

Marcus Stueck

# Healthy education – Introduction to a master plan

## BIONet-Area 2: Psychology/Education

### Abstract

*In the last 15 years at the University of Leipzig and at the Center for Health Education (ZfB), a systemic approach was developed, evaluated scientifically and educationally practiced in different institutions (e. g. educational fields) to bring the “affective (forgotten) Principles of humanity”, back in institutions, instead of increasing rationalization and the related pressure and stress ( e. g. daily education). It is about creating relaxed, empathetic networks with the aim of living network members, who work with joy and confidence and a high degree of autonomy in institutions. This Master plan is to be introduced. Therefore disseminator trainings were developed and evaluated.*

**Key words:** *stress, stress-handling, violence prevention, empathy.*

### Introduction

Our education is based on rational paradigms to transport knowledge. But also it is important to focus on intuitive, emotional and affective aspects of learning. The nonverbal learning out of experience has to have the same importance as the rational learning.

A scientific position paper of Stueck (Stueck, 2007) analyses clearly and proves scientifically, that the balance between rationality and emotion is lost in education. Because teachers, parents and children are stressed, which is shown in psychosomatic complaints, anxiety disorders, depressive reactions and burnout (Schaarschmidt, Fischer 2001; Hurrelmann, Engel, Weidemann, 1992; Stueck, 2007; 2008; 2010), the empathy, which is necessary for healthy education, cannot be developed.

#### 1.1 New paradigms in education and cultivation

This new paradigms point out the importance of the access to knowledge:

**a) From the chemical point of view: Ilya Prigogine (Nobel Prize Winner):**

- “All knowledge involves a design, both in physics, as well as in the human sciences. The notion of reality as something given is no longer acceptable.”  
The reality is constructed.

- In all chaos there is an order. It depends only on the point of view and how the teacher identifies regulations and permits chaos of children (dissipative structures).
  - Each system is targeted (teleonomical) if it has organic links with other systems. Communication in the feedback.
- b) From the sociological point of view: Edgar Morin (“the complex thought”):**
- “The thing we miss most is not the knowledge of what we ignore, but the ability to take what we know.”
  - It’s about expressing our knowledge.
- c) From the biological point of view: Humberto Maturana:**
- “The information does not interfere in the process of knowing.”
  - Information and knowledge should not be confused.
  - Difference between information --- knowledge --- wisdom.
- d) From the epistemological point of view: F. Varela und H. Maturana:**
- “The cognition is not the representation of a world with an independent existence, but the lighting of a world through the process of experiencing.”
  - The importance of Vivencia (= the experience).
- e) From the artistic point of view: Anna Pavlova:**
- “Life would have probably had more light and sense when combined with reading and writing would have been taught to dance beautifully.”
  - Better than “Know thyself” (epistemological way) is “Be yourself” (ontological way).
- f) From the anthropological point of view:  
the question from Carlos Castaneda:**
- “And if this is not a world would be explained but to be felt?”
  - What would be the access tool? Answer: The non-verbal experience, the experience-oriented, emotion-based learning.
- g) The answer from Rolando Toro (Biocentric Education Paradigm):  
Biocentric Education, to convey respect for life)**
- Target: connection with the life disseminator.
  - Method: the experience (Vivencia): The Biodanza System is used to mediate between the conventional and the biocentric education.
  - The experience is not a supplement, but an essential part of the educational process.
  - Regain the sanctity of life and enjoyment of life.
  - The development of affect (affection).
  - Enhanced awareness and expansion of ethical awareness.

*Targets of the Biocentric Education:*

1. Learning for the development of thought (reading, writing, mathematics, arts, sciences, etc.).
2. Learning to live, to be happy and be empathetic to connect with others.

*Toro suggests the following areas of experience to develop identity. Genetic potential should be expressed in five themed areas:*

- Vitality (vital energy and organic self-regulation),
- Sexuality (Ability to reproduce and search for pleasure),
- Creativity (Momentum of the existential and artistic innovation),
- Affectivity (Need for love, solidarity and empathy),
- Transcendence (Ability to overcome the ego and to expand awareness).

