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Educational Intervention Program for Developing Self-Image and Self-Esteem

TEZĂ DE DOCTORAT

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CLUJ-NAPOCA
2011

TABLE OF CONTENTS

	Page
CHAPTER 1: THEORETICAL FUNDAMENTALS OF THE RESEARCH.....	3
Preview	3
1.1 Research context	3
1.2 Intervention Program the “Mind and Body Combination”	3
1.3 Gap in knowledge.....	7
1.4 Main theories of the research.....	7
1.5 Conceptual framework.....	7
CHAPTER 2: RESEARCH METHODOLOGY	10
Preview	10
2.1 Research Hypotheses.....	10
2.2 Research Goals	10
2.3 Research Methodology	10
2.4 Research Population	11
2.5 Study Variables	11
2.6 Data Analysis.....	11
2.7 Research design	12
2.8 Research Tools	13
2.9 Reliable Research Tools	14
CHAPTER 3: DATA AND DATA ANALYSIS	18
Preview	18
3.1 Summary of the qualitative part.....	18
3.2 Summary of the quantitative part.....	21
3.3 Summary of unexpected findings in the research groups	23
CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS.....	26
Preview	26
4.1 Conclusions.....	26
4.2 Research Contribution	29
4.3 Originality and innovation of the research.....	30
4.4 National contribution	31
REFERENCES.....	32
APPENDICES	34

LIST OF TABLES

Chapter 1:

Table 1.1: The kinesiology balance process	5
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Chapter 2:

Table 2.1: The sample in the research	11
Table 2.2: Quantitative and qualitative research tools	13
Table 2.3: Internal consistencies of the scales of self-image questionnaire (N=70)	15
Table 2.4: Kedall's W for inter-rater reliability (N=150)	16
Table 2.5: Kedall's W for teacher agreement (N=172)	16
Table 2.6: Themes and categories derived from an analysis of the interviews.....	18

Chapter 3:

Table 3.1 Description of changes in research groups following the intervention program – quantitative part	20
Table 3.2 Description of changes in the group of underachievers following the intervention program – qualitative part	22
Table 3.3 Decrease in the functioning parameter – quantitative part	24

Chapter 1 - THEORETICAL FUNDAMENTALS OF THE RESEARCH

Preview

This chapter will discuss about the research context, about the intervention program “mind and body combination”, about gap in knowledge, about the research main theories, and about conceptual framework.

1.1 Research context

The educational significance is our ability to use body movement and natural processes in order to enhance a balanced energy flow in our body – the free flow of intact, integral information between the mind and body (Promislow, 2005). Collaboration of the brain’s two hemispheres facilitates optimal functioning, especially under stress, and coping with challenges (Dennison, 2002).

The purpose of the intervention program – "mind and body combination" is to enhance pupil’s abilities in implementing the learning processes, to increase their self-image and self-esteem, and to change their behavior patterns.

In recent years, due to the development of brain research that is enabling a more in-depth understanding of brain activity, the neuropsychological approach developed, which fostered coordination with different approaches. This includes the cognitive approach, the social approach and the creative kinesiology approach to enhance energy between the mind and the body in order to cause a change in behavior patterns, self-image and self-esteem. Adapting an intervention program to the characteristics of underachieving pupils is a means and not a goal hence it is incorporated into the physical education curriculum. Underachieving pupils present a challenge to the education system in terms of how to help them succeed in their studies and enable them to adapt to the educational framework. The study enabled the program to see if it makes a change in self-image, self-esteem and behavior patterns at school (in two aspects; behavior and functioning).

1.2 Intervention Program the "Mind and Body Combination"

Pedagogical intervention uses the applied kinesiology method; the source of the name is in the word “kinesis,” which means movement. In the different medical sciences, kinesiology is a study of the body’s muscles and movement. In the health, education and complementary learning professions, kinesiology is the overall approach to balancing the system of movement and the mutual relations between an

individual's different energy systems (Promislow, 2005). Applied kinesiology deals with simple but intensive techniques in controlling the mind and body connection to ensure improved performance. The method combines motifs from Eastern medicine and scientific knowledge from the Western world, such as energy theories, modern brain research, Neuro-Linguistic Programming (NLP), and study of the body, and combines them into an "open energy-based" model to relearn the nerve response of the body to stress (Promislow, 2005).

At the basis of this method lies the understanding that:

1. Our body remembers all that it has undergone from the moment it was created. Different events that we have experienced during our lives are imprinted in our body and affect the way we understand and experience life, and at times block and agitate us.
2. Flow must exist in all of the systems: physical, mental and emotional.
3. A difficulty develops when lack coordination exists between all of the body's systems.
4. Learning takes place in every cell of our body and not just in the brain.
5. Movement as concrete actions is the key to learning in all walks of life.

Kinesiology is supported by processes of recreating patterns of movement, thinking and behavioral in order to neutralize stress and encourage the development and renewal of communication lines between the mind and the body (Hannaford, 1995, 1997). Stress is blocked energy, not the sensory stimulation of the brain, but rather the unresolved response to stress, which results in short-circuits in the body's proper electrical communication. It is caused by unsuitable coping mechanisms in response to stress factors that we encounter on a daily basis (Promislow, 2005). Based on this approach, merging the corporeal body with the mental and emotional approach is holistic and whole, and emphasizes the basis of our behavior. A change in one component will bring about a change in another behavior, and in this way, changes take place in learning and functioning.

The kinesiology approach proposes a system of movement exercise and techniques aimed at developing and rehabilitating an individual's natural and unique possibilities through study and working with internal obstacles. Body movement arouses endorphins (a chemical material in the body released with movement). Slow movement causes the production of dopamine (a neurotransmitter) in the brain's frontal lobe (affecting our ability to discern between patterns and learn faster), in the

limbic system (which controls feelings) and in the base ganglion (which determines movement). The educational significance is that movement as concrete actions and natural processes can help us produce and balance the conveying of information and the flow of balanced energy in the body (Promislow, 2005). They also improve cooperation between the brain's control centers enabling accessibility to human abilities resources essential for optimal performance, mainly under stress, as well as improve coping with challenges (Dennison, 2002).

The role of kinesiology is to train and teach an individual to develop neural connections, to fill himself with energy, and to improve communication between the mind and the body. The balance made available to the kinesiologist is friendly and non-invasive, and is based on five sequential stages, as shown in table 1.1

Table 1.1: The kinesiology balance process.

