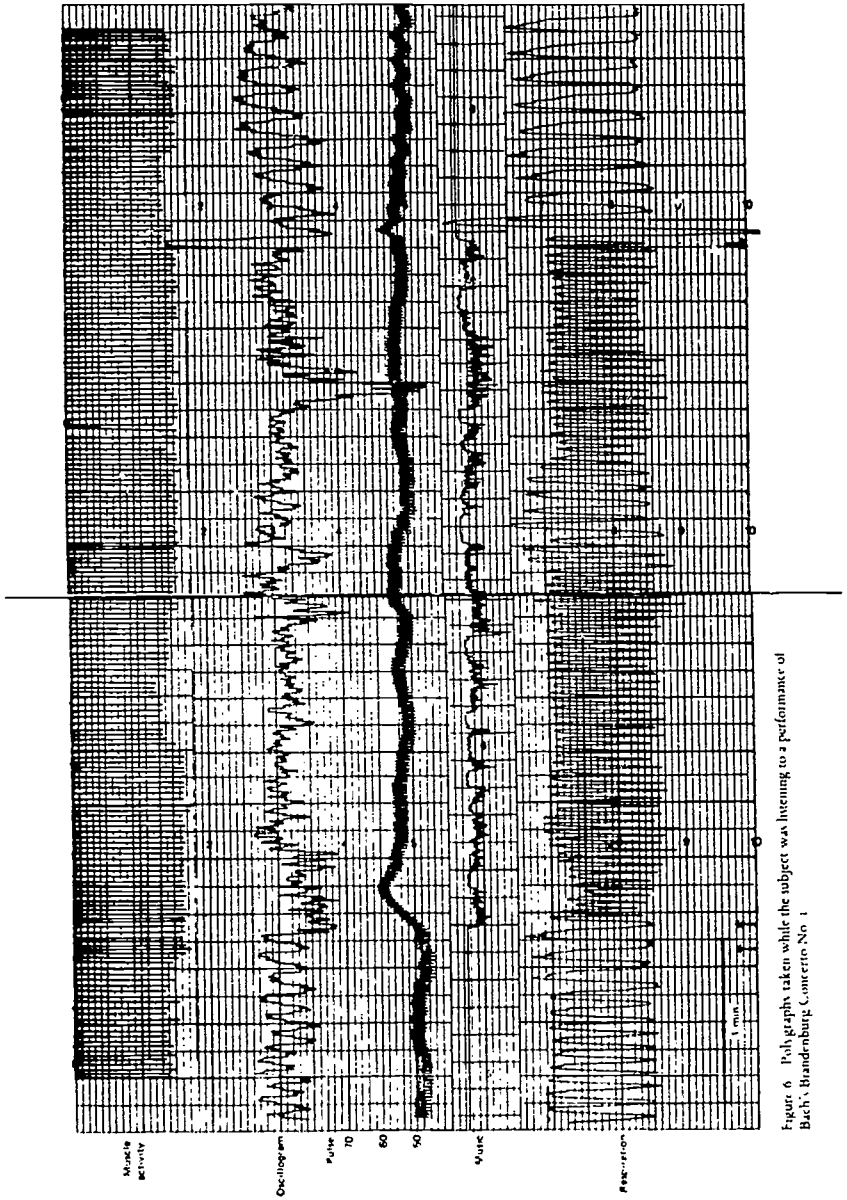


Figure 6 Polygraphs taken while the subject was listening to a performance of Bach's Brandenburg Concerto No. 1

5. It is clear that the increases of muscle activity, pulse and respiration rates which occur at the beginning of the music are the expression of a generally raised level of activity.

Two special features are also reported on by the researchers:

1. The changes in muscle activity were reproducible (in the same subject, I presume) by repeat performances of the music, *and they occurred in the same passages.*
2. A temporary slowing of the respiratory rate (bradypnoea) occurred at a certain passage, and in repeat performances: *this phenomenon also occurred at exactly the same passage* and
3. At the end of the performance, oscillations of the pulse rate occurred synchronously with the respiratory rate and presumably indicated an alteration in the respiratory regulation. This conclusion is disputed, however, by Adelaide researchers who believe that regulation of the pulse rate may cause alteration in the respiratory volume (White, 1977). This disputed result, however, does not contradict the view that it seems perfectly evident that music can desirably affect regulation of the autonomic nervous system, for the promotion of psychological and physical well-being – and both, of course, are essential prerequisites to effective accelerative learning in the environment of the classroom or the private study.

In this paper I have ranged fairly widely, and briefly, on those many aspects of music as an art, a healing agent, as a means of promoting well-being and as an aid to accelerative learning.

The experiments reported on are fully in keeping with the ideals and ideas of the ancient Greeks and Hebrews, the ethical principles of Plato, Aristotle and Aristoxenos, and the spirit of '*solida utilitas*' (practical use) of the Romans.

In becoming more aware of the changing soundscape over the centuries and in mitigating some of the undesirable effects we have inherited, researchers have shown how the benefits of Schafer's 'Electric Revolution', properly applied, can aid our well-being and create more favorable conditions for the use of recorded music in learning. Such laboratory and classroom experiments as those I've mentioned are also fully in accord with the 'study from all angles, medical, scientific and so on (of the use of music) without overlooking its artistic and educational aspects . . . ' which formed part of the International Music Council's proposal to UNESCO.

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La musique et les Etudes Accélérés: Quelques applications historiques et présentes

La musique a été reconnue comme un art depuis longtemps, la science et la forme de thérapie, dans le mythe et la légende. Les méthodes scientifiques modernes ont permis aux études objectives d'être poursuivies et qui permettent de voir jusqu'à quel point la musique peut déployer des influences à la fois nuisibles et bénéficiaires sur la psychologie de l'individu, psychologiques y neurologiques aspects. L'environnement acoustique qui se compose de la musique et d'autres sons, a subi de profonds changements à travers les centaines résultant en "sons tuyaux" altérés. Puisque le son musical a la capacité de promouvoir le bien être, lequel à son

tour est une condition préalable aux études accélérées effectives, par conséquent l'utilisation du son musical a besoin d'être utilisé avec réflexion. Cette étude examine les rapports de trois différentes investigations sur l'utilisation particulière de la musique: Comme supplément à la discrimination de langue des jeunes enfants, comme moyen d'éviter la pression provoquée au laboratoire, et comme influence positive sur la régulation de certaines fonctions du système nerveux automatique.

Musik und Beschleunigendes Lernen: Einige Historische und Gegenwärtige Anwendungen

Musik wurde schon lange als Kunst, Wissenschaft und eine Art von Therapie in Legenden und Mythologien anerkannt. Mit modernen, wissenschaftlichen Methoden sind objektive Studien möglich geworden, die zeigen, wie Musik sowohl vorteilhaft als auch nachteilig auf die psychologische, physiologische und neurologische Verfassung des Individuums wirken kann. Die akustische Umwelt welche musik wie auch andere Töne umfaßt, wurde über Jahrhunderte eine grundlegenden Wandlung unterzogen, was zur Änderung der "Tonwelt" geführt hat. Das musikalische Töne die Fähigkeit besitzen, ein Wohlbefinden zu bewirken, welches in der Tat die wesentliche Grundlage für ein erfolgreiches schnelles Lernen ist, muß der Gebrauch von musischen Tönen bedacht angewendet werden. Diese Arbeit überprüft Berichte von drei verschiedenen Untersuchungen im Gebrauch der Musik: als Hilfe für Sprachdiskrimination bei Kleinkindern, als Streßverminderung in Laboratorien und als positiver Einfluß auf die Regulation einiger Funktionen des autonomschen Nervensystems.

Música y Aprendizaje Acelerativo: Varias Aplicaciones Históricas y Actuales.

Desde hace tiempo música se ha reconocido como un arte, una ciencia, y una forma de terapia, en mito y leyenda. Métodos científicos modernos han permitido que se lleven a cabo estudios objetivos los cuales muestran cómo música puede ejercer influencias tanto perjudiciales como beneficiosas sobre la composición psicológica, fisiológica y neurológica del individuo. El ambiente acústico, el cual incluye música al igual que otros sonidos, ha experimentado cambios profundos a través de los siglos, resultando en "soundscapes" alterados. Como sonido musical tiene la capacidad de fomentar el bien estar, que es a la vez un requisito esencial para aprendizaje acelerativo efectivo, hay que aplicar sonido musical cuidadosamente. Este artículo repasa información de tres investigaciones diferentes sobre usos específicos de música: como auxiliar en la discriminación lingüística de niños pequeños, como método de aliviar stress inducido en laboratorio, y como influencia positiva en la regulación de algunas funciones del sistema nervioso autonómico.

J. of the Society for Accelerative Learning and Teaching, 1986, 12(3&4).

Mögen hätten wir schon wollen, aber trauen haben wir uns nicht dürfen. -- Karl Valentin

We would have liked to want to, but we weren't allowed to dare . . . or

Students' attitudes towards the use of music and mind-calming in their high school language class.

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Abstract. This study was designed to get some indication of children's attitudes to the use of SALT elements in their language class. 118 students at two high schools were interviewed using three different approaches: class interviews, individual interviews and questionnaires. These revealed that the majority of students quite liked SALT and felt it had a positive effect on their learning and behavior, but that they were reluctant to admit this in public. The results further indicated that a large number of students disliked the choice of music, and that they had difficulties handling abstract images during the mind calming.

* * *

Introduction

We have heard a lot over the past decade about the success of Suggestive Accelerative Learning and Teaching, particularly as a language teaching method for adults. Countless articles, even books, have been published on the subject, and teachers' and students' atti-

tudes have always been reported as overwhelmingly positive (see the extensive bibliography in Schuster & Gritton, 1986).

By now enthusiasts and critics alike have remarked on the fact that the method works best under ideal conditions. These included among many others: small classes, pleasant surroundings, motivated students and 3-4 hour daily sessions. Most teachers in a conventional high school, alas, will find each one of these conditions conspicuously absent from their teaching environment. Instead they are blessed with classes of 25-35, often uncomfortable and unattractive surroundings, and in most cases less than one hour's teaching time. And the fact that language learning is compulsory for the first or the first two years in many Australian high schools may account for the fact that some of the students are unenthusiastic, even hostile, about learning a second language.

What awaits the SALT teacher in this less than ideal environment?

In South Australia there are about a dozen high school teachers experimenting with SALT. Many are enthusiastic about the results their efforts have produced. They have reported that students get better grades in the language, are able to handle more material during the year, are more interested in the language and are generally better behaved.

Many teachers have also found that they are less stressed themselves since they have been using SALT, and that as a result, they enjoy teaching more and find their teaching load less fatiguing.

The most valuable change in the teaching environment mentioned by all teachers, is summarized by Vale (1984):

The one great advantage of suggestopedia* which is already most apparent not only to me, but also to the vast majority of my students and to the visitors who come to observe the method in action, is the atmosphere of tranquility which pervades the typical suggestopedic lesson. This is something which cannot be denied, and it is something which is a great bonus. If suggestopedia offers no more than this, then it is worthwhile!

However, this is not yet reason for euphoria! Many teachers hasten to mention that there can also be problems with the introduction of what must appear to the children a rather strange teaching approach.

In sharp contrast to adults, who more readily take to relaxation and baroque and classical music, children in Australia can be very uncomplimentary about the use of such elements in their teaching environment. And if there happen to be 2 or 3 students in a class of 27 who actively resist the method, disaster is imminent. These students are often the ringleaders in a class, and their opinion becomes the dominant one. This overt expression of dislike for the approach has disheartened some teachers and even persuaded a few to give up this way of teaching entirely.

* In Australia the method is still largely referred to as suggestopedia, despite the inclusion of mind-calming taken from SALT.

But do the children really mean what they say?

Subjects and Setting

To get some indication of the students' attitudes towards SALT, 118 students from years 8, 9 and 10, with ages ranging from 12 to 15, were interviewed at two different high schools in Adelaide. Children at both schools come from a similar socio-economic background. School A is a newly established school with excellent facilities and very pleasant surroundings. School B is an old established school with uncomfortable classrooms and rather cramped surroundings. School A has no special interest subjects, while school B offers music as a special interest. Most of the German students at school B were also music students. The children at both schools are fairly similar in terms of academic ability, with those of school A being slightly more outspoken.

The two teachers involved were highly compatible in terms of experience and competence, but with the teacher at school A placing more emphasis on discipline.

