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## *Editorial*

Journal of Teacher Education and Training (JTET) announces the change of the title to the Journal of Teacher Education for Sustainability (JTEFS) and welcomes the authors and Editorial Board on the publication of seventh issue of JTET/JTEFS.

The changes of title will emphasize the uniqueness of the journal and promote its identification in the world, help to mark the journal's special niche among other journals for teacher education, and help the Editorial Board and reviewers to indicate the authors and readers on the particularity of themes of the journal.

We have successfully completed the first stage of journals' development, when the authors tried to create different more or less effective models how to integrate sustainability, sustainable development, education for sustainable development, and sustainable teacher education in their own peculiar research topics. As it was emphasized in UNESCO network meeting in Helsinki, May 2006, the new phase of work is just started – UNESCO "Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability" (2005) have to be implemented in real life practice. Therefore, in future the journal will strive to publish the articles reflecting the research about the introducing theory into the practice. This does not mean that the development of the theory is fully accomplished. There is a huge work ahead in this area, though, JTEFS will give a priority for applied research based on ideology of action research and qualitative changes coming from the research.

Starting from 2007 two volumes of the journal will be issued annually. The terms for article submission will be January 15 for the spring volume and May 15 for the autumn volume of JTEFS.

As usual the appearance of JTET/JTEFS (spring volume) traditionally coincides with the annual International JTEFS Conference "Sustainable Development. Culture. Education". This year the Conference will take place at the University of Debrecen, May 30 – June 2, Debrecen, Hungary, following the JTET Conferences organized by Daugavpils University (2003), Tallinn Pedagogical University (2004), University of Vechta (2005), and University of Helsinki (2006). Year 2007 will be the 5<sup>th</sup> anniversary of Conference to celebrate together for the former, present and future authors, Editorial Board members and supporters of JTET/JTEFS.

Editorial Board for this issue of journal includes the representatives from 16 countries. Many dedicated members of Editorial Board have been carrying on this responsibility from 2002. JTET also welcomes the new members of Editorial Board and hopes for fruitful cooperation in years to come.

The 7<sup>th</sup> volume of JTEFS contains the articles that reflect the research, practical experience and theoretical propositions originated in Australia, Estonia, Hungary, Italy, and Latvia. Since the change in journal's orientation was announced earlier, all articles for this volume already contain the theoretical, practical or complementary approach to the introduction of UNESCO Guidelines and Recommendations in teacher education or professional practice of teaching.

The volume 7<sup>th</sup> of JTEFS starts with the philosophical perspective on conditions, processes and aims of teacher education. The author uses the Blondelian philosophy of action as a specific philosophical view applicable for reorientation of teacher education toward sustainability. Researcher from Latvia explores the effect of critical transformative learning process for revitalizing adults' societal action encouraged by the in-service course for adults, and gradually assist adults helping them to become creative producers of self and agents of transformations in education. Next article deals with the ecological didactic model of prospective teachers' pedagogical practice carried out and approbated at the Institute of Education and Home Economics (IEHE) at the Latvia University of Agriculture. Experienced Estonian researchers share their research data on parental involvement in education as a form of social capital and focuses on how involvement may be developed through three dimensions of social capital: bonding, bridging and linking. Other article from Estonia presents the ethnographical study of education using the large number of observations of class sessions. The author concludes that it is important to avoid the vicious circle of failure and emphasizes the importance of supportive, positive, optimistic learning environment. The journal concludes with the practice-oriented article from Hungary, showing the sustainability pedagogy in practice and illustrating it with the example from health education.

The website of Institute of Sustainable Education [www.dau.lv/ise/](http://www.dau.lv/ise/) is available for a further acquaintance with *Journal of Teacher Education for Sustainability* and, as usual, it informs about the annual JTEFS conferences "Sustainable Development. Culture. Education". The Institute of Sustainable Education invites you to follow the information about the next Conference and to submit articles for the next volumes of JTEFS.