*Rolando Toro: “Biodanza is the poetry of the human encounter.”*

1. “... To bring the body in motion – from the inside – may be a permanent source of pleasure and health.”, “Ethics is the deepest expression of human relationship behavior.”
2. Life is sacred connection between education and life (re-connect with the instincts):
  - The central theme of the educational experience is the affectivity.
  - The educational system Biodanza marks a reversal in the traditional theory of knowledge by its access to knowledge from the experience of starting and suggests the need for an emotional, supportive environment as a condition for information processing.
  - Methodology: Use of music and non-verbal communication between humans.  
By stimulating the limbic system of the students emotion affects the mind from the contemplation of the world.
  - The dance serves as the entrance into the world of feeling.
3. The development of affectivity and an expanded perception of the ethical consciousness must have absolute priority. Ethical awareness: Developed from the feeling and sensitivity. I, contrary to morality.
4. The structure of affectivity is one of the most urgent and necessary research fields within our society.

*“Biodanza is the danced Maturana”: “By dancing empathetic networks will be experienced. Empathy is first and foremost a physical process, and physical action.” The verbal reflection of the feelings and needs must not be forgotten.*

For Toro, the Genius of our specie is not in their intelligence but in an affectivity which is directed to tolerance, compassion, friendship and Love. Affective Intelligence is to be developed and based on affective experiences (Spanish: Vivencias). It is connected with our primary experience to receive protection and nutrition and is the ability to access feelings and to create long lasting relations to humans and to nature. For this purpose R. Toro developed the Method BIODANZA. Toro describes four pathological factors of affectivity: 1) inability to express, 2) inability to communicate, 3) egoism, 4) intolerance.

### h) Need for a new concept of intelligence:

F. Varela defined intelligence as the ability to enter into a shared world with others.

- We need to restore the human connections and teach to create emotional, supportive networks.

*Maturana, H.: in biology: LIFE = NETWORKS.*

Maturana called living as autopoietic networks connections, which is an important feature and is based on:

*Autopoiesis and self-organization – the pattern of life*

- = Network pattern in which each component has the function to participate in the production or transformation of other components in the network.
- = Autopoietic self-organizing networks with a high degree of autonomy and communication.

H. Maturana (1988: Tree of Knowledge, 2004 From Being to Doing)

### i) Stueck adapted the theory of Maturana into educational fields with the theory of empathic networks with teachers.

Empathic network theory starts with the body experience of teachers of empathic networks. For this nonverbal empathy Toro's method of BIODANZA is used. It is the way from the head into the body and part 1 of his School of Empathy. For the verbal part and the way back from the body into the head the Nonviolent Communication by M. Rosenberg is used.



**Figure 1:** Integrated Model of Empathy (Stueck, 2010)

Stueck's conclusion:

- 1) It is not a mental rather than firstly a biological, biochemical process to create networks (see fig. 1).
- 2) Above the biological information processing (80%) is a 20% part of verbal reflexion of body processes (needs, feelings). This expression can be developed by reinforcing the verbal expression (Rosenberg, 2009).
- 3) Empathic networks have to develop following parameters: autonomy, trust, empathy, chaos by use of this two information processing systems (experiential, nonverbal and verbal).

Stueck and colleagues proved processes of self-organisation under use of Biodanza in the Immune system of teachers.

#### **j) Jorge Terren:**

Education must be done with love, love is the unifying force that connects. No one can live without love. He proposes the following fundamental aspects of healthy education:

- Affectivity: the importance of the other one
- Love
- Friendship
- Tenderness
- Solidarity
- Empathy (Intuition)
- Altruism (Helpfulness)

First, a learning takes place through the experience, then the rational understanding. The educational activities must be appealing, especially in the following areas:

- It is focused on what the student has and not what he lacks.
- Promotion of personal skills.
- Creation of conditions for learning and no imposition of policies.
- To educate is not to enlighten another, to make him aware of things, but to create a space in which the student expresses what is in him/her.

### 1.2 Conclusion – Target of a modern education

The connection of education with life. Learning means to sense the world, which means

- Away from a focus on education *information*, towards one that represents the art of *learning to live* in the center.
- Students should not be educated from outside, by filling a void, but they should be encouraged so, he can handle his development by self-organisation.
- For this learning to take place, it is necessary that the whole body learns. It is necessary to experience.