The SALT program had been running for an entire year at both schools, and included relaxation/mind-calming at the beginning of the class and passive concerts every so often to introduce or reinforce new materials. These sessions were accompanied by music including environmental (e.g., Halpern), classical (e.g., Beethoven) and baroque (e.g., Bach, Handel). For the mind calming students were given mainly guided imagery ranging from realistic images (a walk on the beach) to abstract images (being in an orange).

Method

Since the rest of the program did not really differ very much from the communicative language classes that the teachers normally taught, students were not asked any specific questions regarding the method, but invited to give their reaction to the use of mind-calming and music in the classroom.

In order to get an accurate view of the children's attitudes the information was gathered in the following ways.

Class interviews at school A

These took the form of completely unstructured discussions with each class. They involved 17 students from year 8 French, 54 from year 9 German (in two separate groups) and 7 from year 10 German.

The discussions of approximately 15 minutes were lighthearted and unthreatening in nature. Students spoke frankly, making many constructive observations, in sessions filled with laughter and good humor.

Individual interviews at school A.

The class discussions were followed by a private talk with the most negative and the most positive student in each group in order to get some feedback on whether the comments made in class were truly representative of the attitudes of the group as a whole, or merely reflected the view of a few outspoken students.

Questionnaires administered to students at school A.

As a result of the conflicting comments made by the large and small groups, a questionnaire was designed to test the reliability of the most important points.

The questionnaire further contained questions regarding specific effects the method might have on learning and behavior.

Individual interviews at school B.

Because of the suspicion of too much group pressure in the class interviews at school A, it was decided that individual interviews might be more fruitful. 5 students from year 10 German and 8 students from year 9 German were involved.

The content of the interviews was structured to coincide with the most important points made by the students at school A in order to either confirm or refute them. Questions, however, were left mostly open-ended, except in some cases where prompting seemed necessary.

Students, here too, spoke frankly with a lot of good humor making many constructive observations.

Class interview at school B.

In order to get some indication whether or not the students' attitudes at this school were influenced by the interviewing method, the year 8 German group (N=27) was interviewed as a whole.

It was pointed out to the students that they were invited to put forward their own opinion, not that of the teacher nor that of their class mates.

Results

Interviews at school A -

Quizzed on their overall reaction to the use of music and mind-calming in their classroom, about 65% of all 78 students expressed negative feelings. Only about 15% said that they liked having music and mind-calming while the rest appeared to be indifferent. The most negative comments came from the year 8 group, followed by year 9A (upper stream) and year 10, with year 9B (lower stream) being the most positive group.

The most frequent comments, regardless of year level, were: "boring, makes you sleepy, waste of time, music foul."

Positive comments had to be prompted by, "Does anyone have anything good to say?" And they consisted of, "helps you learn, helps you relax, made my headache go away."

The most strongly held views concerned the music used. About 80% of the students did not like it. They found it boring, too slow and inappropriate for relaxing. Two or three in each class absolutely hated it, while an equally small number liked it very much. No one seemed to know what it was - they referred to it as our teacher's music.

When asked for suitable alternatives, one girl actually suggested strings and cellos; that is, the majority of

music that they had already heard! Other suggestions were soft pop, songs from the fifties and synthesizer music. Hard metal and the like were ruled out after some discussion since the students agreed that the music had to be reasonably unobtrusive.

The children, however, observed that they liked music as part of their environment and that it helped them work. The most constructive suggestion was that every so often music might be selected by members of the class and brought to the lesson ready to play. Everyone, even the most negative students, thought that this compromise might work.

Regarding the guided imagery the most pertinent concern was: "How do you imagine yourself in an orange?" The students had been asked to imagine themselves in an orange, then being the orange and finally unfolding each segment slowly while letting go and relaxing. While this had by no means been the only type of guided imagery, it was the one spontaneously mentioned by each group and it became obvious that the students had real difficulties imagining abstract situations. Most thought that it would be easier to make up their own images, especially if they had their own music.

The students also largely objected to the position used for the mind calming. About 70% found it difficult to relax with their heads resting on crossed arms on their desks. They preferred to choose their own position. It was pointed out that lying on the floor was organisationally too difficult with a group of 27.

Another concern was the frequency of the mind calming and the loss of time it involved. About two thirds thought that it was probably too much to have a mind calming with every lesson. In principle most

agreed that there was a need for mind calming, but they felt that it was greater towards the end of the day or the week. Most thought that they were fairly relaxed and well behaved at the beginning of the day. A compromise of twice a week sounded feasible.

A final complaint referred to drowsiness. About 60% felt that they were too sleepy after the mind calming. Some claimed that as a result they could not concentrate on the lesson. They suggested that they needed some pep-up in between, and one pertinent observation came from a girl who claimed that they needed something like soothing energy.

These observations taken at face value would hardly inspire a dedicated language teacher to persevere with this obviously unwelcome teaching approach, and in fact this teacher had already decided to discontinue the use of SALT with the most negative groups in his care.

Happily the individual interviews here revealed a slightly different picture.

Speaking in complete privacy away from the class and the teacher, all these children mentioned that their class had probably reacted to peer group pressure, and that some might have been influenced by the teacher's presence. The two students from year 8, especially, felt that the general attitude towards having music and imagery in their lessons was more positive than had been expressed in class. This was later supported by the questionnaire results where out of 16 responding year 8 students, 8 said that they had positively reacted to the approach and only 2 said that they had been negative.

Representatives from all year levels felt that the method had had a positive effect on their learning as well as on their behavior, but that most students did not like to admit this in class. They also mentioned that their teacher was more relaxed since the method had been used. They maintained, however, that the music used was genuinely disliked by most students in their class and that because of this many students became alienated and hostile and as a result they actively resisted the method.

On the whole they felt sure that most students would continue with the approach, especially if the choice of music were modified.

Interviews at school B

Although more positive regarding the overall reaction to SALT, the students interviewed in class with their teacher present, duplicated some of the negative comments heard at school A, in particular preferring different music and being too drowsy after the mind-calming (Appendix B). They also mentioned having a greater need for relaxation towards the end of the school day.

The most interesting observations, however, came from the individual interviews here. Not only did they support most of the observations of the individual interviews held at school A, but they also brought to light attitudes not hitherto mentioned.

Overall, 65% of the students quite liked having been taught with SALT or at least did not mind. 10% liked it a lot while 25% disliked it intensely. According to the teacher the latter tended to be the troublemakers, except for one girl who thought the course was not

hard enough to warrant such an approach (Appendix B). There were not many differences in comments between year levels.

Most interesting was that even the negative ones believed that the method would help them if they could be bothered taking part. Negative reactions tended to be blamed on elements independent of the approach, such as an intense dislike of the language itself or not being interested in learning as a whole (Appendix A).

The value of the passive concerts was frequently mentioned (Appendix B) with students being convinced that they learned more and more easily as a result.

As music students they did not object too much to the music. They thought that it was appropriate for relaxing, but that some of it was too slow. However, 25% did not like it at all. For alternatives they offered soft pop, and in two cases slow Japanese music.

Apart from the negative students all claimed that they had no trouble coping with the guided imagery, but that it was necessary to concentrate. They also thought that it would be fairly easy to make up their own images. Some preferred just to daydream and one objected to the psychological intrusion, referring to the teacher; behaving like a psychiatrist (Appendix B). (No abstract imagery had been used at this school.)

Nobody found it difficult to relax with feet on the floor, arms and head on desk and eyes closed. The majority felt that the time was not wasted and that they easily made up for the 5 minutes spent in relaxation.

Many students mentioned that their class was now better behaved but that there were always the odd few

troublemakers who would "muck around" anyway (Appendix B).

Finally, most students thought that they had no trouble going from the relaxation to the class proper.*

Quite a different picture from the one first presented at school A it seemed. Was it really possible that students' attitudes differed that much between two schools? The questionnaire results threw some light on the confusion:

Summary of questionnaire results

Looking at the results presented in Table 1 and comparing these to the comments made by the students in class, several discrepancies became obvious. In contrast to their initial overwhelmingly negative reactions, only 20% claimed to have been negative, while the rest were either positive or indifferent. Furthermore, 85% said that they would co-operate fully if they liked the music played.

74% preferred the position they had had for mind calming to 2 others, and only 8% said that they definitely needed livening-up between the mind calming and the lesson proper. 42% wanted a mind calming session with every class, and 80% said that learning time would not be lost as a result (Table 2).

* The teacher at this school used more suggestions to bring the students back to the classroom activities.

Table 1. Questionnaire results (N = 74 respondents)

				Total answers
Overall reaction:	<i>positive</i>	<i>negative</i>	<i>indifferent</i>	74
	27	15	32	
	36.5%	20.3%	43.2%	
Music preferred:*	<i>pop</i>	<i>rock</i>	<i>classical</i>	86
	53	21	12	
	61.6%	24.4%	14.0%	
Music tempo:*	<i>fast</i>	<i>moderate</i>	<i>slow</i>	85
	16	52	17	
	18.8%	61.2%	20%	
Co-operation if music liked	<i>yes</i>	<i>no</i>	<i>if own music</i>	74
	63	8	3	
	85.2%	10.8%	4.0%	
Prefer own images:	<i>yes</i>	<i>no</i>	<i>sometimes</i>	74
	41	9	24	
	55.4%	12.2%	32.4%	
Mind-calming position.	<i>straight</i>	<i>head on desk</i>	<i>lying down</i>	74
	3	55	16	
	4.0%	74.3%	21.6%	
Livening-up needed:	<i>yes</i>	<i>no</i>	<i>sometimes</i>	74
	6	33	35	
	8.1%	44.6%	47.2%	
Frequency of ** mind-calming:	<i>every class</i>	<i>every other</i>	<i>one class</i>	<i>never</i>
	31	26	11	5
	42.5%	35.6%	15.0%	6.9%

* It was possible to tick more than one box for these questions.

** One student did not answer this question.

Table 2. Questions on successful mind-calming

	<i>Yes</i>	<i>No</i>	<i>Total</i>
Would learn less	3 4.2%	68 95.8%	71
Would learn same	30 42.3%	41 57.7%	71
Learning easier	62 87.3%	9 12.7%	71
Learning more effective	63 87.5%	9 12.5%	72
Learning more fun	57 77.0%	17 23.0%	74
Would learn more	56 75.7%	18 24.3%	74
Students better behaved*	48 68.6%	22 31.4%	70
Teacher more relaxed*	55 78.6%	15 21.4%	70
Better communication*	52 74.3%	18 25.7%	70
Learning time lost*	14 20.0%	56 80.0%	70

* For these questions 4 students ticked both boxes; therefore their answers were disregarded here.

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The students' dislike for classical music, however, was again maintained with 86% preferring other types of music. And 61% thought that a moderate tempo was more suitable than either fast or slow tempo. The students' preference for making up their own images either always or at least sometimes was also confirmed.

As at school 2 no correlation between children's ages and comments, nor at this school between learnt language and comments, could be found. However, since the subjects in this study were very unevenly distributed across ages and especially across languages (only one French class), the researcher feels that it would be unwise to draw definite conclusions from this.

The most interesting answers were those referring to the effects of successful mind calming, summarized in Table 2.

A large number of students who had volunteered almost exclusively negative observations about the introduction of music and mind calming into their lesson when interviewed in class, gave overwhelmingly positive answers regarding the effect it might have on their learning and behavior:

More than three quarters of all students responding thought that learning with SALT would be easier, more effective and more fun. They further estimated that they would learn more, that communication would be better and that their teacher would be more relaxed. And 68% thought that they would be better behaved as a result.

These are hardly the reactions of a group of negative and hostile students, and since they had only their own experiences to go by, one might assume that they

were not all that negatively inclined towards the method in the first place. Assuming that the questionnaire is a more reliable instrument for measuring children's attitudes than whole class interviews, the results are very encouraging.

Discussion

Since the answers to the questionnaires largely support what was said in the individual interviews at both schools, it seems that rather than displaying vastly different attitudes towards SALT, children at both schools had very similar opinions. The students at school B, however, displayed a more positive attitude towards the music, which might have been the result of their being music students.

The physical environment does not seem to influence children's attitudes towards SALT very much. Students at school B, where conditions are far less comfortable and aesthetically less pleasing than at school A, responded just as favorably, if not more so. This is supported by Schuster (1985) and Cureau (1983), who have successfully introduced a version of SALT or in the case of Cureau, suggestopedia to schools in very underprivileged areas.