First Stage	Preparing to learn using six simple movement exercises that prepare the learning system (mind-body)
Second Stage	Choosing a suitable objective to balance
Third Stage	Attention as a given situation with respect to the chosen objective (identification of the current stressful situation prior to its improvement)
Fourth Stage	Executing a learning menu that includes simple movement exercises, guided affective imagery, story cards, physical activity (physical education), etc.
Fifth Stage	Through attention that is identical to the activity in the third stage, a differentiation in the context of the chosen objective with an improvement in the learning system, mind and body (Promislow, 2005, 1994; Maguire, 1996; Topping, 1985, 1990).

The method is suitable for every individual – adult, child or infant – who faces any type of developmental delay, such as attention-deficit hyperactivity disorder (ADHD) among children and adolescents alike, stress and anxiety (Promislow, 2005). The program is based on movement that provides the pupil with many ways of promoting his learning, enabling the identification of study blocks and their release through exercises and activities that join both halves of the brain, advancing and improving various study skills such as reading, writing, thinking, coordination, eye-hand contact, and self-image. The process is carried out according to the pupil and at his pace; the kinesiologist serves as a coach and explains what the body tells us (Dennison, 2004).

Dennison (2002, 2004) developed educational kinesiology by collecting exercises from various methods, such as brain exercises (R), yoga, the Alexander method, Feldenkreis, martial arts, etc., and focused on these exercises to improve learning skills. These exercises help to create energy that flows properly through the body and to create correct relationships between the mind and the body, in this way, enabling a greater willingness to learn and increasing self-image following successful experiences. By balancing activities, energy flows mechanically from the brain's survival centers to the entire brain. When energy is supplied to the entire brain, there is less chance that external events will affect performance, and they could result arrive in a more effective level of focus, understanding, creativity and ability to take action. There are 32 exercises that motivate mind and body communication, six of which are called the six quick ones with which we open the lesson, and the others support the various activities previously mentioned (Hannaford, 1995, 1997).

The exercises are divided into three dimensions:

1. The focus dimension – exercises to lengthen leg, shoulder, spine, stomach and back muscles. Releasing the tendon defense reflex balances our brain and affects emotional and mental stress responses.
2. The centralization dimension – energy exercises that enable rebalancing the energy channels between the brain and the rest of the body and between parts of the body and the brain, which is, balancing the flow of energy of an individual and enabling arranging electrical systems in the individuals' body/emotions/brain.
3. The laterality dimension – mid-line exercises that support us in combination with sensory and motor patterns that develop team work of the eyes, team work of the ears, coordinating work by the hands and feet in the middle field, the place where thinking takes place and we organize our movement intelligence in order to perform study tasks.

The pupils absorbs himself using a system of senses, the pupil whose feeling of “self” is expressed also by his movements, when we work on awareness through the body and under the condition that we do this under the guidance of a mediator, we can change thinking, position and opinions and internal feelings. The environment contributes to developing the pupil's “self,” an unbalanced environment promotes and increase the unbalance created in the body as a result of the developmental process, and it dictates the pupil's performance (Roshin, 2004).

1.3 Gap in knowledge

Several studies were conducted on self-image, self-esteem, and behavior patterns in school. However, previous studies on “mind and body combinations” that increases self-esteem and behavior patterns were not conducted in school as an intervention program.

1.4 Main theories in the research

Behavioral theory - Individual interaction with the environment creates behavior pattern through mediation (Feurestein, 1998).

Social theory - Individual learns from the society he lives in, behavior is learned by watching others and as belonging to a group (Bandura, 1977, 1978, 1994), and development of identity relates to an environment having a greater influence. Erickson (1987)

Humanistic theory - Individual fulfills himself through feelings, thoughts and perceptions about himself and his environment. Hierarchy of needs (Maslow, 1970), and self actualization (Rogers, 1951).

Neuropsychology theory - a theory which deals with fundamental issues in neuroscience. The spiritual body begins to build itself from age 12 until the end of adolescence, a fact that requires a personal and emotional work (Roshin, 2004). Flow of sensory information and body movement information from the body to the mind must be integrated with each other (Promislow, 2005). The mind reflected on the behavioral pattern, on the shape of the body and movement (Dychtwald, 2001).

1.5 conceptual framework

The conceptual framework comes from the research topic, from the sample of the research, and according to the main theories.

Mind and body

The brain is not just an organism. The mind represents an individual’s entire potential (Solms and Turnbull, 2005). The relationships between body and mind systems are using energy flows and movement (Roshin, 2004).

The essence of the intervention program is to help pupils reduce stress in a given situation in order to improve the mind and body relationship. Through the attention to

body and mind, motion exercise, and positive thinking an individual learns about himself and has the ability to change it.

Underachievers

“Underachievers” are defined as pupils who do not fulfill their inherent potential (Grossman 1993). “Underachievers” face diverse difficulties, similar to “culturally different” pupils: they generally have normal abilities; their ability to study is good but there is no apparent reason why their abilities are not expressed in their achievements. One sign of “underachievers” is a gradual decline in their studies. Pupils failing in eight or more school subjects will be suited for the Ometz/Telem class. In several schools in Israel there are special classes that provide a curriculum suited to the requirements of the Ministry of Education, with one notable exception – work is carried out in very small groups in the different subjects.

Adolescence is the transition period from childhood that is dependent on the road to adulthood, a period influenced by four areas: physical – physiological changes, emotional – shaping a personal identity, social – developing relationships with a group of peers, and cognitive – developing abstract thinking.

Development in these four areas is not uniform and many times gaps exist between them. Two main theories serve as the basis for this research: Ericson’s (1987) – the development of personal identity through personal experience and how I am perceived in the eyes of society, and Raskin (1987) – physical activity according to the adolescent’s physical, emotional, social and cognitive development.

Behavior patterns

Behavior pattern is everything that an individual says or does with respect to the environment. A stimulus that creates a behavior pattern could emanate from an internal or external source (Martin and Pear, 1995). Behavior may be divided into basic and applied behavior: basic behavior – a behavior whereby an organism has no choice as to how the behavior is conducted, or a behavior that contains physiological components on which the organism has limited influence; and applied behavior – how a behavior is conducted with respect to social norms and motivating factors of the action.

A pupil is expected to behave in school according to the school’s rules (Katz, 2005). In most schools, behavior pattern rules are similar, and efforts are being made to impart a broad education to pupils while they fulfill their personal abilities.

Interactions with the environment could result in an individual's behavioral pattern development; this approach comes from the behavioral approach. Feuerstein adds to Piaget's argument the mediator changes and interprets the stimulus to which an individual is exposed, makes it meaningful, and exposes the mediation receptor in a planned, controlled process. The mediation process, which should lead to a desired and planned change, will take place when informed figure who has experience and provides direction mediates between the pupil and the environment, making the environment more understandable and meaningful (Feuerstein 1998).