- Learning is to *feel* the world. (The reality is a feeling.) Damasio describes the basic conflict of our culture since Descartes, who said: “I think therefore I am.” We say that it is an antithesis to this thesis, however, I feel, therefore I am, and the feeling is very out of focus and reflects reality in blur but this very precise.
- Identity can be developed by creating a space for expression. Everything else is identification. *identity = expression* (Stueck)
- Knowledge is an active *doing* (New term of cognition Santiago theory of cognition, Maturana).

## Methodology of Research

### *General Background of Research*

#### 2.1 What is the master plan “Healthy Education”?

Based on this new paradigms (see point 1) the german psychologist Marcus Stueck (2010) developed a master plan and its components to secure the balance between intuitive-emotional vs. rational education at the University of Leipzig between 1994 and 2010. Between 2007 and 2011 this master plan was successfully tested in the project “Strong roots – Healthy Lifestyles in Kindergarten in Germany” with 200 teachers and 1.800 children and their parents<sup>1</sup>. Since 2011 the masterplan is introduced also in Latvia (Riga Teacher and Management Academy; Center of Educational Health, Biodanzaschool Riga<sup>2</sup>).

The master plan to secure the balance between intuitive-emotional vs. rational education contains seven steps, which have to be developed within educational institutions.

- 1) *The body as an organ for experience and thinking* (presence between child/teacher)<sup>3</sup>.
- 2) *Healthy lifestyles* ( e.g. *stress reduction, relaxation*): basis for empathy and ability to love<sup>4</sup>.

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1 See, [www.starke-wurzeln.de](http://www.starke-wurzeln.de) (project cooperation: Ministry of Health Germany, Technical University Dresden, University Leipzig, Health Government North Saxony).

2 [www.biodeja.lv](http://www.biodeja.lv); [www.bildungsgesundheit.de](http://www.bildungsgesundheit.de)

3 Without this access to the body the development of self-conscious within children and teachers is not possible (Maturana & Verden-Zöller, 2005).

4 Stress reduction, relaxation and health is the basis for empathy. A study by Schaper, Schoppe and Stueck (2007) shows a high significant correlation between healthy work-related behaviours and empathic behaviours in teachers. Also, a study by Stueck, M., Sonntag, A., Balzer, H.-U., Glöckner, N., Rigotti, Th., Schönichen C. & Hecht K. (2005) shows a significant difference between teachers who are chronically stressed (physiological hypersensitivity) and teachers without stress. The hypersensitive teachers were significant less able to show an ability of love (empathy).

- 3) *Emphatic and respectful communication: School of Empathy* (Stueck, 2010)<sup>5</sup>.
- 4) *Supervision of teachers.*
- 5) *Educational skills/content.*
- 6) *Educational concept.*
- 7) *Frame conditions.*

### **2.1.1 Step 1–3: “The forgotten Basics of Humanity”**

The first three steps of the master plan are known as the forgotten basics of humanity (Maturana, Verden & Zöllner, 2005). Without an access to the body, healthy lifestyles (relaxation, stress management, sport, nutrition), empathy and the ability to love, the development of education and the gain of knowledge is not possible (steps 4–7). Without these human basic skills, children cannot learn and teachers cannot teach.