The majority of students in this study showed that they clearly did not object to the approach. More importantly they did not think that it was a waste of time but indicated that it had a positive effect not only on their learning but also on their behavior. They even agreed that learning would be more fun and easier. What they were not going to do, however, was to say this out loud in public. On a questionnaire, perhaps, or to a complete stranger in privacy, but not in front of their teacher, or worse it seemed, in front of their

peers. As one of the students mentioned, there was an image to uphold the tough act (Appendix C) into which relaxation and baroque music are difficult to fit and where good behavior must be sacrilege.

However, the students made two important observations which were clearly supported by the questionnaire:

1. A large number of students disliked the music used. (Only 14% agreed with the teacher's choice of music at school A).
2. Students found it difficult to handle abstract imagery during the mind-calming sessions (e.g., the image of an orange).

The latter problem is easily overcome by restricting the imagery to realistic situations, and by eventually allowing the children to make up their own images. These might every so often take the form of subject oriented imagery as suggested by Herr (1982). Here the imagery would be focused on an authentic scene in Germany with the children actively taking part in it through the power of their imagination. Very little guidance would be necessary after the children have been introduced to the German cultural environment with the help of slides, films and magazines.

The children's dislike for classical and baroque music is more difficult to resolve. Numerous studies (Lozanov 1978, Lehmann 1982) show that this type of music is most suitable for the concert sessions. It seems sensible, therefore, to retain this music for the passive concerts. Children object mostly to the fact that it is boring and too slow: 61.2% at school A preferred a moderate tempo which was corroborated by the transcripts of school B. This supports Lozanov's (1984) latest recommendations for faster movements

and entire concert pieces, such as Vivaldi's Four Seasons and Haydn's Symphony No.82. It seems necessary to introduce children slowly and carefully to this kind of music, and to inform them about the exact role it plays in SALT. The students' initial dislike for classical music has also been mentioned in European studies (Stockwell, 1985).

Instead of forcing a type of music on children that has the potential to alienate them from SALT immediately and irreparably, a compromise might be reached. It became clear through the interviews that students are very ready to make compromises. After all 85.2% at school A said that they would co-operate fully if they liked the music.

There is no reason why the children cannot choose their own music, at least every so often, for the mind calming sessions, since its function here is simply to relax them. The children claimed that if they were able to have their type of music, which after discussion they restricted to soft pop or suitable film music without words, they would not object to the teacher's music for the passive concerts. Naturally these pieces would have to be approved by the teacher since they need to be suitable for slowing down body rhythms in order to facilitate relaxation. They should also be free from affective content (Assagioli, 1965).

Since the interviews, the teacher at school A has already successfully experimented with pieces of music supplied by the students. As a result, the students appear less hostile towards the whole idea of using music in the teaching environment. Instead they are given a chance to make a positive contribution and a sense of responsibility towards the success of SALT in their language class.

In conclusion, it appears that the success of SALT in Australian secondary schools is quite independent of the physical environment in which the classes are held. It seems, however, dependent on the teachers' psychological resilience in overcoming the initial negative feedback that the students may offer and on their ability to develop strategies to overcome some students' extreme reactions.

One of these strategies must involve the use of appropriate suggestions by means of verbal and non-verbal communication. The successful suggestive atmosphere in the classroom depends largely on the teachers' own belief in the method, their understanding of the various elements and on how comfortable they feel with these. Using suggestions confidently and with credibility is one of the most important tools of the SALT teacher, and often the most difficult to handle.

With experience, though, teachers find out what works in their classroom and what does not. Classes will invariably have one or two students who actively resist the method for various reasons, often independent of the approach itself. Teachers need to be prepared to expect less than ideal conditions, in order not to be tempted to blame possible setbacks on the method, on the students or on themselves, and give up in despair.

Being prepared for the students' objections to the music, their difficulty in handling abstract images, and their tendency to conform to the dominant opinion in the class, teachers might instead make use of the children's willingness to compromise and create an environment that is suitable for their particular children, their particular school, and not least, their own particular personality.

This is by no means an easy task, but as the two teachers in this study have shown, it is worth the effort!

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APPENDIX A

Transcripts of comments made by the most negative and the most positive student at school B.

Student 1, boy (year 10)

1. Overall reaction

- *It works, it would work for me if I listened but I don't like German.*

2. What about the music?

- *It's O.K.*
- *Do you like it, don't you like it?*
- *I wouldn't listen to it at home.*
- *Is there any other music you could use?*
- *Not for relaxation anyway.*

3. What about the images ?

- *Depends if you listen or not.*
- *When you do, do you feel that it makes you more relaxed?*
- *Yes*

4. What about the way you sit?

- *When we do the relaxation, everybody usually puts their head down, it's alright.*

5. What's the effect on the whole, how are people different?

- *They're more relaxed.*
- *You obviously don't want to learn German... If this method was used for your favorite subject do you think you would learn more?*
- *Yes, but it's terribly different stuff.*
- *Would the kids be more attentive ?*
- *I suppose so.*

6. Does it make you sleepy?
- *No, ah, it does a bit if you're tired.*
 - But you're alert enough to follow the class, if you wanted to follow the class?
 - Yes.
7. Are there any times when the relaxation is most helpful?
- *Don't know, better later in the day, I suppose.*
 - If you did something like this seriously would you feel less fidgety, more relaxed?
 - *I suppose so.*
 - Even though you are not so keen on it, you are still willing to go along with it?
 - Yes.

Student 3, girl (year 10)

1. Overall reaction

- *I like it, I think it's good, it relaxes you, you put your mind more on it, it helps when she goes through the work, I like it.*
- So what does it actually help you with?
- *You are kind of thinking more about what you are doing, the words go quickly into my brain, I just like it.*
- So you've seen a real difference between having done German before and doing it now?
- *I don't mind doing it without it, but I find it better with it.*
- How many do you think feel like you do?
- *I'd say about half the class or a quarter.*
- There is a big difference between half and a quarter!
- *I reckon about a quarter.*
- Why do you think the rest don't feel the same?
- *They haven't got their mind on it.*

- What do you think is the reason for that?
 - *Hmm, I don't know. I suppose some of them don't like German anyway.*
 - And do you like German?
 - *No, not really, well, I do and I don't, ah, I do in a way, but I don't want to do it any more.*
 - But you don't actually like the relaxation because you like German very much, you would do it with any other subject?
 - Yes.
2. What about the music?
- *I actually like the slower music better, like what we had this morning.*
 - Can you think of any other music that could be used for relaxation?
 - *No words, just melody music, really quiet stuff. Some that Mrs S. plays, it's really nice stuff.*
 - Do you know what it's called?
 - No.
3. What about the position when you do your relaxation?
- *I just sit as if I'm going to sleep, and sometimes I really go into it Jeep.*
 - And do you find it easy enough to go back to the class?
 - Yes.
 - And you're never distracted by some of the kids who act a bit silly?
 - *I just keep my mind on the music and the music really relaxes me. I hear them but I don't think about them. I just picture myself in a forest or something and that's it.*
4. Do you sometimes do your own imagery?

- *No, cause I haven't got the music, I'd like to when I'm learning for tests and that, I often wondered if Mrs. S. would lend me the music.*
- *And in the class, do you sometimes make up your own images?*
- *I just stare at things and the other kids ask me what I am staring at.*
- *You couldn't persuade some of the other kids to have the same opinion?*
- *You couldn't persuade someone like N., or someone like that, cause they're all like one group, if one doesn't like it, the rest doesn't like it. I don't really like German at school, the book we used to have is really stupid.*
- *Do you think this relaxation has had any influence on your liking for German perhaps?*
- *All our grades went up when it happened so it made a difference to most of us.*
- *Did it make a difference to the ones who are negative as well?*
- *Yes.*
- *but they still don't do it?*
- *Ah they do, but they just... C. and N. don't do it, I don't know, it just doesn't sink in with them, I don't know why, I like it, I feel funny if we don't have it in the morning with German, I just like relaxing to it.*

APPENDIX B

Excerpts of most interesting points made at school B

I don't really need it this year because the classes have been fairly easy, but if it became harder it would probably help. (girl, year 10)

It brings the class into a sort of silence. It makes it easier for Mrs. S. to keep that silence. You got to have a bit of noise though, it's difficult to concentrate in dead silence. (boy, year 10)

We used to muck around before, but when you are doing this over and over it gets a bit boring mucking around, so now we are relaxing. (Boy, year 8)

I remember we came in after a debate once that had been really nerve-wracking, the relaxation helps. (girl, year 8)

When I am riding home after German in the last lesson I feel really spaced out. I can't snap out of it. (boy, year 8)

I think it does work with the work you have to remember, it helps you remember. (girl, yr 8)

I think it's good because it helped me. In the first term of German I got a C, and in the second term when we actually did the thing I got an A. So it helped me. (boy, year 9)

We think the music is good. Sometimes she'll ask us where our imagination took us. And also we have it during tests. It relaxes you. There are two year 9 classes who did it, and the other class decided they didn't want to do it any more, and our class in all our tests got higher marks than they did. (girl, year 9)

After you've been out for a while or to another lesson it sort of helps you to forget your problems. You don't think about overdue assignments and things like that. It helps you thinking about what's really happening instead of something else. It's helped me. My marks have come up from high Cs to high Bs. At the end of last year I

got a C, in first term a B, in second term a B+ and now I am on an A in German. (boy, year 9)

Even before we were a good class that wants to learn, but there are the odd few who like to muck things up. I don't think they want to learn anything anyway. I've learnt a lot more this year than last year. (boy, year 9)

If we have really hard learning like vocabulary she goes through it with music. I had a test once and I got 12 out of 20, and then she did it with music and I got 18 out of 20 - the test was 2 days after the music session. (girl, year 9)

If the mind calming was longer than five minutes it might be a bit wasted, because if it goes on for too long it's not worth it, but five minutes is pretty good because it's going to help you get a job, so I think it's really worth five minutes of every lesson. (boy, year 9)

I find it hard to concentrate, it's supposed to get everything out of your mind, well, I can't stop thinking about things, everything comes into my mind, I guess I have a problem with being tense. It's up to the people to put their mind to it. I think it would probably help me, but I have too many things on my mind. It's not very good to be tense. I might give relaxation a try. (girl, year 9)

Some kids are a bit destructive, perhaps they think it's no good to do it, you know the big tough act. (boy, year 9)

It's not that we don't like it, sometimes I can do it, but the rest of the time, I don't know, she just acts like one of those psychiatrists or something. She's good at it, but I just sit there and stare at one point. The sec-

ond part when she does it with the music always helps.
(girl, yr 9)

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L'attitude des étudiants envers l'utilisation de la musique et calme d'esprit durant leurs cours de langue au lycée.

Cette étude est destinée à avoir une indication de l'attitude des enfants envers l'utilisation des éléments de la Société pour Accélérer les Etudes et l'Enseignement dans leurs cours de langue. 118 étudiants de deux lycées utilisant trois différentes approches ont été interviewé: interviews de classe, interviews individuels et questionnaires. Ceux-ci ont révélé que la plupart des étudiants ont bien aimé SALT (ou SAEE) et pensant qu'elle a un effet sur leurs études et conduite, mais ils ne veulent pas l'admettre en publique. Les résultats on indiqué en outre qu'un grand nombre d'étudiants n'aimaient pas le choix de musique, et qu'ils avaient des difficulté à supporter l'extrait des images durant les sessions de calme d'esprit.

Die Einstellung der Schüler gegenüber dem Gebrauch von Musik und Entspannung im Sprachunterricht aut der Oberschule.

Diese Studie untersucht die Einstellung der Schüler, in deren Sprachklassen die Elemente von SALT wurden gebraucht. 118 Schüler an zwei Oberschulen wurden auf drei verschiedene Methoden gefragt: klasseninterview, individuelle Befragung und Fragebögen. Diese hat gezeigt, daß die meisten Schüler die SALT Methoden mochten und meinten, sie hätte einen positiven Einfluß auf ihr Lernen und Verhalten, doch wollten sie diese nicht öffentlich zugeben. Die Ergebnisse der Umfrage

zeigte weiterhin, daß die meisten Schüler die Wahl der Musik nicht einverstanden waren und daß sie während der geistigen Entspannung Schwierigkeiten mit abstrakten Bildern hatten.

Nos hubiera gustado querer, pero no nos permitieron atrevernos o... Las actitudes de estudiantes de bachillerato hacia el uso de musica y sosegación mental en su clase de lengua.