Self-image and self-esteem

Self-image is how an individual perceives himself, how he is aware of his strengths and his weaknesses, how he is influenced by his past experiences, and his comparison to his peers.

In this research study, importance was afforded to personal identity and social identity within a group of peers, therefore the most suitable approach is the social approach. Social approach – personality is part of self-image, self-image is comprised of personal identity and social identity based on belonging to a group, personal identity is formed through a comparison to others, as is social identity. According to this theory, man aspires to maintain a positive self-image (Bandura, 1977, 1978).

In this research study, self-image was measured as a general total and according to this, positive and negative, the variables are divided into parameters according to Fitts' theory. Fitts (1965, in Neumeier and Bar El, 1996), five variables of self-image: Personal image, Morality image, Family image, Social image, and Physical image.

Self-esteem is the opinion an individual has of himself. It considers perceptions of ourselves in various areas of life, especially our interactions with others (Boulby, 1982).

During an individual's life, self-esteem develops according to the individual's age. During pre-adolescence, a greater sense of social awareness develops through an increase in significant others, as well as internalization of society's values and norms. During adolescence, social awareness is crucial, and an individual places greater emphasis on his inner psychological qualities, such as depression, moodiness and sensitivity; self-esteem develops further during this stage of life.

In this research study, importance was afforded to determining objectives – personal objectives and study objectives – therefore the most suitable theory is the goal motivation theory. In the goal motivation theory, the goals an individual is

seeking are given meaning, direction and purpose in academic and social goals. Scholastic achievement goals relate to the target of the pupils' interpersonal world and social goals, including peer acceptance and peer group respect (Covington, 2000).

Self-esteem in this research study was measured as a general total and was therefore divided into positive or negative variables.

Adolescence

It's defined as a transition period – from dependent childhood to adulthood. Interaction with their peer group is very intensive (Robbins, 2009).

A period influenced by four areas: physical – physiological changes, emotional – shaping a personal identity, social – developing relationships with a group of peers, and cognitive – developing abstract thinking.

Chapter 2 - RESEARCH METHODOLOGY

Preview

This chapter will discuss about the research hypotheses, about the research goals, about the research methodology, about the research population, about research data analyzing, and about research tools.

2.1 Research Hypotheses

1. The intervention program will produce a positive change in self-esteem and self-image.
2. The intervention program will produce a positive change in school behavior patterns.

2.2 Research Goals

1. To investigate whether the intervention program will generate a change in self-image, self-esteem, and behavior pattern
2. To examine if pupils develop beliefs about their abilities based on the intervention program.

2.3 Research methodology

The study was carried out as mixed methods: a combination of quantitative and qualitative research methods (Bryman, 2008). Since this study is based on an

intervention program that intends to generate an educational change, it was an **action research** (Bryman , 2008).

Combining quantitative and qualitative approaches results in two options: the quantitative part to collect general data about the subjects, and the qualitative part to collect depth data of the change.

2.4 Research population

The research was carried out in junior high school in Israel.

Underachieving pupils age 14 in underachieving class. Population was sampled according to the special class accessibility, and the fact that the researcher teach in the school. The sample was comprised from pupils and teachers and is shown in table 2.1

Table 2.1: the sample in the research

Participants	No. Participants	Division into Groups
Pupils	70	Three groups: Underachievers class with intervention (N=21), Heterogeneous class with intervention (N=30), Control group with out intervention (N=19) Semi-structured interview for 6 underachieving pupils
Teachers	20	20 teachers from school: Grades from Documents 2 teachers per group: behavior pattern questionnaire
Total	90	

2.5 Study Variables

Independent variable – intervention program

Dependent variables – self-image, self-esteem and behavior patterns

2.6 Data Analysis

First, internal consistencies were examined for the self-image questionnaire for pupils and the scale mean scores were determined. Inter-rater reliabilities were

examined with Kendall's W between the raters of the pupils' behavior pattern: functioning and behavior. Similarly, behavior pattern questionnaire for teacher agreement per pupil was examined with Kendall's W, and mean scores were determined expressing each pupil's total scores for school behavior pattern.

Second, pre-study differences in self-image questionnaire were examined with a series of analyses of variance. Time (semesters) by group differences in self-image (2x3) were examined with repeated measures analyses of variance. Documents of school achievement the Change was examined with repeated measures analyses of variance as well (2x2). Due to the ordinal nature of the variables of behavior pattern, pre-study group differences and time by group differences were analyzed with non-parametric statistics: Chi Square and Z tests.

An analysis of the data in the research examined if it is possible to divide the items collected from the questionnaires into general categories, which would represent combined content. Data analysis was made for two different questionnaires, the self-image questionnaire and the school behavior pattern questionnaire. The results showed that from the questions, categories were formed as was expected.

Third, semi-structured interviews for six of underachiever class pupils. The analysis technique used was the subject analysis approach based on text analysis, an analysis of sentences from the text, which was done in several stages: step one – careful reading of the material collected in interviews (Agar, 1982); step two – data encoding and categorization based on the classification, differentiation and separation of sequence data to examine the meaning and context snippets (Ryan and Bernad, 2000); and step three – matching the main categories to the major themes and to categories, creating a category tree (schematic representation) (Shakedi, 2007).

2.7 Research Design

The study was carried out in circular with five stages. *Stage One:* An observation of the behavior patterns of pupils were made in the underachiever class and in the regular class *Stage Two:* An examination of the behavior patterns, self-image and self-esteem of the pupils were made using a closed questionnaire for the pupils and for the teachers. *Stage Three:* The intervention program was last for one year, during which time the program was carried out in a spiral format; an assessment was made after each school trimester. *Stage Four:* The program was modified according to

findings from the questionnaires. *Stage Five:* The modified program was implemented and its effect on the pupils was examined.

Stages three and four were the quantitative part, and stage five was quantitative and qualitative part.

Quantitative part: self-image questionnaire for the pupils (Fitts, 1965, in Neumeyer and Bar-El, 1996). Behavior pattern questionnaire for the teacher (Aldar, 2007), documents (grades) during the school year.

Qualitative part: a semi-structured personal interview conducted at the end of the year with six underachieving pupils from the underachiever class.

2.8 Research Tools

The study uses a mixed method :quantitative part used recognized questionnaires and in the qualitative part - depth interview.

The advantage of mixed method: On one hand generalization and on the other hand depth understanding of the nature of change followed the intervention program.