#### *Step 1: The body as an organ for experience and thinking*

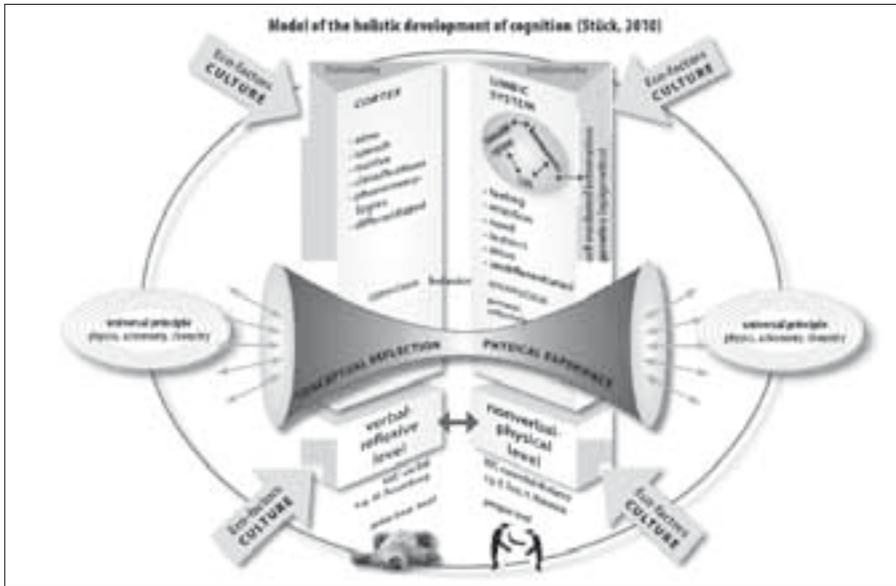
The present body-oriented encounter/relation between teacher and child is the basic of all learning processes. The main aspect to consider is that the teacher meets the child without any theoretical concept. It is a present meeting between humans, where they start to know each other, their needs and feelings<sup>6</sup>. The relationship is more important than the content.

This “nonverbal” present meeting between teacher and child (from human to human) is the basis for the verbal reflection. First it has to be looked behind the “rational” classifications and theories, due to the Model of holistic development of cognition (Stueck, 2010; see figure 2)<sup>7</sup>.

### **2.1.2 Healthy lifestyles and System Related Stress Reduction (SYSRED) as basis for healthy education**

Since 1994, we are developing a stress preventive concept based on the above described theoretical background which is applied to students as well as to teachers. This integrative method is necessary because students and teachers are two components that influence and teach one another. In order to secure this integrative method we suggest four possibilities of intervention (Stueck, 2011):

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- 5 Stueck (2010) developed the Integrative Concept of the “School of Empathy”. The Integrative Model of Empathy (Empathic Network Theory, Stueck, 2010, see also Stueck, Villegas & Toro, 2010) is shown in figure 1, chapter 3. The School of Empathy is integrating verbal aspects ((Rosenberg, M. (2009) “Nonviolent communication – a language of Life”, see also the adaptation for kindergartens and schools Müller & Poerschmann (2009) “Respectful communication in Kindergartens & schools”) and nonverbal aspects (Rolando Toro (2010) “BIODANZA – The dance of Life”).
  - 6 The perception of the body means to feel. The feelings and emotions form the connection with the own needs.
  - 7 This model was described as a Basic Model for all disciplines to gain knowledge.



**Figure 2:** Model of the holistic development of cognition (Stück, 2010, 2012).

### 1) Level children:

- a) Implementation of preventive interventions for stress management for pupils/students

Focus: preventive work with children e. g. EMYK: Training of Relaxation with Elements of Yoga for Children (Stueck & Gloeckner, 2005, 2009a)



**Picture 1:** Evidence-based stress reduction programs for children.

### 2) Level adults/teachers:

- a) Implementation of preventive interventions for stress management for adults (e. g. teachers)

Focus: preventive work with teachers e. g. STRAIMY: Stress Training with Elements of Yoga for Adults (Stueck, 2009b).



*Picture 2: Evidence-based stress reduction programs for adults/teachers.*

- b) School-based abilities: Qualification of teachers to use stress and conflict management techniques during lessons  
Focus: teacher as mediator; teacher-student-relation (Stueck, 2007, 2008)
- Relaxation techniques in schools
  - Handling behavioural difficulty of students
  - Motivating students
  - Reduction of exam anxieties in children

### 3) Level conditions:

- a) Awareness and analysis of stress conditions  
Focus: stress reducing conditions (Stueck, 2008)  
The education of course instructors to the SYSRED components (EMYK, STRAIMY, TANZPRO-Biodanza for children) is managed by the Center of Educational Health at Leipzig and Graz. The education of BIODANZA-teachers is organized at the Biodanzaschule Leipzig and Riga<sup>8</sup>. The scientific evaluations take place at University of Leipzig and Teacher and Management Academy in Riga (Latvia).