Se diseñó este estudio con el objeto de obtener alguna indicación de la actitud de niños hacia el uso de elementos de SALT en su clase de lengua. Se entrevistaron 118 estudiantes en dos escuelas utilizando tres métodos distintos: entrevistas en clase, entrevistas individuales, y cuestionarios. Estas entrevistas indicaron que a la mayoría de los estudiantes les gustó SALT, que sintieron que tuvo un efecto positivo en su aprendizaje y comportamiento, pero que estaban poco dispuestos a admitir esto en público. Los resultados indicaron además que a la gran mayoría de los estudiantes no les gustó la selección de música, y que tuvieron dificultad manejando imágenes abstractas durante la sosegación mental.

RELAXATION AND IMAGINATION IMAGERY

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Abstract Two questions were addressed by this study. Does a guided relaxation exercise elicit the relaxation response measured by skin temperature? What is the relationship between skin temperature and controllability and vividness of visual and auditory imagery? Subjects (N=132) were randomly assigned to act as subjects or observers. Observers observed and recorded skin temperature during a guided relaxation exercise and while responding to the visual and auditory sections of the survey of mental imagery (SMI). There was a significant ($p < .001$) linear trend and also a significant ($p < .001$) nonlinear trend in changes in skin temperature. These results indicated that subjects did exhibit a relaxation response to the guided relaxation exercise. There was not a significant relationship between relaxation and performance on the SMI. Results, implications and recommendations are discussed.

Introduction

Imagery is believed to play a crucial role during the incubation and illumination stages of the creative process (Hull & Render, 1984a). The type of imagery that is at work during these stages, imagination imagery, is characterized by its low controllability and high vividness. The state of consciousness associated with imagination

imagery is one of relaxed attention where there is reduction in sensory stimulation coupled with a degree of conscious awareness (Hull & Render, 1984a). Green, Green, and Walters (1970) found that imagination imagery is experienced when the brain is emitting low-frequency alpha and theta rhythms. Alpha rhythms are associated with daydreaming while theta rhythms are associated with borderline sleep and reverie.

Research has shown that the state of consciousness associated with imagination imagery can be enhanced in several ways. Use of electroencephalographic biofeedback can be used to train subjects to voluntarily enter the state of consciousness where low-frequency alpha and theta rhythms are emitted (Green et al., 1970). In addition, techniques such as progressive relaxation; hypnosis; zen, yoga and transcendental meditation; and autogenic training have been associated with the reverie state. Besides increasing alpha and theta rhythms, these techniques elicit the healthful relaxation response which includes decreased oxygen consumption, respiratory rate, heart rate and muscle tension and increased skin resistance (Benson, Beary & Carol, 1974).

Understanding of the role of imagination imagery in the creative process and of ways to enhance this imagery should help educators in their quest to improve their students' creativity. Relaxation training seems particularly suited to classroom settings since it is simple and cost effective. Nevertheless, in a previous study, a relaxation exercise administered in a classroom setting showed virtually no significant effects on the controllability and vividness of imagery (Hull & Render, 1984b). There were, however, shortcomings in the procedure of that study. Even though the subjects were taken through a relaxation exercise, it was not known whether subjects had achieved the relaxation response. Following the relaxation exercise, the subjects were asked to

complete The Survey of Mental Imagery (Switras, 1979) by opening their eyes, reading the survey, and blackening in the desired response on an IBM answer sheet. This method of responding may well have cancelled the relaxation response had it been achieved.

The present study was designed to overcome these shortcomings. Specifically, it investigated the following questions:

1. Did the chosen relaxation exercise elicit the relaxation response?
2. What is the relationship between skin temperature, and controllability and vividness of visual and auditory imagery?

Method

Subjects The sample was 132 University of Wyoming students enrolled in Educational Foundations courses.

Procedure Ten classes participated in the study. Students within each class were randomly assigned to act either as subjects or as observers. Each subject was paired with an observer. Subjects were given directions on how to respond to The Survey of Mental Imagery using hand signals. A small skin temperature instrument called a "biodot" was placed on the finger of each subject. Each observer recorded the color of each subject's biodot at ten assigned times throughout the study. The first reading was taken prior to the relaxation exercise, thereby providing a baseline skin temperature for each subject.

Following the initial biodot reading, subjects sat comfortably with their eyes closed and listened to a taped relaxation exercise (See the Appendix). Four skin temperature readings were recorded during the relaxation exercise. After the relaxation exercise, subjects

were asked to remain in their relaxed state with their eyes closed. They were reminded of the hand signals to be used in responding to the survey. A skin temperature reading was taken before the survey was read. Then the researcher read the survey, and the observers recorded the subjects' hand-signalled response to each item. Two skin temperature readings were taken during the visual portion of the survey, and two skin temperature readings were taken during the auditory portion of the survey. Subjects were told to return to a waking state with eyes open, when the survey was completed.

Instrument

Imaging ability was assessed with Form A of The Survey of Mental Imagery (Switras, 1979). The instrument is a self-report measure which measures both controllability and vividness of imagery in seven sensory modalities. However, in this study only the visual and auditory sections of the survey were utilized. The survey has been shown to be a reliable measure of mental imagery (Hull & Render, 1984b; Switras, 1979). The survey has been validated against several other existing imagery instruments (Switras, 1979).

A sample question from The Survey of Mental Imagery is:

Can you see the color red? 1-no, 2-unsure, 3=yes.

Rate its vividness: 1=low, 2, 3, 4, 5=high.

Results

An analysis of variance with repeated measures was used to determine if any pattern of skin temperature change existed over the ten readings. There were eight possible bi-dot colors ranging from black, the coolest skin temperature, to violet, the warmest skin tempera-

ture. Cool skin temperature is associated with tension while warm skin temperature is associated with relaxation.

Table 1 shows the means and standard deviations of skin temperature for the ten recorded times. Both a significant strictly monotonic trend ($F = 76.70$, $df = 1$, $p < .001$) and a significant non-monotonic trend ($F = 52.65$, $df = 1$, $p < .001$) were shown.

Table 1. Means and Standard Deviations of Skin Temperature at consecutive times. (N=131)

<i>Time</i>	<i>Mean</i>	<i>S.D.</i>
1	4.50	2.19
2	4.60	2.11
3	5.39	2.27
4	5.78	2.25
5	6.15	2.07
6	6.04	2.02
7	5.91	1.87
8	5.82	1.95
9	6.02	1.93
10	6.11	1.93

In order to determine if any relationship between skin temperature and imagery production existed, each subject's skin temperatures at times seven through ten were correlated with his/her imagery scores using Pearson r 's. Tables 2 and 3 show the correlation coefficients for each of the relevant correlations.

Table 2. Correlations between Skin Temperatures and Visual Imagery

<i>Time</i>	<i>Visual Controllability</i>	<i>Visual Vividness</i>
7	-.13 (n = 132)	-.11 (n = 127)
8	-.11 (n = 132)	-.10 (n = 127)

Table 3. Correlations between Skin Temperatures and Auditory Imagery

<i>Time</i>	<i>Auditory Controllability</i>	<i>Auditory Vividness</i>
9	-.04 (n = 131)	-.04 (n = 127)
10	-.15 (n = 131)	-.11 (n = 127)

Discussion

One question this study investigated was whether or not a relaxation exercise would elicit relaxation. As a group, the subjects' skin temperatures increased with both significant linear and nonlinear components from time one to time ten. Since increased skin temperature is associated with relaxation, it appears that the relaxation exercise was in fact effective for most subjects.

A significant nonlinear component showed a pattern of increasing skin temperatures from time one through time five, followed by a pattern of decreasing skin temperatures from time six through time eight, followed finally by another increase during times nine and ten. Subjects were finished listening to the relaxation tape and had been reminded of the procedure for answering The Survey of Mental Imagery when time six was

recorded. It appears that the subjects lost some of their relaxation response when their focus was shifted from relaxation suggestions to survey instructions. Subjects' relaxation lessened further during the visual section of the survey, but began to increase again during the auditory section. Perhaps with further training subjects could learn to maintain the relaxed state despite being asked to engage in mental tasks unrelated to relaxation such as listening to instructions and responding to survey items.

It should be noted that while the relaxation exercise used in this study was effective for the group as a whole, some individuals were not able to relax. Teaching subjects a variety of relaxation techniques would possibly help each person find a technique that works.

The second question that this study addressed was whether or not physiological state and the production of imagery are related. Despite evidence from the literature that relaxation enhances imagination imagery, no correlations were found between physiological state as measured by skin temperature and either controllability or vividness of visual and auditory imagery. This indicates that, contrary to theory, imagery production does not seem to be related to physiological state in this study.

Several questions suggested by this study could, however, lead to further research. Even though subjects did increase their skin temperatures and therefore become more relaxed, they may not have been relaxed deeply enough to produce the low-frequency alpha and theta rhythms which are associated with the production of imagination imagery. Future research might investigate whether providing subjects with several days or weeks of relaxation training would allow them to relax

more deeply and to produce imagination imagery. Also, more research on the relationship between skin temperature and states of consciousness associated with varying brain-rhythm patterns could also be conducted.

Another question raised by this study is whether imagination imagery can be measured using an instrument such as The Survey of Mental Imagery. Imagination imagery is characterized by low controllability and high vividness. The Survey of Mental Imagery treats these two aspects of imagery as parts of a whole rather than as separate characteristics; that is, respondents are first asked to produce a specific image (controllability) and are then asked to rate the vividness of that specific image. However, a person experiencing imagination imagery, while not having much ability to produce the specific image requested, might experience a highly vivid image other than that requested by the survey item. In answering the survey, the person would nevertheless have to report that the requested image was not vivid at all. Future research might use different instructions for The Survey of Mental Imagery or a totally different instrument.

This study does not support the theory that relaxation can enhance the production of imagination imagery. More research is needed in order to understand how one might learn to produce imagination imagery at will.

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APPENDIX: RELAXATION EXERCISE

Check your face. Make sure there's no contrived expression at all...Just simple, natural.

Consciously you will relax each part of your body...Breathe rhythmically and smoothly. Concentrate on the palms of your hands, feeling life energy.

Relax your right foot...Relax your right ankle...Relax the calf of your right leg...the knee...and the right thigh.

Relax your left foot...your ankle...the calf of your left leg... your knee...Relax your left thigh...Both legs feel limp and at ease...

Relax the right hip...the left hip...Relax the abdominal area... Relax your right hand and each finger...Forearm relax...the right elbow...the right upper arm...

Relax your left hand and each finger...Forearm relax...the left elbow...and the left upper arm...Both arms feel limp and at rest...

Relax the base of the spine...lower, middle, and the upper back... Relax the heart...Peace is in your heart, your mind...Enjoy this peace in and around you...

Relax your shoulders, the back of your neck...the base of your skull...

Relax the front of the neck...the thyroid area at the base of your neck...relax your face...your mouth...your cheeks...nose...rest your eyes...

Concentrate your awareness between the eyebrows, at the third eye the forehead...and the top of the head...Breathe rhythmically, deeply.....Allow yourself these moments of peace and quiet. Rest in childlike simplicity.....Allow yourself the pleasure of peace.

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Relaxation et Imagination des Images

Deux questions ont été traitées dans cette étude. Est-ce qu'un exercice de relaxation dirigé provoque la réponse de relaxation mesurée par la température de la peau? Quelle est la relation entre la température et le contrôle et vivacité de l'image visuelle et auditive? Des sujets (N = 132) ont été désignés pour servir de sujets ou observateurs. Les observateurs ont noté et enregistré la température de la peau durant un exercice de relaxation dirigé et pendant qu'ils répondaient aux sections visuelles et auditives à l'examen mental de l'image (SMI). Il y avait une tendance linéaire significative ($p < .001$) et aussi une tendance non-linéaire significative ($p < .001$) dans les changements de température de la peau. Ces résultats ont indiqué que les sujets ont exhibé une réponse de relaxation à l'exercice de la relaxation dirigé. Il n'y a pas eu de relation significative entre la relaxation et la performance à l'examen mental de l'image. Les résultats, implications et recommandations sont discutés.