The research tool present in table 2.2

Table 2.2: Quantitative and Qualitative research tools

Type	questionnaire	Tools	Objective	Analysis
Quantitative	Self-image questionnaire – Three time during the year, the first one before the beginning of the program.	Fitts (1965) that was adapted to Israel by Lampert (1981).	To examine the pupils' point of view	Statistical analysis
Quantitative	Behavior pattern questionnaire – Three time during the year, according to trimesters of the school.	Aldar (2007) that was conducted in Israel.	To examine the perspective of the teachers about the pupils	Statistical analysis
Quantitative	School documents – Grades - Three time during the year, according to trimesters of the school	Mean grade, Behavior grade, Diligence, and Appearance.	To examine general grades	Statistical analysis
Qualitative	Depth interview – At the end of the intervention program.	Semi-structured interview	To deepen understanding of the pupils perspective about the effect of the intervention program	Content Analysis

2.9 Reliable Research Tools

Quantitative research examines the behavior of participants and through it creates the mapping phenomenon, quantifying the phenomenon and the trend. Qualitative research came to complete the quantitative research by understanding the nature of participants' behavior and the way they interpret the social/cultural reality in which they live (Zabar 1990). This research is mixed method research a quantitative research followed by a qualitative research. The qualitative research was conducted using six semi-structured interviews of underachiever class pupils. A semi-structured interview is a face-to-face meeting with the participants to hear their opinions on the research subject, while writing and recording the answers. A content analysis of the semi-structured interviews was conducted using the information collected and the construction arrangement for the interpretation and understanding (Shkedi 2007).

The quantitative research is presented in the following tables based on the questionnaires.

Self-image questionnaire

The questionnaire used in this study includes 41 items, rated on a three-point Likert scale: 1 = not true for me, 2 = partly true/partly not true for me, 3 = true for me. Items were combined into scales representing the various dimensions of self-image, as shown in Table 2.3. Internal consistencies for the scales were examined, and two items were dropped due to negative or low correlations with the relevant scales. Scale scores were composed of the means of the items belonging to them, so that the higher the score, the more positive the self-image (Appendix 1).

Table 2.3: Internal consistencies of the scales of self-image questionnaire (N=70).

	Items	Internal Consistency – α
Total self-image score	All	.88
Familial self-image	10,11,12,20,25	.69
Moral self-image	4,5,9 (item 15 was dropped due to a negative correlation with the scale, item 4 was added due to content)	.61
Social self-image	13,17,19,21	.58
Physical self-image	1,2 (item 23 was dropped due to a low correlation with the scale)	$r=.30, p<.001$
Positive self-image	3,6,7,14,22,26,28	.58
Negative self-image	8,16,18,24,27,29	.73
Total Self-esteem	Positive self-image, Negative self-image, and Social	.77
School behavior	31,34,41	.52
School functioning	30,32,33,35,36,37,38,39,40	.82

Internal consistencies are quite acceptable, although some tend to be low. Caution should be taken in interpreting results about Social self-image, Positive self-image, and School behavior.

School behavior pattern questionnaire by the teachers

Teachers filled out an evaluation of each pupil based on their observation and acquaintance with them. Nine variables were used for the behavior patterns divided into two parameters of behavioral and functioning. Six of them were functioning variables: Arrives on time, Does homework, Does class work, Pays attention during first hours, Pays attention during last hours, and Participates in class; three were behavioral variables: Clothing, Unpermitted talk, Leaves class. Each of the nine variables was evaluated three times by two teachers each.

Evaluations ranged from 1 to 3: 1 = negative functioning or behavior, 2 = medium level functioning or behavior, 3 = good functioning or behavior. Each variable was evaluated on its own, so that the higher the score, the better the performance.

Since these variables are based on observations, an assessment of inter-rater reliability was required. Inter-rater reliability was assessed for 25 pupils (N=150

observations) with Kendall's W statistic, as the scale is ordinal (1 to 3). Table 2.5 shows the inter-rater reliability results. Values for inter-rater reliability are high, showing the reliability of the dimensions of both school functioning and school behavior (Appendix 2).

Table 2.4: Kedall's W for inter-rater reliability (N=150).

Behavior Pattern	Dimension	Kedall's W between Raters
School Functioning	Arrives on time	.96
	Does homework	.94
	Does class work	.92
	Pays attention during first hours	.94
	Pays attention during last hours	.94
	Participates in class	.92
School Behavior	Clothing	.99
	Unpermitted talk	.91
	Leaves class	.89

Further, agreement between the two teachers per pupil was assessed across the three evaluations, as shown in Table 2.5. Since each teacher evaluated each pupil in the intervention groups three times and each pupil in the control group once, there are 51×3 observations + 19 observations = 172 observations.

Table 2.5: Kedall's W for teacher agreement (N=172).

Behavior Pattern	Dimension	Kedall's W between Teachers
School Functioning	Arrives on time	.71
	Does homework	.66
	Does class work	.74
	Pays attention during first hours	.69
	Pays attention during last hours	.73
	Participates in class	.76
School Behavior	Clothing	.66
	Unpermitted talk	.66
	Leaves class	.57

Moderate teacher agreement was found, as expected. It allows calculating and using the means of the two teachers' evaluations. That is, school functioning and behavior for each pupil was defined as the mean of the two teachers' evaluations of the pupil at each point in time. Each score ranged between 1 and 3, so that the higher the score, the better the functioning and behavior of the pupil.

Scholastic achievement

Scholastic achievement was assessed by teachers and included a mean grade (on a scale of 0-100), number of negative grades (from 0 up), behavior grade (on a scale of 1-10), diligence (on a scale of 1-10), and appearance (on a scale of 1-10). It was evaluated at times 2 and 3; the higher the score, the better the diligence.

Behavior was determined by the school's pedagogic council based on the following parameters: arrives on time, disrupts in class, unpermitted talk, disrupts in school in general, suspension from school.

Functioning was determined by the school's pedagogic council based on the following parameters: does homework, pays attention in class.

Appearance was determined by the school's pedagogic council based on the parameter of clothing.

The Qualitative research is presented in the following tables based on the semi-structured interviews (see Appendix 3) that were conducted with six girls participating in the underachiever class. The semi-structured interviews were conducted at the end of the intervention program to provide a deeper dimension of the impact of intervention program on the underachieving pupils. Ten pupils from the underachiever class participated in the intervention program but only six agreed to be interviewed.

Content analysis of the interviews raised six themes, which were divided into 15 categories. Table 2.6 presents the themes and categories belonging to these categories.

Table 2.6: Themes and categories derived from an analysis of the interviews.