Editor-in-chief: **Anita Pipere**

**4. tukša**

## CONDITIONS, PROCESSES, AND AIMS OF TEACHER EDUCATION: A PHILOSOPHICAL PERSPECTIVE

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### Abstract

*The aim of this article is to provide a theoretical ground about teacher self-construction that is in harmony with his/her capabilities, natural environment, and society. The article initially considers the Blondelian philosophy of action as a specific philosophical view that forms an approach for teacher education: the primary concepts of action and synergy help consider the ontological dynamism of human life and its unavoidable conditions. In particular, the work on teacher prejudgements, considered as a system of conditions, is central in teacher education, as it represents a central and unavoidable condition. This reference to “conditions” is then articulated, in the specific case of teacher education, as the need to study the phenomenon of prejudgements, which can be considered the first step towards a greater awareness of educational and cultural skills. The third step of the article consists in “translating” these main issues of the philosophy of action into the idea of a performative process in the education of the teacher. According to philosophy of action, the article shows the performative character of teacher education processes, which is based on the pursuit of goals by activating all personal capacities.*

**Key words:** *teacher education; action; synergy; responsibility; integral development; performative education.*

### Introduction: Philosophical questioning in education

The discussion about the nature of education has been enriched in recent years by new perspectives. Since education is universal and necessary, it implies meeting the needs of living beings, of training all of the subjective and social capacities of a person. Education, in fact, may be the most important and widespread “art”, in the sense of a continuous *work* in progress in which persons learn how to live *on* and *in* the world. But education is an art also because it is the way of an unfolding of the complex and singular aspects of the individual and explore the limits of human capacity. Some of the most important educational values include: moral development through recognition of values (Aramaviciute & Martishauskiene, 2006), comprehension of other people, identification with others, development of spiritual manifestations and modalities (Belousa, Vanaģele & Jurāne, 2006: 7; Iliško & Kokina, 2003: 11-12), social recognition (Cortella,

2003; Tuinamuana, Burnett, Dorovolomo & Koya-Vaka'uta, 2006: 332), openness to the transcendence of nature, humanity, and God. Education then, in its deepest sense, means not mere teaching fragmented cultural content, but implies a more spiritual calling that is directing to the integral development of the individual and his/her cultural linkage with the socio-historical community. Aware of this task, educational practice has recently faced many new questions and has accepted contributions from different sciences, including sociology, psychology, history, and even economics. But one of the most ancient and radical contributions to education has been provided by philosophy. The peculiarity of a philosophical questioning in pedagogy is twofold. On one hand, if it is considered as a science of Being (*ontology*), particularly in its human "region" (as a philosophical anthropology), philosophy explores some common fields with pedagogy. On the other hand, philosophy, considered as a precise intellectual investigative attitude, can be used to reflect upon any experience and applied to any field.

As a starting point for this study, a specific philosophical conception is presented as a "philosophy of action", according to Maurice Blondel, in order to show that it can provide a discussion on the aims and processes of teacher education with a solid foundation in a culture that is characterised by the continuous and predominant notion of "life". The chronological distance between the Blondelian work in this part of the discussion, and the reflection on oriented teacher education on the other is assumed here as another element to solidify sustainable education, all while employing a philosophy of action.

### Conditions and resources of action: An onto-anthropological ground for educational responsibility

The theoretical conception elaborated by Blondel in his work *L'Action* (1995) is remarkable because of its anthropological complexity and wholeness. In this brief study, it is impossible to take adequately into account all the nuances and passages of his philosophy, as our first interest here is simply to outline the framework of his conception in order to develop its virtual consequences on the pedagogical issue of teacher education.

However, some essential elements of Blondelian theoretical grounds can be presented in order to introduce our following interpretation. His main aim is to analyse human reality and its ontological relation to nature, other men, and Being. The original element of this attempt, not different in its intention from the traditional one, but original in its results, is the delineation of the "nucleus" of subjective life not simply in "being" but, more radically, in "acting". This idea leads to a complete reformulation of the ontology of *life*, conceived as the real propulsive centre of the dynamism of being. Hence, action is considered not merely as the efficient result of an individual desire, but as a radically free source of personal and social transformation, which offers, in singular life, orientation and substance of an intrinsic tension to ontological fulfilment. This new action-based metaphysical perspective leads also to a rediscovery of the role of freedom in configuring the being and, at the same time, to a sort of "compatibilism" with causal natural determinism, not opposed to human freedom.