Entspannung und Phantasiebilder

Zwei Fragen werden in dieser Studie gestellt. Erhöht eine geleitete Entspannungsübung die durch Hauttemperatur gemessene Entspannungsreaktion? Welche Beziehung besteht zwischen der Hauttemperatur, der Kontrollierbarkeit und der Intensität von visuellen und auditoriellen Bildern? Willkürlich wurden die 132 Teilnehmer in zwei Gruppen zugeteilt: die Subjekte und die Beobachter. Die Beobachter beobachteten und notierten die Hauttemperatur während einer geleiteten Entspannungsübung sowie bei der Reaktion auf sichtbare und hörbare Abschnitte der Überwachung der geistigen Bilder. Eine entscheidende ($p < 0.001$) lineare Tendenz und auch eine entscheidende nicht lineare Tendenz ($p < 0.001$) in Veränderung der Hauttemperatur war ersichtlich. Diese Resultate wiesen darauf hin, daß die Subjekte entspannend auf die geleiteten Entspannungsübung reagierten. Es gab keine entscheidende Beziehung zwischen Entspannung und der Ausführung der geistigen Bilder. Resultate, Implikationen und Empfehlung werden hier diskutiert.

Relajación e Imaginación en Imaginería

Este estudio se dirigió a dos preguntas. Puede un ejercicio de relajación guiado producir la reacción de relajación medida por la temperatura de la piel? Qué relación existe entre temperatura de la piel y controlabilidad y vivacidad de imaginación visual y auditiva? Se asignaron sujetos ($N=132$) al azar a actuar como sujeto u observadores. Observadores observaron y marcaron temperatura de la piel durante un ejercicio de relajación guiado mientras los sujetos respondían a la sección visual y la sección auditiva del examen de imaginación mental (SMI). Se encontró una tendencia lineal significativa

($p < 0.001$) y también una tendencia no lineal significativa ($p < 0.001$) en cambios de temperatura de la piel. Estos resultados indican que los sujetos mostraron una respuesta de relajación al ejercicio de relajación guiado. No se encontró una relación significativa entre relajación y rendimiento en el SMI. Se discuten resultados, consecuencias y recomendaciones.

Japanese Language and SALT

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Abstract. This paper deals with the problem of western language education for Japanese and that of Japanese language education for westerners. The author believes that the effect of visual information in the memory formation process of most Japanese has a more important role than that of the simple phonetic sound environment, even though Tsunoda's famous research stresses the importance of audio environment in Japan. At the same time, the author points out the necessity of the research on Double-Plane-oriented Education (DPE) so as to increase the achievement ratio in the current SALT classes.

* * *

Remarkable Features of Japanese Language

The most remarkable differences between Japanese and western languages may be summarized in two points. The first point is the use of hieroglyphic or Chinese characters in its sentences, and the second point is that its sentences are written by the mixture of two kinds of letters, i.e. hieroglyphic and phonetic alphabet or "kana." In discussing the first point, one might assume that the situation must be the same in China. However, it

must be remembered that there is a different condition there, i.e. the four Chinese tones or accents are used for pronunciation, while Japanese has no such discrimination scheme between the different meanings with the same pronunciation. For example,

MĀ MĀ Mǎ and Mǎ

媽 麻 馬 罵

have different characters with different meanings in Chinese, and so they can discriminate between words. But in the case of Japanese language, we cannot understand their meaning without some means of judging monotonic pronunciation. Even though the Japanese can discriminate different words with the same pronunciation in very rare cases, e.g. "hashi" corresponds to three meanings: "bridge," "chopsticks," and "edge," in most cases we have no special intonations or accents for different meanings. This characteristic is more remarkable in the expression of complex and sophisticated contents. In spite of these situations, the reason why most Japanese can understand and discriminate between words using the same pronunciation may be attributed to the imagination of hieroglyphic characters in their brains. Such associations appear to be largely unconscious but allows them to derive the proper meaning from its place in context.

The second point, use of the phonetic and hieroglyphic alphabet, has two "kana" variations: "hira-gana" and "kata-kana." Thus, the total number of phonetic alphabetic characters is about 100. These kanas are used for verbs, auxiliary verbs and particles, etc. On the other hand, most nouns are expressed by Chinese characters of about 2000 letters. Japanese sentences

are a mixture of these various letters. Usually, words of foreign origin are written by kata-kana or sometimes by Roman alphabet. Because of this complex mixture, sentences require more time than that of western language, though it has been greatly improved and speeded up recently by the advent of word-processors. On the other hand, we believe that the reading speed of Japanese is generally faster due to the use of hieroglyphic characters, which are far easier to recognize than letters of the phonetic alphabet. The children in our kindergartens learn to read the Chinese characters first, and to write the kana. This phenomenon may be understood by recalling how easily a baby learns to distinguish its mother's face. Such pattern recognition may be involved in the recognition of hieroglyphic letters and may be easier to learn than phonetic characters.

Dr. Gabriel Racle (1980) has introduced in the *SALT Journal* Tsunoda's description of the possible brain functions of the Japanese. His view stresses the importance of vowel sounds in the Japanese language. I also agree such sounds are critical for distinguishing meaning, but wish to add that the visual effect is also important. The language culture of the Japanese brain is therefore strongly affected by both visual and audio stimuli.

Development of Multi-language Learning

When compared to the Japanese language, language expressed with the Roman alphabet is learned mostly through the auditory sense. Mr. Yoh Sakakibara, president of the Transnational College of LEX (Language Experience, Experiment and Exchange), tried a curriculum of multi-lingual activities, teaching English, Korean, Spanish, French, Chinese, German and Japanese simultaneously. He found that there exists a mutually opposing consciousness within the bilingual environment, while it

disappears in a trilingual world or more. The Canadian government introduced suggestopedia in 1973 in order to train the English-speaking officials in French. In the bilingual speaking countries, it is said that very few can speak both. The author supposes that this is due to the mutually opposing consciousness between two languages. Sakakibara says that a symbiotic consciousness appears at the instant when the situation of an over-trilingual environment emerges, dissolving whatever mutually opposing consciousness that existed before in the bilingual society. His language class became successful after he added Spanish lessons. The students began to compare two languages and said, "I like this language" or "No, I like that language." These choices fluctuated after a moment and then they enjoyed singing each language alternatively. The speaking ability of students gradually increased later. Thus, he has now increased the number of languages to six.

I met with Mr Sakakibara in 1986 and found that the students in his class had no apparent progress for the first year, after which they progressed rapidly. I had noticed that multi-language learning is very similar to the pattern recognition in visual learning. We can easily memorize thousands of our friends' faces by discrimination of visual stimuli. Just as babies learn to discriminate their mothers' faces at first, given strong motivation we may discriminate and learn the features of several different languages. The Hippo Family Club was organized to create such an environment

LEX operates a sub-organization for daily activities called Hippo Family Club. Through this club, language facilitators, called "fellows" play a prominent role in assisting members to learn foreign languages. Currently, in order to provide a richer variety of multi-lingual settings, people of other nationalities are being encouraged to

become fellows and members. (Sakakibara, 1984).

Tomimoto Amano (1982) has also proposed multi-lingual education by three languages together with the Amano chair and it seems his psychological idea is a little different from Sakakibara's.

Foreign language learning for Japanese and Japanese language learning for foreigners are not necessarily the same, but at least in the former case, the unconscious association of Chinese characters plays an important role for effective learning. Multi-language learning may be further improved by introducing the idea of audio-visual symbiosis.

Introduction of Display Session

As a natural result of the preceding discussion, the author has newly introduced a display session between active and passive sessions currently used in the conventional SALT classes. Of course, I would not like to use the word "final" as used in my former paper (1984), in the meaning of general education, but instead, for the narrowly limited case of SALT as engineering education in a large size college class over 400 students in one department.

The lesson program of the usual SALT class may simply be summarized as follows:

- a. Oral lecture
- b. sessions (1) active session
(2) passive session
- c. elaboration

Let us call this curriculum the standard SALT system. Of course, the elements of playing, games, psychodrama,

etc., must be included in the curriculum, but these may be considered as a part of elaboration.

The author's method may be summarized also in a simple form as follows, calling it as "audio-visual system":

- a. oral lecture
- b. sessions (1) active session
 (2) display session
 (3) passive session
- c. elaboration

The details of the audio-visual system are already published in the SALT Journal, so it may not be necessary to repeat them here. This system is the result of five years of experiments, and I believe it is the best one for large size college classes, although minor improvements may be expected hereafter in the course of future practice. For the time being, some explanations might be necessary about the display session in the system in question. In this session, no oral explanation is given by the teacher except overhead projector demonstrations with background meditative music. I believe this not only facilitates the communication between conscious and unconscious channels under the influence of this music, but also may set up the psychological conditions necessary for the passive session without the teacher's direct suggestion. Finally, students will recover their regular consciousness by the allegro music played for a few minutes at the end of a passive session.

In the elaboration time, the students solve easy quizzes by consulting each other and the patrolling teachers, because they are allowed to talk to each other freely during this interval. In favor of the audio-visual system, the author was able to educate a large number of engineering students with great success.

Double-Plane-Oriented Education (DPE)

The so-called "double-planeness" is one of the important means of suggestion to overcome the anti-suggestive barriers and to achieve desuggestion, which is one of the elements of nonspecific mental reactivity (NMR), as was shown by Lozanov (1978).

In spite of a maximum achievement record of 1800 or 3000 words per day as reported by Wolkowski (1974), most of the actual classes are said to have attained only 200 words per day, or a 3 to 5 times acceleration over conventional classes. This result, I suppose, is due to the incomplete training technique on the teacher's side, especially in double-planeness. Of course, Lozanov (1974) emphasized that no suggestive work should start without teacher mastery of the double-planeness of behavior. Though I have to agree with his view in this point, still his explanation about the second plane seems abstract.

On the other hand, most of the neuroanatomists suggest that all memories are not stored in one specified location in spite of extensive research. Professor Richard Thompson (1984) of the Psychology Department, Stanford University, developed evidence pinpointing precisely where certain memories are stored in part of the cerebellum. These memories do not mean all memories for all time, so some assumptions are necessary to explain the mechanism of memory functions and to improve the curriculum of the SALT system. The author also would like to allow revising the following assumptions, if necessary, after listening to the latest brain research on the memory by Dr. Lynn Nadel. But before proposing my assumptions, I tell this story.

On the way back from Rio de Janeiro (Third International Symposium on Accelerative Learning) last March,

1987, the author met a medical doctor, Leopold Diaz Martines, of Guadalajara, Mexico, and got an important hint for accelerative learning techniques. He once met an unknown patient when he was examining many other patients at the National Railway Worker's Hospital, then (October 26, 1976) a vice-director there. After treatment, the unknown patient disappeared after going out the hospital door. According to the doctor's reflection after telling him goodbye, he noticed that the contents of knowledge got from the unknown patient required a week or so to explain to his friends by vocal means. "I cannot explain," he said to the author, "why such an amount of information has been stored in my memory only in two hours." The author also could not explain the reason for his outstanding ability of memory at a younger age. According to his retrospection, his nickname during his student days was "Page." He could remember the contents of an anatomy book of about 1500 pages for a year and he could instantly point out the appropriate page after listening to a question given by his friends.

It is time to consider deeply the case of Dr. Diaz and propose some assumptions. The following assumptions which may explain the theory of accelerative learning of Dr. Diaz, may also be useful for elucidating the mechanism of our double-planeness. Of course, the second plane may be invisible to physical scientific means, but we may assume that it really exists. Furthermore, the memory capacity of the second plane is so enormous that all the information in our lives can be stored there easily. At the same time, the channel capacity of the second plane is so large, that all the coming information may be processed almost instantly. However, the amount of information and the processing time in the first plane is limited by our five senses and the physical nervous system. The author also would like

to propose one more assumption that there must be an information channel between the first and second planes, called "antaskarana" (Bailey, 1925). But it might be better to call it "higher path" for simplicity's sake. This higher path is not available normally for ordinary people. Only some information can pass through this easily and sometimes with difficulty, depending on the individual mental condition. Here is the key for finding out the technique of DPE.

Just as the computer has temporary memory (registers) and permanent memory (main memory), our brain must have two kinds of memories. The memory in the first plane may correspond to the register in a computer, while the memory in the second plane may correspond to the main memory. Assuming these assumptions, then we can consider three main routes to reach the main memory. The first is the direct route to the second plane through the sixth sense, the second is the indirect route through visual images and the higher path, and finally the third is the indirect route through the audible sense and the higher path. The author would like to recommend not only learning through the second and third routes, but also learning through the first route, because the DPE may be achieved by the combination of all routes. A fourth route through the sense of touch may exist, having a special use as learning Braille by the blind.