1. Perception of the importance of belonging to the Telem class (underachievers)				2. Self-Esteem		3. Self-Image		
Ambivalence	Education aspect	Social aspect	Developing considerations	Feeling of competence	of	Change in self-thinking	Developing self-control	
4. Perception of school behavior		5. Perception of school functioning			6. Intervention Program			
Classroom Behavior	Arriving on time to class	Doing homework	Motivation for learning	The program as an agent of change	How the intervention program influenced	What factors of the intervention program influenced the pupils	Effect of the intervention program	

Example:

1. Belonging to Telem				2. Self-Esteem		3. Self-Image		4. Behavior		5. Functioning		6. Intervention Program		

Chapter 3: DATA AND DATA ANALYSIS

Preview

This chapter will discuss about the quantitative and qualitative parts of the research, about summary of this parts and about unexpected findings.

3.1 Summary of the quantitative part

The intervention program brought about a change in underachieving pupils in several aspects:

1. An individual needs social interaction in order to develop and act; in addition, he seeks change.
2. The force motivating change according to the neuropsychological approach is the nervous system through which energy flows. This energy does not stimulate protection or a situation of survival, which results in blockages, rather the energy stimulates openness, which results in positive feelings and enables learning.
3. Movement exercises in the intervention program and positive thinking that help energy flow cause openness in accepting new behavior pattern.
4. The new behavior pattern is practiced in a certain situation in different ways as well as in other situations.

5. The activities take place in an environment in which the pupil feels safe and secure with a mediator, and he can try out the new behavior without feeling embarrassment, risk or failure.

At the beginning of the intervention program and throughout the year, it was found that total self-image was positive and high among underachieving pupils, but lower than among pupils from the two other groups. In addition, it was found that the behavior pattern of underachieving pupils was lower than that of pupils from the two other groups.

As a result of the intervention program, several changes occurred: in self-image in the physical self-image parameter, in self-esteem in the capability parameter, and in behavior patterns. A change in physical self-image was due primarily to physical activities through movement exercises and the experience of succeeding in tasks, a change in willingness to succeed mainly through positive thinking, guided imagery and story card, and a change in behavior patterns mainly through the mediator to prove to the pupil he could behave in a new way in a given situation. Table 3.1 presents the changes that occurred as result of the intervention program.

Table 3.1: Description of changes in research groups following the intervention program – quantitative part.

		Changes in Research Groups as a Result of the Intervention Program
Total self-image	Positive image	Underachievers with intervention group: M=2.58, (SD=0.20) Heterogeneous with intervention group: M=2.62, (SD=0.23) Control group: M=2.68, (SD=0.23)
	Physical image	At the end of the intervention program, a significant increase was observed in the underachievers with intervention group (from M=2.56 SD=0.45 to M=2.77, SD=0.33), (F(1,52)=6.55, p<.05)
	Physical image	No significant changes were observed in the heterogeneous with intervention group and the control group
General behavior patterns	Behavior parameter and functioning parameter	At the beginning of the intervention program, the heterogeneous with intervention group and the control group behaved more according to expectations than the underachievers with intervention group F(2,58)=4.97, p<.05)11
Behavior pattern in the behavior parameter	Appearance – clothing	At the end of the intervention program, a significant increase was observed in the underachievers with intervention group (from M=7.06 SD=1.11 to M=7.67, SD=1.24), (F(1,64)=9.30, p<.01)
	Appearance – clothing	At the end of the intervention program, a significant increase was observed in the heterogeneous with intervention group (from M=8.03 SD=1.10 to M=8.57, SD=0.97), (F(1,64)=7.98, p<.01)
	Leaves class	At the end of the intervention program, this parameter had a high value (less pupils left class) in the underachievers with intervention group (from M=2.30 SD=0.56 to M=2.84, SD=0.29)
Behavior pattern in the functioning parameter	Arrives on time to class	At the end of the intervention program, a significant increase was observed in the underachievers with intervention group (from M=2.05 SD=0.83 to M=2.61, SD=0.49) , Z=2.33, p<.05
	Arrives on time to class	No significant changes were observed in the heterogeneous with intervention group
	Participates in class	At the end of the intervention program, this parameter had a high value in the underachievers with intervention group (from M=1.62 SD=0.78 to M=1.74, SD=0.73)
	Participates in class	At the end of the intervention program, a significant increase was observed in the heterogeneous with intervention group (from M=2.14 SD=0.82 to M=2.41, SD=0.84), (Z=2.44, p<.05)

The group of underachieving pupils started out in the intervention program as a homogeneous group in terms of their cognitive abilities, scholastic achievements and equal social conditions, which increased their chances in making the change. Group cohesion and group identification affected the group's self-image and consequently the individuals within the group. Group identification is effective in developing an individual's self-image, and a connection exists between group cohesion and an individual's self-image (Manheim, 1966 and Frank, 1968 in Gibli, 1976). It may be said that these facts support the findings that underachieving pupils had a high, positive self-image but at a lower level than in the other research groups.

Underachieving pupils do not seek help independently and are not aware of the existence of problems; therefore, they apparently do not seek making a change. After agreeing to participate in the intervention program, they became aware that change is possible, receiving help does not reflect on weaknesses on their part rather on the power they have in wanting to make a change. Their agreement to play an active part in the intervention program is proof that a pupil is capable and wants to make a change, and consequently change his behavior patterns. The change will take place if a significant mediating figure will help him understand the events, feelings, thoughts, stimuli and experiences that will promote learning and assist him in gaining experience in coping with reality. The mediator is the person who will succeed in causing the pupil to understand that he is there for him and that a change is possible.

The intervention program was an active part of physical education classes that were held twice a week and, as such, created a continuity of activity, combining the curriculum in the school subject and the program itself. In addition, the intervention program was not run separately from the physical education classes, since it is based on activity using movement exercises combining a clear method of action aimed at achieving a target. Activity through movement, according to the neuropsychological approach, also promotes the brain's development to develop new behavior patterns.

3.2 Summary of the qualitative part

The intervention program brought about a change in underachieving pupils in several ways:

1. An individual seeks changes (Erickson 1987); behavior patterns are affected by several intelligences, each of which will develop in order to allow the change (Gardner, 1996).

2. Physical activity contributes to the pupil cognitively and behaviorally (Cohen and Freidman, 2002).
3. Learning through movement or with movement can make a change in behavior patterns (Michael, 2000).
4. The belief is that each individual can undergo a change if he has a mediator who could direct him in this direction (Feuerstein, 1998).