**A deeper description of the SYSRED components is contained in the article “The concept of Systemrelated Stress Reduction (SYSRED) in educational fields” by Marcus Stueck in the Journal “Education in the 21 century in 2011”.**

All these methods will be taught in Latvia. More information:  
stueck@bildungsgesundheit.de or www.bildungsgesundheit.de.

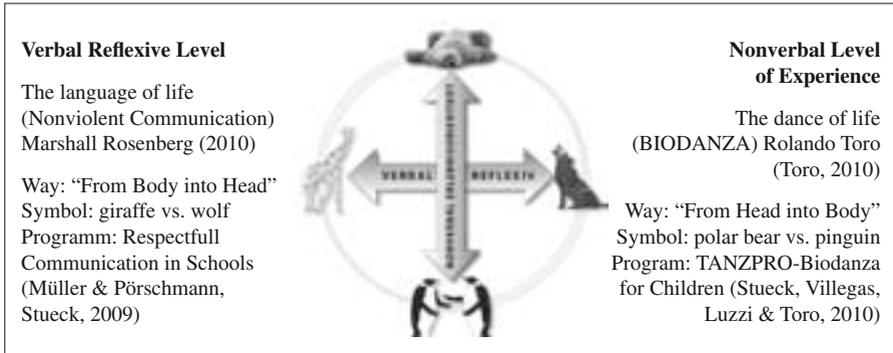
### 2.1.3 School of empathy:

The Concept of Love and its important meaning for the success of any therapy and healthy education was announced by Stueck (2011<sup>9</sup>). He describes love as a scien-

8 www.bildungsgesundheit.de; www.biodanzaschule-leipzig.de (there is also information about Biodanza-Education in Riga available)

9 Key note speech at the international interdisciplinary conference “Crisis and Intervention” at Riga in March 2011.

tific construct and as a basic skill for all human disciplines<sup>10</sup>. Stueck and colleagues (Stueck et al, 2010) were developing a School of Empathy which consists of two components: 1) a verbal reflexive level and 2) a nonverbal level of experience.



**Figure 3:** School of Empathy + Integrative Model of Human Empathy (Stueck, 2010).

With BIODANZA Rolando Toro (2010) developed a system of affective integration aiming to the development of a “behaviour of love and empathy” using music, feelings and movement (on a nonverbal-experiential level)<sup>11</sup>. He calls this “The dance of life”. Stueck (2010) describes this method as a way from the “Head into the Body” without language. Changes in lifestyle are symbolized by the animals – polar bear (more egoistic, self-centered, structured, rationale lifestyle) and penguin (more social lifestyle based on joy, expressing feelings, building empathic networks, life-affirming). Marshall Rosenberg (Rosenberg, 2009) developed the verbal-reflexive basics of life. He calls it “The language of life”. The language of connecting with the other (expressing needs, feelings, asking somebody a favour) is symbolized by the giraffe and the wolf (expressing demands and claims). Stueck (2010) integrated these verbal and nonverbal basic-concepts to a “School of Empathy” as a basic of an Empathic Network. Following theoretical works are integrated in the Empathic Network Theory and in step 1–3: (1) Biocentric paradigm<sup>12</sup> (Toro, 2010), (2) Autopoiesis-Modell (Maturana, H. and Varela, F. (1988).), Chaos-Theory (Prigogine, 2000), Santiago-Theory of Cognition (Maturana, H. and Varela, F. [1988]), Stress-Coping concept (Lazarus, Folkman 1984; Villegas, Stueck, Terren, Toro, Schröder, Balzer, Hecht, & Mazzarella, 1999), Nonviolent Communication (M. Rosenberg).

10 The “Concept of Love” as a scientific construct is investigated at this moment by a research group at the University of Leipzig.

11 [www.biodeja.de](http://www.biodeja.de)

12 “The life in the middle”, Integration of all disciplines with protect life processes (Toro, 2010).



**Picture 3:** *Official Meeting*

There is an official meeting to introduce the disseminator education in Germany and Latvia (see Picture 3). It is called “Education paradigms in change” and consists of four parts: The biocentric education after Rolando Toro, Education in test – after the disseminator education by Marcus Stueck, Biology of knowledge by Humberto Maturana and Basics of nonviolent communication by Marshall B. Rosenberg.