In the case of Dr. Diaz, the information was sent through the first and third routes, but he was unconscious of the former route. However, his learning ability in his youth to receive visual information page by page and to express them vocally substantiates the easy communication through the higher channels.

In conclusion, it may be worth considering developing DPE, especially for the efficient learning of Japanese language for westerners as well as western languages for the Japanese. One example is the introduction of the "display session" between active and passive sessions which the author has used for engineering education in a large size class. In this session, it may be very effective to mix beautiful and authoritative pictures among many instructive materials. Another example is the use of the learning speeder proposed by Dr. Machado (1982) and applied to his CLC system.

Some Remarks

Finally, I have some remarks on the learning problem of Japanese language by foreigners. The importance of the audio-visual symbiosis is not so necessary for primary grades or everyday conversations. However, for training Japanese language teachers, where they have to learn Chinese characters, an audio-visual symbiosis is absolutely necessary. This is the reason why the author recommends a display session in the course of the curriculum. On the other hand, there has been no proper Japanese dictionary with Chinese characters available by foreigners until recently. Fortunately, a foreigner from Israel (Halpern) to Tokyo, studied Japanese many years and compiled a dictionary which is convenient for foreigners to search for new characters by the principle of pattern recognition, and which will soon appear in bookstores after July 1987.

Material to be shown in the display session may be usually pictures, but the author supposes the hieroglyphic characters from such a dictionary may bring the same effects to the students in listening to meditation music. By this means, we can exclude the suggestive words usually given in suggestopedia before the passive

session, and thus make it possible to activate the limbic system without hypnotic techniques.

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La langue Japonaise et la Société pour Accélérer les Etudes et l'Enseignement

Cette étude s'occupe du problème des d'études de langue de l'Ouest par les Japonais et celui des études du Japonais par les gens de l'Ouest. L'auteur pense que l'effet de l'information visuelle dans le système de formation de la mémoire de la plupart des Japonais a un rôle plus important que celui d'un simple milieu de sa phonétique, bien que la fameuse recherche de Tsunoda insiste sur l'importance du milieu audio au Japon. L'auteur fait remarquer, en même temps, la nécessité de recherche sur "Le Point Double de L'Education Dirigée" (PDED) en vue d'augmenter le taux de réussite dans les cours actuels de la Société pour Accélérer les Etudes et l'Enseignement.

Japanische Sprache und SALT

Diese Studie handelt von Problemen des westlichen Sprachunterrichts für Japaner und des Japanischunterrichts für Westliche. Der Autor glaubt, daß die Wirkung der visuellen Information im Prozeß der Gedächtnisformationen bei den meisten Japanern viel entscheidender sei als die der einfachen phonetischen Tonumgebung - wenn auch Tsunodas berühmte Forschung die Wichtigkeit der auditoriellen Umgebung in Japan betont hatte. Ebenso deutet der Autor auf die Notwendigkeit der Forschung in der Doppelflächig orientierten Ausbildung, damit die Leistungen in den gegenwärtigen SALT Klassen erhöht werden könnten.

El Idioma Japones y SALT

Este artículo trata del problema de enseñar un idioma occidental a Japoneses y de enseñar el idioma Japonés a occidentales. El autor cree que el efecto de información visual tiene un papel más importante que el del ambiente simple de sonido fonético en el proceso de formación de la memoria de gran parte de los Japoneses, aunque la investigación famosa de Tsunoda acentua la importancia del ambiente auditivo en el Japón. A la misma vez, el autor subraya la necesidad de investigación de la "enseñanza orientada al plano doble" (DPE) para aumentar la proporción de resultados positivos en clases actuales de SALT.

**Dual-Plane Awareness Techniques
Other than Lozanov's, for
Accelerating and Enriching Teaching and Learning**

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Abstract. Lozanov demonstrated that to give both conscious and unconscious mind the same data, so that the responses of one "plane of awareness" do not conflict with those of the other "plane of awareness," has therapeutic value as well as pedagogical benefit. Lozanov's description of the nature and role of the "second plane of awareness" is quite consistent with virtually all other findings in the various branches of psychological inquiry regarding "the unconscious mind." This writer proposes visual thinking as another strategy for usefully engaging the rich sensitivities, information and perceptions, held unconsciously and seemingly unavailable to the learner in that second "dual plane". Such visual thinking engages little-noticed phenomena which appear in all of us. The writer defines specific techniques, both teaching methods and tests of the supportability of a number of related hypotheses which appear to be of considerable pedagogical and human consequence.

* * *

Introduction

Dr. Georgi Lozanov's Suggestopedic method builds in large part around the principle of orchestrating class-

room communications to convey the same message to both the conscious and unconscious "planes of awareness" in the learner.

Probably the aspect of Lozanov's theory and practice least argued over, is this aspect of unconscious "second plane of awareness." This may be because of the nearly unanimous observation by most of the diverse branches of psychological inquiry that there is indeed an unconscious level of perception, thought and feeling. If concurrence among many diverse researchers is indicative, there is indeed such an unconscious; this unconscious is a major part of the information processing within each individual; this unconscious aspect interacts extensively with and is usually seen to dominate the conscious responses and information processing of each individual.

In face of these nearly unanimous observations across virtually every diverse branch of behavioral science inquiry, it seems somewhat remarkable that the Suggestological proposition should be accepted so reluctantly and slowly as has been the case. Given the above, it seems clear enough that by arranging matters so as to send the same educational content message to both conscious and unconscious, one reduces the conflicting interference between these two levels within the individual so that the installation of extensive information by such orchestrated means constitutes a useful therapy above and beyond the simple morale boost of finding oneself able to function as a superior learner.

It also seems remarkable that the parallel Suggestopedic aspect should also find similarly reluctant acceptance - that such orchestration of message content to harmonize the conscious and unconscious levels together simultaneously, accelerates learning, improves

the quality of that learning as the dysharmonic "noise" of conflicting inputs is reduced, and results in long-term high rates of accurate recall of the information thus learned. Since we perforce do address the unconscious in ourselves and in each other in *any* case, we might as well look toward doing so in a way which promotes health and clarity rather than their opposites.

Perhaps some lack of understanding of key aspects of Suggestological theory and practice, on the part of some of us who evaluate and even advocate these, has played a role in the slowing of acceptance.

So long as either therapist or educator accepts the essential paradigm of the unconscious as a major factor in the individual, and in the processing of perception and information in each of us, the only admissible arguments should be over the comparative merits of Suggestopedic techniques versus other techniques for relating unconscious to conscious information processing, and over the comparative merits of each respective approach to doing so.

That most psychological and educational argument over Suggestopedia has not even reached these two areas of admissible, respectable, discussion, much less restricted itself to these, appears to say far more about many educators, psychologists and their respective institutions, than it does about Suggestopedia - at least until and unless the present paradigmatic underpinnings of behavioral science, especially those regarding the human unconscious, are called back into question.

In this present paper we shall venture an alternative strategy for productively engaging the unconscious in the act of learning. We shall argue some of the bases for this alternative strategy. We shall propose proce-

dures to test and to implement this alternative strategy. We shall not venture to argue relative merits between this alternative, visual thinking, strategy and the Suggestopedic strategy, except to propose that these several strategies definitely are not mutually exclusive alternatives and indeed appear to be positively synergistic. These are, nonetheless, very distinct strategies.

Whatever the relative merits of the visual thinking strategy vis-a-vis the Suggestopedic strategy may be, on a case by case basis visual thinking's efficacy, thus far has been strongly supported by observation, as has Suggestopedia's. Formal quantitative studies of the Suggestopedic method have, indeed, by now been performed and reported, but we appear to be well overdue for a quantitative testing of the visual thinking strategy on a comprehensive, systematic formal basis. Such an evaluation, which publication of this paper is hoped will encourage, may add substantially to current understandings about human brain and mental function and about human learning.

Bases of the visual thinking strategy

When taken together, two widely or universally accepted findings about human brain function say a great deal about the human unconscious, and suggest strongly a unique strategy with many possible diverse techniques expressible from that strategy for engaging the unconscious productively in the task of learning.

One of these two generally accepted facts is the result of a half century of electroencephalographic (EEG) mapping. 80% of the brain by area is involved in visual response, substantially more than with any other sense, though the various senses overlap also into some of these regions

By contrast a half century of electroprobe study during neurosurgery has demonstrated that less than 1% of the cells of the brain scattered over less than 5% of the area and volume of the brain are involved in conscious response. The rest, a truly vast "silent majority," are unconscious.

Significance of the Relationship between these two Data

The preponderance of visual response is at unconscious levels. Visual response arises mostly in unconscious regions of the brain. While unconscious content in those regions plays little role in objective, exterior vision, and only some role in directed interior imagery, it appears to define the product of spontaneous, undirected mental imagery processes, processes which appear to occur in every individual including the reader.

Upon questioning, most subjects acknowledge experience of forms of undirected hypnogogic and/or hypnopompic visual mental imagery in addition to the experience of dreams as such. Beginning around 1974, the writer found he could elicit reported experience of this same undirected imagery in "subjects" (actually, students and clients) in a fully awake state and without hypnosis. The ease of elicitation indicated that such imagery is a continuous, ongoing process within each of us.

Even without any training to create a special mental state or relaxation state, many people, including some readers of this paper, can, immediately upon closing their eyes readily observe this ongoing imagery. A few report that they can observe it even with eyes open, any time they care to switch attention to this ongoing "visual commentary."

Persons who did not report this experience, nonetheless upon closing their eyes in almost every case could soon be observed to be giving some reflexive attention to internal phenomena even though fully awake. Observable cues for such attention-responses include:

- * Movements of the eyes under the closed lids similar to REM Rapid Eye Movement, during sleep;
- * Momentary suspension of breathing, as one holds his breath waiting to see what happens next;
- * Trace muscle responses in face, neck, arms and shoulders.

When questioned immediately after such cues, "What was in your awareness just then?" nearly every subject immediately or soon reports that s/he was indeed having a dream-like visual mental imagery experience and can describe it.

In almost every instance, the act of describing such imagery in sensory-rich detail while eyes are kept closed elicits further and richer visual mental imagery; such sustained ongoing description usually leads to experiences which carry great apparent meaning for the person.

The first two forms of attention cue, the breathing suspension and the closed eye movement, are so readily observed even by wholly untrained observers that this writer designed and published popular-level training procedures and later more comprehensive forms of these procedures, enabling anyone be s/he layman or in a consulting or in a professional or research role, to readily train perception of this ongoing phenomenon in oneself and in others. (Wenger, 1981a & b, 1987a).

Note also that back-up procedures, many of which are also already published (Wenger, 1985) have been able to elicit the perception of this ongoing undirected visual phenomenon in anyone who did not reach this perception from reinforcement of attention cues. Without exception every one of the last several thousand persons trained through various of these procedures has reported experiencing these ongoing visual mental imagery phenomena.

It approaches certainty, therefore, that the reader and many other human individuals with ordinary vision, also possess this ongoing visual and mental faculty and may readily access its perception given appropriate techniques, even if in most of us this phenomenon has until now been largely or wholly unnoticed.

The prevalence of this order of undirected, ongoing visual phenomenon has been masked by a confusion in the literature between these *spontaneous, undirected* images and more directed forms practiced in many programs for a variety of purposes. Virtually everyone referring to "imagery" thus far has referred to *directed* types of imagery and appears unaware even that there is another, *undirected* type with its own significance and its own possible uses.

The writer has suggested a neurological significance and use for the phenomenon in that the actual ongoing *description* of such inquiry, engaging verbal centers in what is usually the far left temporal lobe and very *distant in the brain* from the apparent areas sourcing the experience of such imagery, improves both understanding and intelligence. This "*pole-bridging, exercising and building up links between widely separate regions of the brain through intense combinations of activities and perceptions characteristic of those*

widely separate regions or "poles," may prove to be an invaluable general *strategy* for increasing human intelligence, able to generate hundreds of specific such techniques to render the various resources of the brain more accessible to each other and to whatever tasks and processes are ongoing (Wenger, 1984a).

Apparently effective problem-solving techniques built upon the same phenomenon cast this topic in a highly practical light. For any type of problem: engage this ongoing commentary phenomenon of undirected spontaneous visual mental imagery to quickly find answers to questions, and solutions to problems and problem contexts without otherwise directing the contents of imagery. We have found in such processing:

1. Confirmation that the second "dual plane" is indeed much more sensitive to data, cues and perception than is the first conscious plane.
2. That these two "planes" may be addressed separately, as well as together, that the unconscious may be addressed directly and respond without distortion or interference by the subject's conscious "plane" or mind.
3. Expectations are seated in or near the conscious, so that when the conscious is *unaware* of the topic, problem or question being presented, expectations do not have opportunity to distort the data being "read" from this ongoing undirected visual imagery commentary!