As a result of the intervention program, changes were observed in self-esteem, scholastic achievements and behavior patterns; a change in willingness to succeed mainly through positive thinking, guided imagery and story cards, and a change in behavior patterns mainly through the help of a mediator to prove to the pupil that he is capable of succeeding and behaving in a new way.

Table 4.10 presents a description of the changes as a result of the intervention program in the group of underachievers regarding the qualitative part.

Table 3.2: Description of changes in the underachievers group following the intervention program – qualitative part.

	Quote	The Change
Increase in self-esteem	<i>“My confidence grew slowly and I initiated questions in class.”</i>	Greater self-confidence
Improved scholastic achievements	<i>“I began to concentrate more in other subjects”; “I have greater motivation for learning.”</i>	Greater concentration in class and greater motivation for learning
Improved behavior parameter in class (less unpermitted talking, arriving on time to class)	<i>“In the final semester, I received fewer remarks about my behavior from my teachers”; “During the year I learned to arrive on time.”</i>	Less unpermitted talking, arriving on time to class
Improved personal behavior	<i>“I began to be more relaxed”; “think before I do anything”; “I decided to make a change in order to succeed”; “I discovered that I was able to learn.”</i>	Development of self-control, change in thinking from negative to positive, thinking before acting, reporting on feeling relaxes

The group of underachieving pupils was a homogeneous group in terms of scholastic achievements; each pupil had a unique personality and a different self-awareness. After agreeing to participate in the intervention program, the pupils

became aware of the fact that change is possible, which was expressed in the semi-structured interviews. The intervention program improved the academic aspect, behavior patterns in the behavior in class parameter, and interpersonal intelligence. The interpersonal intelligence One of Gardner's (1996) intelligences is familiarity with inner aspects of personality, and the ability to use this ability for behavior patterns, self-awareness, intentions, motives, self-meaning, self-understanding, self-esteem and awareness of strengths and weaknesses. The difference between individuals according to this approach is that each one of us possesses all of these intelligences to one extent or another and each individual has a unique intelligence profile that shapes his personality as well as his approach and understanding of the world and his behavior patterns.

The intervention program, therefore, empowered interpersonal intelligence regarding greater self-confidence, the development of self-control, and a change in thinking from negative to positive. Strengthening this intelligence enabled the pupils to overcome difficulties in other areas such as the academic aspect and behavior patterns.

3.3 Summary of unexpected findings in the research groups

The research study was carried out in a group of Grade 8 junior high school pupils (aged 14). This period in an individual's life is characterized by the period of adolescence, which lasts for several years. The individual's relationships are mainly through his interaction with his environment, and the most important relationship is with a group of his peers. This group provides the individual with his personal identity, directs him to act in an acceptable fashion, and gives him feedback about this behavior. The group of peers guides the individual on how he should act and how he wants to live; in this way, the individual develops his self-image, his strengths and weaknesses, and his behavior patterns. These relationships are also the source of making progress in generating a desired change.

The tendency that observed in the results of the research study on the subject of behavior patterns showed a positive change in the behavior parameter on the one hand and a negative change in the functioning parameter on the other hand. Throughout the year, a decrease in preparation of homework, class work and in paying attention in

class was observed. Table 3.3 describes the decrease in the parameter of functioning from the quantitative data.

Table 3.3: Decrease in the functioning parameter – quantitative part.

		Decrease in Functioning Parameter
Self-image questionnaire for pupils	Underachieving pupils group	From M=2.46 SD=0.38 to M=2.27, SD=0.43
	Heterogeneous group	From M=2.50 SD=0.34 to M=2.28, SD=0.43
School behavior pattern questionnaire for teachers	Underachieving pupils group	From M=2.21 SD=0.14 to M=2.00, SD=0.12
	Heterogeneous group	From M=2.60 SD=0.13 to M=2.41, SD=0.03
School documents	Underachieving pupils group	From M=7.78 SD=1.11 to M=6.94, SD=1.16)
	Heterogeneous group	From M=7.83 SD=1.37 to M=7.17, SD=1.23)

This phenomenon may be explained by two main aspects: the first is adolescence, and the second is the middle grade level in junior high school, both of which are interrelated.

The first aspect – adolescence: at this age, the adolescent undergoes significant physical changes, a change in social status, development of thinking ability, and formulating a personal identity. During this period, adolescents drive away their parents from their lives and become closer to a group of their peers, adopting the identity of the friends with which they are associating. Sometimes just the thought of social rejection creates anxiety levels therefore they could submit to social pressure and do things they don't want to do. In addition, according to the neurophysiologic approach, during adolescence the brain develops in certain areas responsible for judgment and organization. Therefore, it may be said that the decrease in behavior patterns in the functioning parameter could mainly be the result of social pressure at this age.

The second aspect – the middle grade level in junior high school: this is characteristic of the “sandwich” syndrome of the middle child in the family. The family is a dynamic system that changes constantly; each child joining the family must learn and study the family system and find ways of adapting to his new position within it (Miller, 2011). Based on this approach, it is possible to describe junior high

school and the location of the grade levels within the school. The youngest grade level – pupils aged 13, the middle grade level – pupils aged 14, and the senior grade level – pupils aged 15. The reality is that each grade level interprets the school differently; pupils in a particular grade level consciously make choices that, in their opinion, will provide a response to their needs. Open and hidden messages that the pupils receive could cause them to choose behavior patterns that give expression to the uniqueness of their place in the school, not always in a positive manner.

Characteristics of the youngest grade level: the new pupils arriving from elementary schools are more protected by the school staff. Pupils at this grade level are busy adapting to the new place and trying to prove themselves academically both to their parents and to the school staff.

Characteristics of the senior grade level: pupils at the older school level receive support and enrichment from the school staff in order to enable them to be absorbed more easily into senior high school and in order to obtain a high school diploma in the best way possible. Pupils at this grade level are busy maintaining social relationships and trying to prove, particularly to themselves, their academic abilities.

Characteristics of the middle grade level: pupils at this grade level are in competition with the other grade levels; this competition often leads them to take more chances and leads them to rebellious behavior. Pupils at this grade level deal more with social relationships out of the need to prove themselves academically in comparison to the other grade levels.

Therefore, the intervention program, which was an active part of physical education classes at the middle grade level, succeeded in bringing about a change in behavior patterns in the behavior parameter – a personal change, and not in the functioning parameter – a change that has open messages between pupils peers at this grade level. According to the neurophysiologic approach, parts of the brain are still in the process of developing, particularly regarding judgment and organization.

CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS

Preview

This chapter will present and discuss the research's conclusions, as well as its contributions and limitations. The contributions will be portrayed by the following aspects; the personal aspect, namely, the research's contributions to the pupils; the local aspect, namely, its contribution to the school, and its contribution in national aspect.