The peculiar characteristic of this philosophy is that it focuses on the problem of human existence from the point of view of the *primacy of life* (Blondel, 1995: 556). This means, above all, reconsidering all forms of existence in a dynamic and organic

way, at the antipode of an abstract use of intellect and of an intellectualistic vision of human *praxis* (Blondel, 1995: 216). Going deep into the study of life, we notice that life is *action* (Blondel, 1995: 505). As a matter of fact, this starting definition inaugurates a new attention to life as something completely different from the mere mechanistic sum of parts or “atomistic” interaction between elements. Life is, rather, the always new, original, and fecund process of *unfolding* of energies and tendencies, which – for their intrinsic law – look for a *fulfilment*. But this can be realized only as a synthesis of the constitutive energies, then as a *synergy*: “in the action there is the systematic conciliation of forces, the cohesion of tendencies” (Blondel, 1995: 214).

This idea means more than a simple epistemological pragmatism or a dynamic vision of life. In fact, there is no unilateral exaltation of praxis at the detriment of a complete understanding of all contemplative, ethical, and metaphysical powers of subjectivity. On the contrary, this consideration highlights one of the main critical elements of Blondelian philosophy of action that is the criticism of the positivistic and instrumental approach to spiritual and transcendent peculiarities of human subjective and social life (Blondel, 1995: 512). For these reasons, this perspective can highlight the right possible direction for education, as we would like to show here. In fact, if being is life, and life is an active realisation of the synergy between the self and the interior and external energies, then education, as the art to gain human fulfilment, must be directed to the realisation of such synergy.

Moreover, in agreement with the ideal of sustainability, along with giving major importance to organic, active, and creative original syntheses, also provides for an action-based philosophical approach that emphasizes the importance of that particular relation in which the living and acting individual is with *nature*. Nature here implies the living interaction of energies, not simple coexistence of separate elements: therefore it can be seen not as the sum of materials and instruments of human exploitation, but a living complex of forces, a “junction” of tendencies which create and re-orient the endless directions and potentialities of life (see also Salite, 2002).

From this point of view, rethinking reality as a living creative process, Blondel implicitly finds the criterion of authentic action in constant “touch” with the conditions that configure a harmonious fulfilment of even contrasting tendencies. Therefore, such a vision of life, conceived as a system that continuously develops, changes itself, and proceeds towards more complete and wide syntheses, can help us think correctly about the *responsibility* that fills human subjective and social action. In fact, action here is conceived not as a partial segment of the subject’s life, but as the main modality through which nature itself realizes a unity of its constitutive potentialities and brings to realization its implicit developing directions. But, in human subjective life, this process acquires the new characteristic of *consciousness*. This means that the essence of the subject’s action requires a *choice* about the conditions and modalities of the syntheses to be realized.

In other words, human action, as the main modality of life’s *essence* itself, becomes real and effective only through freedom: as a matter of fact, only through the active presence of a principle of original unity can a unification of different developmental directions become real, and the synthesis of organic, psychic, and spiritual energies be effectively operated in harmony with other living beings. This is in effect what Blondel calls *co-energy*: it is the co-operating of freedoms, as the involvement of many creative sources in the process of an action’s configuration. “Between the agent and his co-

operators, there is a relation analogue to the finality of the members of a single organism” (Blondel, 1995: 258). Then correct human cooperation can be understood to be the prolonging of nature’s organic essence itself. Of course this principle has a strong social implication that is its moral relation to inter-subjectivity. Individual and social life is co-penetrated in the natural context (Blondel, 1934): this co-penetration is the ontological basis of that responsibility.

Nonetheless, it is important to consider that such a synergy, which our action realizes in order to advance in being and life, includes a heterogeneous tangled kern of directions and energies, often contradictory and diverse. The “junction” of forces is a whole, not harmonious in itself, or easy to put under a single form of unification. On the contrary, it is often the battlefield of different life orientations, and, in subjective existence, the interior struggle of contradictory possible ontological directions. Human action is obliged, then, to find a way in which these different, plural, multisided, and multi-fold possibilities can be included in a single movement towards a straightforward development.

If we detach these considerations from the ontological domain and “translate” them into the pedagogical one, we discover that they mirror the various levels of education itself: (a) physical coordination and well-being, (b) subjective skills, intellectual capabilities, (c) creativity and creative imagination, (d) spiritual search for harmony and conscience of an “in-ness” in the whole, (e) link with other humans, construction of peaceful co-life, (f) evaluation of personal and social action in the history of human-kind. Here, in the emergent obligation of responsible action (which is possible thanks to spirituality in human life) the role and power of a *responsible* education arises.