Where Lozanov's strategy in part is to bring conscious and unconscious content into closer agreement, this one element of visual thinking strategy is to *take advantage of the differences* between the "two planes" to bypass some of the limitations found in the conventional "first plane."

Besides practical answer-finding and solution-finding, this latter aspect bears implications for conflict management and conflict resolution counseling, potentially helping to resolve conflicts at interpersonal, interorganizational and international levels.

Applying Image Responses to Settling Conflicts

Beginning in 1980, this writer found in a succession of unpublished experiments that groups which consciously are bitterly divided over some issue, nonetheless *unconsciously agree unanimously on the best resolution of the same conflict issue*, as evidenced by the contents of the undirected imagery resulting when "concealed" questions on that issue are addressed directly to the unconscious!

Despite the remarkable nature of such a finding, let us hasten to add that the *interpretation of undirected imagery content* despite some objective procedures, at the present time is substantially subjective. Where the hard lines of conflict are drawn, such elements of subjectivity limit the acceptance and usefulness of this imagery approach to the resolution of conflicts.

What this finding *does* suggest, however, is that similar unanimity can also be obtained through use of much more concretely objective bioinstrumentation. The writer has proposed a test of the hypothesis that people on all sides of a given conflict are unconsciously in agreement as to how best that issue should be settled. The writer will be pleased to send copies of the general test protocol to inquires c/o this Journal.

Another major area of potentially practical significance for this phenomenon of ongoing undirected visual imagery commentary is pedagogical.

Pedagogical Implications of the Spontaneous Imagery Phenomenon

Even in highly directed imagery processes, spontaneously unexpected, surprise components of experience often appear. Both these and the wholly undirected, spontaneous, ongoing form of imagery phenomena reflect unconscious data and perceptions formed into imagery within that vast majority of the visual response system of the brain which operates beyond focused consciousness.

A basic teaching procedure, using such phenomena, is to shape a context in reference to the desired intellectual or artistic understandings or physical skills. Use that context, then, to elicit the otherwise undirected content of ongoing imagery, or to define an otherwise undefined "space for surprises" in a directed imagery experience. Have the student continue to observe and to describe such experience aloud. The student thus describes into his/her full conscious perception from the "second plane of consciousness" a far richer awareness than until then could be found in his/her "first plane"

Since 1977 the writer has been using for pedagogical purposes, forms of directed imagery specifically designed to produce areas of surprise, to elicit unconscious data and perceptions in the contexts of particular topics, school subjects and skills. This procedure has proven highly productive, but only recently has it become apparent that the further reaches of this phenomenon, the ongoing visual imagery commentary whose contents are wholly free of limiting direction by the conscious, may also be usefully applied in the pedagogical context (Wenger, 1987).

New Pedagogical Techniques Which Use Undirected Visual Imagery

1. Creating an Assimilative Structure for New Information - Beginning in 1986, after determining that the subject was able to readily perceive consciously his or her own ongoing visual mental imagery commentary, this writer began to counsel individuals to use this whenever they experience or anticipate difficulty in assimilating a text, a homework assignment, a formal paper, or a lecture:

1. The subject is asked or the individual may ask him/herself to see the visual image which somehow will contain the key understanding around which most of that text or assignment or lecture content will revolve.
2. The instruction to the subject is worded somewhat like this, "Even now, your mind's eye has prepared a picture which is waiting for you to look at, which contains in some unexpected way the key understanding (of this book, assignment, lecture, whatever). Everything in this (book or whatever) revolves around this key understanding. Close your eyes and look at that image *now* to see what that key is."
3. The subject then describes aloud or in writing or sketches, the image s/he sees, then goes on to the next task.
4. In virtually every instance, even where the subject has had no previous contact with the text and seemingly no reasonable basis for contact with its subject matter, the subject has reported an immediate transformation from experience of difficulty and unintelligibility to transparent ease and richly meaningful intelligibility of the text or task content.

5. It may be argued that to place into the mind *any* cognitive hook or structure, upon which to sort and hang the contents of text or task as they are encountered, may produce somewhat similar results. That is definitely in need of further investigation, but thus far the *degree* of apparent transformation appears greater than that explanation may account for. Nor have we yet tested for results with totally unintelligible papers (we trust the reader will not consider this present paper one such!)

The obvious next stage of investigation, which should be undertaken systematically at an institution, should be to select texts, papers and taped presentations with varying degrees of apparent difficulty relative to the selected ability levels of the experimental and control subjects. Develop a battery of test questions to assess the degree and quality of comprehension of these materials, comparing from group to group in the experiment.

The control group would be without instructions, simply run through the materials and tested for comprehension afterward. One experimental group would be given training and experience in undirected visual mental imagery, but would not be instructed to use this imagery in pursuing the text materials. Hypothesis - that these subjects, due to "pole-bridging" effects, building up communications within the brain, will show some improvement in performance when compared with the controls, but perform considerably less well than the fully experimental group.

A second experimental group will be given some other arbitrarily chosen image or idea to serve as a cognitive hook or assimilative structure to keep in mind while pursuing the materials. The hypothesis is that any

idea or image serving as a cognitive hook and sorter is better than none in assimilating new information for comprehension. But it should be far less so than the images generated in context by the unconscious regions of the visual response systems of the brain. We predict some gains in rates of comprehension, but considerably less than with the fully experimental group.

The third, fully experimental group, first will be trained to perceive ongoing undirected imagery, and then will be instructed as per the above protocol. We hypothesize that images generated in context by unconscious regions of the visual response systems of the brain will be especially useful in sorting and retaining at useful levels the information pursued from the context.

We predict that the ability of the unconscious component of the brain's visual system to sensitively detect and project the essence of intellectually demanding discourse, and the use of this phenomenon to accelerate and enrich the acquisition of conscious understandings will be substantially supported. The rate of comprehension by this fully experimental group should far outstrip that of all other groups.

The fully experimental group, trained and practiced in experience of "Image Streaming" (orienting to and then concurrently describing in sensory detail aloud these undirected visual mental images), then instructed to find an undirected key image when pursuing such text materials, should show profound gains in rates of comprehension over other groups, and in so doing demonstrate this procedure as a potentially very major pedagogical technique for accelerated and enhanced learning.

11. Using Such Imagery in the Integration of Knowledge

In a previous paper (Wenger, 1987c), we argued that most schooled subject matter has been taught "in boxes," so separated from context to context that most students are unable to generalize in their learning from the particular context in which they learned it, and are unable to either recall or transfer much of what they have been taught beyond that initial limited specific classroom context. This loss by most students occurs to such an extent that education itself has often been described as "what you have left after you've forgotten everything you've been taught." This loss represents a prodigious waste of time, effort and resource on the part of all who are involved with it, especially if there are viable alternatives available which would assure long-term retention and transfer of the contents of learning (Wenger, 1987c).

One of the attractions of Suggestopedy is its apparent tendency toward high rates of long term recallability of information learned by that method. Beyond Suggestopedy, Jerome Bruner (1966), Oliver L. Reiser (1958), Mortimer Adler and others have made a respected case for the proposition that to integrate knowledge in the curriculum, focusing the student's awareness on a recognizable structure of principles or natural "laws" common to many different contexts, will indeed produce high rates of recall of learning and of transfer from initial contexts to manifold general usefulness, and will further enrich immensely the level of meaningfulness of all experience subsequently encountered by students thus prepared.

This writer went on to propose a curriculum procedure, an initial cognitive "hook" or assimilative structure

to aid this procedure, and some interactive methods which would make it easy for educators to induce their students to develop such integrations *even where* teachers and schools have no such intellectual integrations of their own to work from (Wenger, 1987 a, b, c & d).

Only since April 1987 did this writer discover the obvious, that if students are prepared beforehand in perception of their own spontaneous imagery commentary *to question this reflexive image faculty*, they can then easily and rapidly generate the structural integrations and understandings for their own structure of knowledge.

In the paper just cited, we argued for a curriculum structure wherein schools would conduct courses two at a time, say mornings for one and afternoons for the other over several weeks to be concluded by an "Integration Day" where students would be guided by interactive and well-focused procedures to integrate everything they have just learned with previous material.

Such a procedure would further reinforce the learning just acquired and make it more transferable. It would also revive much of previous learning to useful levels. It would render more meaningful all subsequent experience and learning of the student, especially if a *succession* of three or more such paired courses was followed by such an Integration Day.

However worthwhile the prospective results of such an arrangement may be, pursuit of this as an experiment or as a curriculum procedure is beyond the apparent means of most individual teachers. Most schools have exhibited some disinclination toward even minor changes, much less such a major rearrangement of courses and

curricula. Yet the apparent benefits and basis for such a procedure seem to render it very worthwhile if at all possible to pursue. Further, such a schedule could easily be made into a special summer school program.

The breakthrough, though, in this regard of building an integration of knowledge within students, comes from use of the ongoing spontaneous undirected visual imaging faculty present in every student. This breakthrough renders it feasible for any teacher to easily generate a meaningfully integrated structure of knowledge in every student, even without the further advantages of the proposed pairing of courses and their concluding Integration Days.

Within the limits and confines of any conventionally situated course, the teacher may ask the spontaneous imaging faculty of each student to produce pictures as in these examples:

1. "In what important way does the principle or structure of complex homeostasis show in what we've just learned about the American Revolution?" The student may not "know" the answer but his imaging faculty nonetheless shows him a picture. Describing the picture leads to discovery of its meaning, and s/he generates a meaningful answer to the question.
2. "What key principle from molecular biology will best organize for us a useful understanding of the contents of this algebra class?"
3. What key principles show us physics and chemistry to be one field, not two, and which makes immediate sense out of everything we've learned here?"
4. "What key element do we still need to account for in this synthesis?"

Answers to these questions will sometimes appear literal, but more often symbolic. Students interpret their own symbols and relate them to the question context, thus greatly *enriching their neurological contact with* that question context as well as generating an understanding.

As they do this, they will enrich all their past, present and future learning and experience.

A basic way for the teacher to present such questions is to ask each student to attend to the asking of it with eyes open, then close their eyes to see the image their own faculty has prepared in answer to that question. Then they should draw or describe that image answer, and then begin exploring the ways in which that image appears to answer that question effectively. Note that even if the image did not in fact relate to the question asked, this procedure would serve as a device to get the flow of both ideas and interaction going. Experimenters are invited to ascertain for themselves whether there are unique relevancies which further the process above and beyond this flow-initiating effect.

Even better results in the early phases of the process will obtain if students are paired to describe to each other their perceptions as they go, in as rich a detail as possible. For any phase of the process seen as difficult, you may want groups of 3 to 5 students to improve the chances that one can respond to initiate and model the flow for the rest. For later phases, groups of 4 to 6 may be used to cross-fertilize mind-sets and understandings, and to build toward some formal report to the whole class. Simple procedures for guiding such interactive work are detailed in an earlier issue of this Journal, and spelled out and modelled by example in a simple book for teachers (Wenger, 1984b & 1987e).

While it would be still better to produce such integration through the recommended procedure of paired courses followed by Integration Days, it now appears that individual teachers within the confines of conventionally structured courses can nonetheless accomplish much in the way of productive integration with their students. Through such integration, much previous, current and future learning will become useful and meaningful. We herewith submit this integrative procedure as a potentially major pedagogical technique for accelerating and enriching learning.

In summary we have defined one of possibly many strategies, alternative to or combinable with the Suggestopedic strategy for using the second, deeper than conscious, "plane of awareness" for pedagogically productive purposes. Initial techniques identified from this alternative strategy are easier to apply than is Suggestopedy, and apparently bear upon a wide range of educational aims. We urge formal institutional experimentation to determine the supportability of some very interesting hypotheses regarding brain and mind function, and the act of learning. We predict the results of such experiments will demonstrate the considerable potential of this visual thinking strategy for generating profoundly beneficial pedagogical techniques.