4.1 Conclusions

This study portrays an intervention program, which combines a cognitive and a behavioral view, a neurophysiologic vision, involving a mediation approach, consisting of elements of movement and positive thinking.

Underachieving pupils possess an apparent academic ability, which is inhibited because of their perception of themselves as unable to learn and adapt; their underestimation of their ability is associated with underachievement, poor motivation face challenging and to achieve, as well as with personal helplessness.

The “Mind and Body Combination” intervention program focuses upon the prospective ways to enhance these underachieving pupils' realization of their ability, and that receiving help for the sake of a change should not be perceived as a declaration of weakness, but rather as strength, a call for new courses of choice toward initiating a change. Recognizing the prospect of change is one of the most fundamental elements of change mediation, hence being one of the intervention program's fundamental principles.

A significant mediation by an adult is associated with individual changes resulting from the organization and classification of environmental stimuli. The mediator acts as a link between the individual and the situation, adapting the stimulus to a certain objective. At the context of learning, mediation may assist in fostering positive motivational processes, such as the feeling of capability, pursuing challenges, and confidence of succeeding. Mediation may enhance performance in various cognitive tasks and behavior patterns.

The mediator's role is to convey the pupil a message of availability as long as needed. The role of the intervention program is to arouse the pupil's desire within to

change, as well as curiosity to seek a different meaning, an ability to change, and belief in that ability.

The connection of the intervention program and physical education is based upon a theoretical rationale, which was presented in the first chapters, and upon a practical analysis presented in the last chapters. A similar process may also be implemented in other content areas at school, and for pupils who are not underachievers.

The following conclusions were drawn in several important aspects from implementing the intervention program at the middle grade level (age 14) of in junior high school:

1. An analysis of the data prior to the beginning of the intervention program and during the program allowed the adaptation of the activity to the pupils while maintaining the fixed structure of the activity.
2. A homogeneous group learning structure for the underachieving pupils enhanced their willingness to participate and learn. Coping with contents with an increasing level of difficulty without the presence of other pupils facilitated them in developing self-confidence and self-control during physical education classes, as well as in other school subjects.
3. Learning within a homogeneous group structure at the context of physical education in the case under discussion, namely a group of girls, enhanced the degree of concentration in the learning environment, which was free of disturbing stimuli, especially social, adolescence-related stimuli which are associated with the opposite sex.
4. In addition to allowing monitoring of task performance, physical fitness-related activity proved the pupils that they have the ability to improve their achievements by investing efforts and complying with rules and requirements. The intervention program created diverse situations of success through the tasks, new experiences within the regular curriculum, and through them learning and the practice of behavior patterns and a change in internal motivations.

The conclusions following the intervention program are as follows:

1. Prior to the beginning of the intervention program, a positive self-image was generally found in all of the research groups, but the self-image degree was lower in the underachievers group, compared to the other groups.

Hence, it may be concluded that belonging to a homogenous underachiever's class bears a positive effect upon self-image, both in the personal and social aspects.

2. Prior to the beginning of the intervention program, the behavior patterns within the underachievers group were found to be lower than within the other research groups – the heterogeneous group who received intervention, and the control group. This finding constitutes a justification of the fact that these pupils display difficulty in adapting to educational structure at school namely, to expected behavioral norms and proper work practices, resulting in poor academic achievements.

The school's pedagogic council is the authority to decide upon the placement of certain pupil in a special, underachievers class, according to pre-determined criteria, such as number of failing grades and behavior pattern.

3. The intervention program that was implemented within a group of underachieving pupils resulted in the pupils' improved physical self-image. Thus, physical-motor intelligence was enhanced, according to Gardner (1996). It may be stated that the improved physical-motor intelligence resulted in a more active participation in physical education classes, while the reduced social threat led to a more active participation in other classes.

4. The intervention program that was implemented within a group of underachieving pupils improves the behavior patterns, because clear behavior patterns rules in the learning environment were established, while a personal learning process through positive reinforcements was maintained.

The intervention program to be implemented within physical education classes may result in improved behavior patterns in other school-related aspects.

5. The intervention program "Body and Mind Combination" is a significant model for enhancing pupils' sense of accomplishment and success, through positive thinking and physical activity.

6. This intervention program may be of great contribution to an enhanced self-esteem and change behavior pattern.

7. This program may constitute a resource for teachers and schools in coping with underachieving pupils, as well as for empowering other pupils.

4.2 Research Contribution

Through self-image, an individual constructs the knowledge of himself regarding his emotions, values, capabilities and self-esteem in general. Self-esteem is an individual's positive and negative opinion of himself, a combination of our opinions of and the opinions of others of us. An individual perceives himself in a unique way, while the environment views an individual by observing his behavior patterns, but it often seems that one's expressed self-confidence disguises a low self-image. Therefore, self-image is perceived by the individual only, and does not necessarily indicate his behavior patterns. Many pupils refer to the significance of self-image's role in academic achievements, in social connections, in ways of coping, and in behavior patterns. In the underachievers group prior to the beginning of the intervention program, the pupils created a positive self-image for themselves. Viewing their poor behavioral pattern found in the study.

The intervention program in the underachievers group caused an enhancement of both physical self-image and self-esteem. These factors resulted in the pupils' feeling capable of succeeding, expressing self-control, and being confident that they may transform their behavior patterns in the behavior parameters such as: arriving on time to class, talking less during class, concentrating more in class, participating in class, and being motivated to learn.

The academic framework of the junior high school is designed for adolescent-aged pupils. The period of adolescence in an individual's life is an interim stage between childhood and adulthood. During this period, pupils acquire independence and learn skills required for their adult life.

The physiological, emotional, and social changes that adolescents undergo affect the development of their personal identity. Adolescence is characterized by a decline in the level of identification with parents, embarking at the commencement of the formation of identifying with other figures commences: peer group, or other key figures in the individual's life, such as teachers, athletes, singers, film stars, etc. The group of peers provides support and a feeling of security which has previously been provided by the family. The group of peers becomes very significant, bearing great influence upon behavior patterns. Prior to the beginning of the intervention

program, it was found that the pupils in the underachievers group displayed a high social self-image. Hence, it may be concluded that the group of peers fulfilled an important role for the pupils, in association with behavior patterns, both in the behavior parameter and the functioning parameter.