For a child, the body is the most important “thinking organ”. That also means, that the teacher has to have an access to his own body perception, without rational processing, only the ability to experience. That’s why we propose that the intervention method BIODANZA (Toro, 2010) is suited for children as well as for teachers. Without this access to the body the development of self-conscious within children and teachers is not possible (Maturana & Verden-Zöller, 2005).

Teacher should use all kinds of body self experience: art-expression, drums, painting, music, play (see pictures).

### 2.1.4 Steps 4–7:

Only after the obligatory steps 1 to 3 the rational aspects of educational priorities of the MASTER PLAN (4–7) follow. That means: after developing the basic skills of human relationship behavior (so-called Forgotten fundamentals of human existence; Maturana, 2002) the rational steps follow. At the moment, we often start with the rational, which is a mistake. We put the structure back on its feet:

- 4) scientifically founded advice and supervision (e.g. ability to learn critical reflection on the basis of empirical data),
- 5) rational teaching ability in relevant field (e.g. improve teaching skills of teachers),
- 6) theory of rational-reflective concept (e.g. to develop interior design concepts for day care centers, e.g. Leipzig concept structure),
- 7) General Conditions (e.g., develop a realistic perspective on education Conducive environment factors).

## 2.2 The application and evaluation of the masterplan in concrete projects (example)

The masterplan “Healthy Education” was investigated and applied from 2009 – 2011 in the project “Strong Roots – Healthy Lifestyles in 22 Kindergartens” in co-

operation with the Technical University Dresden, University Leipzig and the health government North Saxonia (Germany)<sup>13</sup>. The project was financed by the German Ministry Of Health and introduced to 1.800 children, 200 teachers and parents.

### 2.2.1 Plan of Investigation

Before (T1 April 2009) and after (T2 April 2011) the interventions of the Masterplan (see Step 1–7, 2.1.1–2.1.4) took place, a questionnaire of workrelated behavioural- and experiential patterns (AVEM; Schaarschmidt, 2000) was given to the pre school teachers in the Exerimental group (n=43, average age 46.16, female). The data of the Controlgroup are still being analysed. The T1-T2-Difference of the primary scales of AVEM was analyzed under the use of T-test-Statistic (exclusive POWER and effect size  $d'$ ), the secondary AVEM-pattern with Chi2-Test. The interpretation of the results has the character of a Pilot Study and has to be made carefully (because of the missing Control group).

## Results of Research

To determine in which areas significant changes occurred because of the intervention, the individual subscales of the AVEM were using a t-test checked for significant changes. The results are summarized in Table 1.

Subscales	M (SD) T1	M (SD) T2	Test statistic – t (df)	p	$d'$	Power
Subjective significance of work	19.58 (3.04)	19.51 (3.50)	.123 (42)	.903	.03	.07
Professional ambition	18.72 (3.87)	19.47 (4.51)	-1.244 (42)	.220	.27	.56
Over commitment	19.33 (4.13)	19.91 (3.98)	-1.172 (42)	.248	.25	.51
Striving for perfection	21.65 (3.19)	21.81 (3.37)	- .284 (42)	.778	.06	.11
Ability to dissociate	17.00 (4.69)	16.40 (4.38)	1.133 (42)	.264	.24	.48
Resignation tendency for failure	17.84 (3.93)	16.79 (4.08)	1.844 (42)	.072	.40	.84
Offensive tackle problem	22.26 (2.60)	22.72 (3.29)	-1.024 (42)	.312	.22	.42
Inner peace and balance	18.23 (4.08)	19.53 (3.81)	-2.799 (42)	.008	.60	.99
Successful experience in the profession	23.14 (3.23)	23.60 (4.14)	- .865 (42)	.392	.18	.34
Life satisfaction	22.09 (3.07)	22.00 (3.95)	.174 (42)	.862	.04	.08
Experience of social support	22.70 (3.79)	22.21 (4.05)	.768 (42)	.447	.17	.29