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Dual plan techniques de conscience autre que celui de Lozanov pour l'accélération et l'enrichissement de l'éducation et l'enseignement

Lozanov a démontré que pour donner à la fois l'esprit de conscience et d'inconscience les mêmes données, de telle sorte à ce que les réponses d'un "plan de conscience" ne s'opposent pas à celles d'un autre "plan de conscience" a une valeur thérapeutique ainsi qu'un avantage pédagogique. La description de Lozanov pour la nature et le rôle du "second plan de conscience" est tout à fait consistante virtuellement avec toutes les autres conclusions dans les différentes branches de recherches psychologiques au sujet de "l'esprit inconscient".

Cet écrivain propose la pensée visuelle comme autre stratégie pour engager d'une façon utile les riches sensibilités, renseignements et perceptions, gaudés inconsciemment et apparemment indisponibles pour l'élève dans ce second "dual plan". Cette pensée visuelle attire peu de phénomènes notables qui nous paraissent à tous. L'écrivain définit des techniques spécifiques, à la fois dans les méthodes d'enseignement et pour teste la tolérance d'un nombre d'hypothèses relatives qui paraissent être de conséquence= considerables au humaines.

Doppelflächige Bewußteintechniken – anders als Lozanov – für schnelles und bereichendes Lernen und Lehren

Lozanov hat gezeigt, daß es therapeutischen und auch pädagogischen Vorteil habe, wenn man sowohl dem bewußten als auch dem unbewußten Gehirn die gleichen Daten gibt, so daß die Antworten "Bewußtseinsfläche" der einen "Bewußtseinsfläche" mit denen der anderen Bewußtseinsfläche" nicht in Konflikt geraten. Lozanovs

Beschreibung der Natur und der Rolle der "zweiten Fläche des Bewußtseins" stimmt überwiegend mit den Ergebnissen andere psychologishcen Forschungen über das Unterbewußtsen überein. Dieser Autor schlägt visuelles Denken als einen andere Strategie vor, um die reichen Sensibilitäten, Informationen und Wahrnehmungen, die unbewußt und scheinbar dem Lernenden unerreichbar in der zweiten "Dualfläche" gehalten werden, zu engagieren. Dieses visuelle Denken schaltet kaum wahrgenommene Phenomäne ein, welche bei uns allen erscheinen. Der autor erklärt bestimmte Arten der Ausföhrung, welche beides, Lehrmethoden sowie Probe der Glaubhaftigkeit einiger verwandten Hypothesen, welche scheinbar von bedeutender pädagogischer und menschlicher Konsequenz sind.

Técnicas de Conocimiento del Plano Doble, aparte de las de Lozanov, para Acelerar y Enriquecer Enseñanza y Aprendizaje

Lozanov demostró que dando los mismos datos a la mente consciente como a la mente inconsciente, para que las respuestas de un "plano de consciencia" no tengan conflicto con las del otro "plano de consciencia", tiene tanto valor terapéutico como beneficio psicológico. La descripción de Lozanov sobre la naturaleza y el papel del "segundo plano de consciencia" es consistente con prácticamente todos los demás descubrimientos en las varias ramas de investigación psicológica con relación a "la mente inconsciente". El escritor propone pensamiento visual como otra estrategia para utilizar las ricas sensibilidades, información y percepciones, mantenidas inconscientemente y aparentemente inaccesibles al aprendiz en el segundo "plano doble". Tal pensamiento visual ejerce fenómenos que son poco notables pero que aparecen en todos nosotros. El escritor define

técnicas específicas, tanto métodos de enseñanza como de examinar el sostenimiento de hipótesis relacionadas que parecen tener consecuencias pedagógicas y humanas considerables.

BOOK REVIEW

A Teacher's Guide to Whole Brained Learning: The Vision and the Practice, by Peter W. Majoy, 114 pp., 1987. Brain Waves, Box 503, Fitzwilliam, NH 03447. 603-239-6058. \$25.00 or \$35.00 with tape. Reviewed by John Senatore.

Pondering the table of contents, is this book for you?

- Introduction
- Opening the 7 Brain Doorways
- Style Stretching
- Brain Synchronicity
- Triune Development
- Holophoric Brain Dimension
- Love & Challenge
- The Unconscious & Right Brain Learning
- Chapter Resources
- More Whole Brained Activities
- Afterword
- Bibliography

It is an excellent starting point if you are new to whole-brain learning, are motivated through professional growth to be a great teacher, are comparing resources and sources, are considering networking, want to explore and experiment, or want to examine another model.

Integrating most, if not all, that Majoy presents is his metaphor of "7 Brain Doorways:" The Intellectual Psychic Door, The Analytical Door, The Automatic Door, The Heart Door, The Movement Door, The Clerical Door, The Purposeful Door. He links these doorways (learning styles) to parts of the brain emphasizing that all doorways overlap and "Unless a teacher dances before an

already open door(s), learning will be more difficult and in some cases impossible."

Majoy wants company, application of research and methods that work, great teachers, differences that make a difference in schools and increased sensitivity to the fact that "Each individual student has a brain-mind that is both universal and particular." Each section of this spiral-bound, copied text presents condensed information, a model activity to open the 7 Doors and a summary. Key functions that open doorways: Imagery, draw, design, list, meditate, elicit emotions, dramatize empathically, review, answer "Why are we doing this?", become what you would understand, write, interpret, present. Essential in these model activities is movement (miming, dancing, acting).

I liked the section on Imagery. Majoy urges those who want to begin whole-brain learning to start with imagery, the route to whole-brain education. "Internal imagery is not only visual," Majoy insists. "There are many imagery states." His learner-interaction activity with the TV delighted me. His section on The Heart-Door: The Right Hemispheric Limbic Brain echoes Leo Buscaglia, yet differs: "It is here that society primes itself for reflective thought and action. Are they motivated by a state of fear or a state of love. (Sic) Both states of motivation can produce thought and action, but only love can underline thought that is liberating of the whole person." I also liked his chapter Resources, More Whole Brain Learning Activities (in biology, math, language arts). Reading his bibliography, I compared backgrounds, influences and noted sources and resources Majoy does not use or possibly know.

Majoy makes his text earnest, often poetic, sincere, enthusiastic; he cries repeatedly for study and adoption

of the materials to produce curricular changes. He states the information in this guide is powerful stuff; "This guide is not a research report...[it] does reflect real classroom experience of almost 20 years...has been used on an everyday basis by me...[so that] what I did as a teacher was immensely rewarding."

For me, now, the text was difficult to stay with on a sustained basis; repeated spelling, punctuation and syntax errors distracted and irritated me, as did single-spaced, crowded pages. This text is best studied and incorporated in existing teaching-learning systems one-piece-at-a-time. Usable, effective, stimulating materials here for the seeker, the motivated.

Images are powerful. We desire and require visions. Majoy's vision of whole-brain learning is more exhortation than compelling images for me. His vision includes great teachers who offer "the pupils the recovery of their lost chances to seize the life of their imagination and make it command the vacancy of the world." He invents the word "Holophors" (holography + metaphor) to remind us "holophores" that we can make richer connections and richer understandings with the whole brain.

I welcome Majoy's grasp; I applaud his study and applications; his reach leaves much for the reader to study, internalize, work to adapt and adopt in specific areas. I recommend this text for examination, reference, discussion, especially for those persons who want help "in their freely chosen transformation," for "The teaching profession needs people who are open, curious, wondering and imaginative..." And risk-takers, whistle-blowers, people with the courage to be whole-brained. Holophores, here's another launching pad!

Book Review

Accelerated Learning by Colin Rose. Dell Publishing Co., Inc., 1 Dag Hammarskjold Plaza, New York, New York, 10017. Dell Trade Paperback: 1987. Reviewed by John Senatore.

"This book presents the background to the development of Accelerated Learning, the evidence, and describes the method step by step", so that "You will be able to try the technique and prove it for yourself." Thus I submit Rose's book may be the popularizing, everything-you-wanted-to-know-initially book about Accelerated Learning.

Chapter 1 deals with the research that re-defines principles of learning for "Your Incredible Brain." Chapters 2, 3, and 4 discuss "The Basis of Memory," "Improving Your Memory," and "Memory Aids," since "There can be no learning without memory." "The Power of Suggestion," Chapter 5, inspects the interconnectedness of imagination and suggestion, differentiates between suggestion and hypnosis, and emphasizes uses and misuses of the presumption that "The subconscious mind cannot differentiate between what is real and what it believes is real."

"The Genesis of Accelerated Learning," Chapter 6, reviews Lozanov and the Lozanov Method and ends with questions that troubled Rose that he answers in subsequent chapters: "What is the Role of Music?" (Chapter 7); "If it works, why aren't more people using it?" (Chapter 8: The Evidence); "Tell Me... does our educational system really teach us to doubt our true ability?" and eleven other questions (Chapter 9). Chapter 10, "The State of the Art," shows that none of Lozanov's principles have been contradicted, but there are pointers to developments and improvements: Among these are

specific applications of dominant-sensory-systems as researched in Neurolinguistic Programming and Bernice McCarthy's 4-Mat System for identifying types of learners.

"Putting It All Together," (Chapter 11), reminds us that the book was four years in the writing while the author maintained a psychologist's point-of-view "for fresh thinking that every breakthrough must have." Rose summarizes twenty-seven things he learned. "First, Relax!" reviews this new principle of learning, and presents breathing and body exercises for relaxation. Using a language course as an example, Rose uses Chapter 13, "An Accelerated Learning course" so that "you can create your own course for your own learning needs." His headlines reveal the steps and direct us, e.g., "Step Four--Make a 'Mental Movie' of the Text." Chapter 11, "Accelerated Learning for Your Children," deals with preschool, that period before children may have had their latent abilities "schooled out"; again, headlines like "Prepare a Mental Map" serve as clear aids. "How Can You Be Involved?", (Chapter 15), cites ways and promotes Accelerated Learning Systems (N.A.), Inc., Southport, Ct. "Notes for Teachers" (Chapter 16) summarizes all well. Appendix A features the Report of the Paradise Unified School Project (California). Appendix B features prerecorded language courses: Concluding this appendix are contrasting lists that serve well. Appendix C, "Some Current Accelerated Learning Projects," lists Rose's attempt to "audit" Accelerated Learning (progress and applications). Illustrated charts, mental-maps, at the end of each chapter integrate and introduce.

Rose's primer does not contain news for persons who have done their homework and kept up-to-date; it stands as a reminder, reference, example. For people

wanting to know about Accelerated Learning--yes, hand them this book, recommend it.

Book Review

Teaching for the Two-sided Mind by Linda Verlee Williams. A Touchstone Book (published by Simon & Schuster, Inc., (1986) and by Prentice-Hall, Inc, 1983. Reviewed by John Senatore.

Did you know of this book? I didn't, and I recommend it for your "basic books" shelf when your focus is teaching-learning, education.

Written as "an effort to bridge the gap between research and application," the book presents current research on the functioning of hemispheres, explores the implications of that research for education, provides practical teaching techniques for connecting and developing the right hemisphere because they are less well-known. Williams wrote it for teachers, student-teachers; it is useful for parents, older students and anyone who wants more learning strategies.

In nine clear, readable, practical chapters, Williams achieves her intentions: 1: Learning with the Whole Brain; 2: Scientific Theory and Educational Practice; 3: How Do You Think?; 4: Metaphor; 5: Visual Thinking; 6: Fantasy; 7: Multisensory Learning; 8: Direct Experience; 9: How to Start. Reports of actual applications and specific means for application make this book usable, valuable. Her bibliography offers a "few excellent resources" in ten areas, including "Music-Suggestology." Refreshing for me is the author's admission of limitations and preferences that introduce the Bibliography.

For some, this book will appear clearly pedagogical, not the emotionally involving exhortation, confession, invitation to do differently; for other persons, this book will be what they've been looking for as the source for doing differently.

I recommend starting anywhere in the book that seizes your attention. Chapter 9 grabbed me when I read "The first thing to realize is that you've already started," and "The next thing to realize is that if you really want to make more conscious use of these techniques in the book, it will require effort over time." Consider her "A Few Rules": Go at your own pace. Do what you enjoy. Give yourself every chance for success. And what are the stages in starting? Planning for Change, Starting Now, Intangibles, Rediscovering Your Subject, Working Together, and Support Groups.

In her Conclusion, Williams reminds us that "Children come to school as integrated people...intensely curious. They are scientists, artists, musicians, historians, dancers and runners, tellers of stories and mathematicians. The challenge we face as teachers is to use the wealth they bring to us. They come with a two-sided mind." This book provides teachers with ways to develop both types of thinking, information-processing patterns, so that children "have access to the fullest possible range of mental abilities."

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