The intervention program with the underachievers group enhanced behavior patterns in the behavior parameter, but failed to cause an increase in the functioning parameter. The increase in interpersonal behavior was manifested by a change from negative to positive thinking, thinking prior to acting, and displaying a greater extent of calmness which consequently, caused a change in the behavior parameter at school. The change in behavior parameter in school was expressed by external behavior of arriving on time to class, talking less in class, and proper school costume, and by internal behavior of being more self-confident and exhibiting increased motivation to learn. On the other hand, the decrease in the functioning parameter in all of the research groups was result of the collective behavior of the peers group at this grade level in school.

4.3 Originality and innovation of the research

The intervention program is a model of an educational program which was conducted in physical education lessons and may be implemented for other school subjects. The originality of the “Mind and Body Combination” intervention program lies within its combination of several approaches: the cognitive approach, the behavioral approach, the neuropsychological approach, the movement approach, and the mediation approach. This combination allowed obtaining an overall view of the pupils and resulted in a combined activity, which led to changes in the underachievers group.

The innovation of the program is its prospect of conducting movement-related activities, such as exercises for the sake of enhancing the energy between the mind and body within the school framework at the beginning of each lesson thereby granting positive energy to every pupil as well as to the teacher to guarantee more effective teaching and opening one's mind to absorb the material learned. Additionally, a pupil who feels confident of his ability will have the power to put forth efforts and obtain better academic achievements.

The intervention program established clear goals for each lesson as well as clear parameters of success for each lesson, thus providing the pupils with clear requirements and indicators of success in fulfilling the task. Coping with successful tasks during each lesson arose satisfaction among the pupils in coping with the effort and enhanced their self-confidence, while expanding the prospect of success in other school subjects. This program which implements the creative kinesiology approach employed mediation in meetings of the mediator with one individual. In this study, the researcher has introduced the work method by a mediator with a group of pupils.

4.4 National contribution

The “Mind and Body Combination” intervention program may constitute an enhancement of the resources available to school teachers in coping with pupils’ feelings of inferior capability in general, and with underachievers in particular. The description of the action research discussed in this study could assist obtaining a more profound understanding of similar cases, in other schools. The introduction of this program to the school curriculum as a way of life may transform the school atmosphere. Each party within the school system – pupils and teachers alike – may fulfill an active role in the evolution, which involves a personal group and organizational transformation which may enhance organization's effectiveness.

The recommendation drawn from the intervention program's consequences: further research is necessary to integrate intervention programs into the school. One always seeks more effective ways of assisting pupils in fulfilling their goals, both in the context of academics and modern society, which will facilitate their integration into society. The intervention program provided an opportunity to develop, examine, improve, and learn about modes of mediating environment to the pupils by means of effective methods which are common within the school system. Further consequences may be of influence both for teacher training and policy-makers. Each teacher is required to thoroughly learn the matter of personal coping in his work with pupils thus allowing them to integrate the intervention program into the curriculum, in order to assist pupils in modifying their behavior patterns, and raise their motivation for learning.

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APPENDIX 1: SELF-IMAGE QUESTIONNAIRE

The questionnaire applies to both males and females. Read every sentence carefully, as if it's you who is answering. Circle one of the three options. **Don't omit any question.**

		True	Partly True & Partly False	False
1	I have a healthy body			
2	I am nice			
3	I am tidy			
4	I am fair to my friends			
5	I am an honest person			
6	I am a happy person			
7	I am quiet and take things easy			
8	I am worthless			
9	I am credible (tell the truth)			
10	I have a family that helps me anytime			
11	I belong to a happy family			
12	I show interest in my family			
13	I am a friendly person			
14	I have self-control			
15	I am remorseful about bad things I have done			
16	I am not a good person			
17	My friends don't trust me			
18	I am full of hatred			
19	I am important to my friends			
20	I am important to my family			
21	I am popular with my friends			
22	I am neither fat nor thin			
23	I am trying to change myself when I know I am doing something that is not right			
24	It is hard to bond with me			
25	My family doesn't trust me			
26	I always take care of myself, under any condition			
27	I am angry with the entire world			

		True	Partly True & Partly False	False
28	I take responsibility for my actions without getting angry			
29	I do things without thinking first			
30	I come to class on time			
31	I behave well in class during the lessons			
32	I participate in class			
33	I do my homework			
34	I come dressed in the school uniform			
35	I am listening in the first lessons			
36	I come to the class as the bell rings			
37	I do assignments in class			
38	I am listening in the last lessons			
39	I am a good pupil			
40	I am unable to pay attention in class			
41	I get notes about poor behavior in class			

Thank you

**APPENDIX 2: SCHOOL BEHAVIORAL PATTERN QUESTIONNAIRE
(Aldar, 2007)**

Date: _____
Subject: _____

Teacher: _____
Hour: _____

Functional	Behavioral
Comes to class on time – CCT Listens in the first lessons – FL Does homework – DH Listens in the last lessons – LL Does class assignments – DCT Participates in class – PP	Wears school uniform – UN Curses – CU Talks without permission – SP Refuses – RE Leaves the class – LS Another reason – AN

Pupil	Functional Analysis	Behavioral Analysis

APPENDIX 3: QUESTIONS FOR THE SEMI-STRUCTURED INTERVIEW

The questions are divided according to subjects from the beginning of year, during the intervention program and at the end of the program.

Beginning of the Year

1. Were you pleased with about being placed in the Telem class? If so, why yes? (If no, why not?)
2. Did you get along with the other pupils?
3. How did you feel you functioned in class? (Arrive on time, Prepare homework, Listen during the first and second lessons)
4. How did you feel you behaved in class? (School uniform, Disciplinary remarks)
5. Did you have motivation for learning (desire to study)?
6. Did you think positively (or negatively) about yourself?

During the Year

7. Did a change occur regarding your desire to be in the class? If so, why yes? (If no, why not?)
8. What caused the change?
9. Did a change occur socially?
10. Did a change occur regarding your functioning in class? (Arrive on time, Prepare homework, Listen during the first and second lessons)
11. Did a change occur regarding your behavior in class? (School uniform, Disciplinary remarks)
12. Did a change occur regarding your motivation for learning?
13. Did a change occur regarding your self-confidence? (Asked questions in class, Initiated a personal request of the teacher)
14. Did a change occur only regarding intervention program lessons or in other lessons as well?
15. Did a change occur regarding positive (or negative) thoughts about yourself?
16. Did a change occur regarding another aspect not already mentioned?

End of Year

17. In your opinion, how did the program affect you?
18. If it had an influence, in what areas?
19. What activities of the program caused you to change your behavior?
20. Do you remember something positive (or negative) from the program?
21. Can you mention something from the program that helped you?

22. Will you take something with you in the future that you learned from the program?
23. Can you summarize the changes that you underwent during the year?