**Table 1:** Subscales AVEM (t-testing)

13 See [www.starke-wurzeln.de](http://www.starke-wurzeln.de)

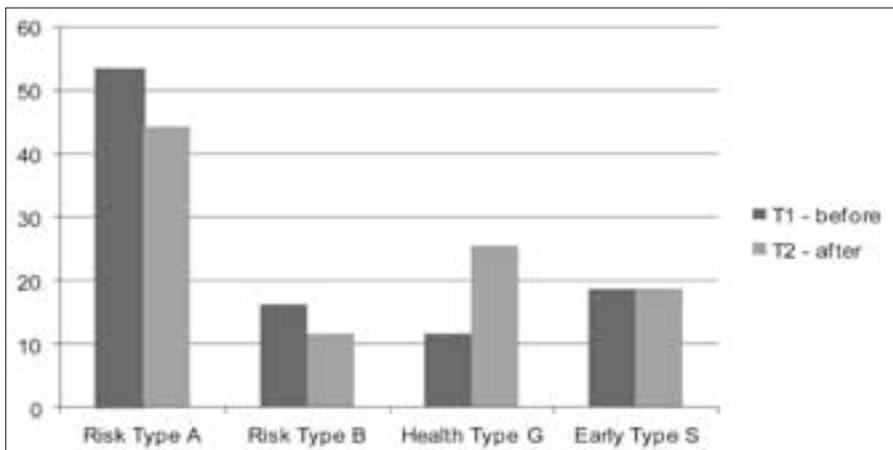
### AVEM-Pattern T1-T2

The results in Table 2 show, that the distribution of patterns for Risk Type A (Stress Behavior) and Risk Type B (Burnout) differed at Time 1 and Time 2 – there are significantly fewer persons in Type A and Type B at the Time 2. In contrast, at the Time 2 there are more persons showing the healthy pattern Type G (Health Behavior), but the Type S (Preservation) showed constant number of persons.

Pattern	N T1 (%)	N T2 (%)
Risk Type A (Stress-Behaviour)	23 (53,5)	19 (44,2)
Risk Type B (Burn-Out)	7 (16,3)	5 (11,6)
Type G (Health-Behaviour)	5 (11,6)	11 (25,6)
Type S (Preservation)	8 (18,6)	8 (18,6)

**Table 2:** Pattern distribution at T1 and T2

Figure 3 illustrates the different patterns-distributions graphically. These changes are significant (Chi2-Test:  $p \leq .5$ ).



**Figure 3:** Comparison of AVEM patterns' distribution

## Discussion

The Master Plan “Healthy Education” was investigated for the first time in the Project “Strong Roots – Healthy Life Styles in kindergartens” as the Pilot study. Following results can be discussed concerning improved teachers’ health: significant changes to a higher “Inner peace and harmony” ( $p=.008$ ) and the statistical tendency towards less “Resignation tendency for failure” ( $p=.072$ ). Also the AVEM-

pattern Risk Type A (less Stress-Behavior) and Type G (improved Health-Behavior) showed highest change toward more health related behavior in teachers after the Project Interventions. Most of the subjects have switched to the Type S (Preservation) from the Type B (Burnout). These results have to be proved by a further study with a Control group. It shows the potential of this complex educational Master Plan within the field of early education and teachers' health. Many evaluations were done with the Elements of the Master Plan:

*Step 1: Body as a thinking organ.*

BIODANZA (Villegas, A. [2006], Stueck, M. & Villegas, A. [2008] and Stueck, M., Villegas, A., Terren, R., Toro, V., Mazzarella, L. & Schroeder, H. [2008])

*Step 2: Stressreduction*

- a. Training with relaxation with Elements of Yoga (EMYK) (Stueck, M., Reschke, K., Tanjour, I., Hartwig, K., Enke, J., Kühn, J. & Breitner, K. [2002])
- b. Training with Yoga and Stressreduction (STRAIMY) (Stueck, M. [2009])

*Step 3: Empathy*

School of Empathy (Stueck, M.; Neumann, D., Schoppe, S.; Lahm B. [2012])

*Step 4/5:*

Educational abilities

*Step 6:*

Concept (Stueck, 2010)

*Step 7:*

Frame-Conditions (Stueck, 2010)

The Masterplan "Healthy Education" was also a strategic element of the Project "FAIRSEIN – Prevention of Violence in school and kindergardens in Germany", where biochemical and physiological effects of the Interventions could be shown.

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