### Responsibility towards the *in fieri* person and social well-being

According to our hypothesis, it is thanks to this idea of fulfilment of life *through* action, suggested by Blondelian reflection, that a relevant theme for teacher education appears. In fact, action dialectic of internal problem solving, of necessary consideration and pacification of struggling tendencies, of subjective spiritual and free movement is not only socially possible or *desirable*, but even *morally good*, as the deeply rooted duties of an authentic approach to education.

We should consider here, according to a sustainability-oriented approach, that education is a sort of prolongation of life movement itself due to a twofold reason. Above all, education is the way in which a new human life acquires the greatest part of knowledge and capacity (in cultural, relational, and practical respects): this shows that education is the main modality of coherence and safety of life development. Secondly, education, seen as the instrument for spreading a socially shared form of existence called “culture”, is the principal tool for society to develop by promoting some practices while weakening or eliminating others. If we refer to synergy as a conscious work of unification of energies and of effectuation of the unity of the self according to the most complete unfolding of inner virtualities, then education, as a modality of human development must be conscious of this connection with natural conditions and with the exigency of their full development.

Teacher education could assume these considerations, especially concerning sustainable education. Consequently, it should pursue its role in promoting natural harmony and sustaining human development with regard to good and peaceful directions.

This means underlining the need to develop and increase *responsibility* in teacher education (Jämsä, 2006; Bulajeva, Duoblienė & Targamadžė, 2004: 29; Belousa, 2002: 5) towards life in all forms, expressed in organic unconscious life as well as in conscious and free, imaginative and moral life that is peculiar to humans. This life-responsibility can be well defined as a “biotic” attitude (Salite & Klepere, 2003: 45). In fact, being a *synergy* of those virtualities that constitute a determined form of life, education is responsible for the creation of the life of the world. Teacher responsibility acquires a further nuance consisting in an awareness of its capacity to form a shared cultural comprehension of the potentialities of a good socio-economic-environmental development. This awareness, as it can enforce teacher education, can be articulated in greater detail.

Teacher responsibility acts on two levels. First, their work is intrinsically responsible for the human being that the pupil actually *is* and the man/woman he/she is going to *become*. This is the level that we can highlight through the expression of sustainability towards *the person*: education should be sustainable for all of humanity and for the particular individual. But, on another level, teacher can also contribute to social and (in the wide sense) political change, as well as the increased rights, the social quality of life, and democracy (about the role of democracy in education see Lukk, Veisson, Ruus & Sarv, 2006: 88-89). This is what we call educational *social* sustainability, which is oriented toward the configuration of a personal and common better *future*.

Hence, from the point of view of action's primacy, a further force of sustainable criterion for globally-oriented and individual action and formation arises; this criterion shows how to provide, on one hand, philosophical analysis with actuality and, on the other, teacher sustainability oriented education with an ontological confirmation of value and efficacy. But, if philosophy gives us a theoretical context for pointing out the aims of teacher education, we should also consider how actions can usefully and concretely suggest a *way* of teacher education. In the further step of our brief reflection, in which we move towards the concrete articulation of the moral-ontological perspective, we need to go beyond Blondelian work and refer to other philosophical perspectives.

### **The conditions of teacher education: The enlargement of personal subjective prejudices**

In order to configure teacher education aims and to analyse more effective processes, it is necessary to clarify the elements of the given cultural, subjective, and historical situation on which this work is grounded. Because teacher education is the education of an adult, the first aspect to consider is the presence of an already pre-formed cultural context in the teacher's mind. Therefore, the teacher needs an intellectual attitude to face the change, which implies a cultural “flexibility”, a “readiness for changes” (Davidova & Kokina, 2002: 16; Žogla, 2002: 51). Teachers should not become instruments in the hands of global economic demands, but professionals who actively respond to new events and social exigencies. This dynamic mindset meets the needs of sustainable education, according to what Puglisi (president of Italian national commission for UNESCO) writes: “We should pursue a culture of sustainability, that is an education which is devoted not to giving punctual responses to specific problems, but rather to provide young people and adults with the right instruments to face new challenges and *problems in evolution*” (Puglisi, 2006: 33, my italics).

Then, an unavoidable condition of teacher education is represented by his/her specific earlier preparation. It is impossible to change someone's context of ideas without making him/her compare them with pre-existent or hypothetical situations and choosing hereby the best perspective. In this regard, special attention to the teacher's philosophical attitude should be paid during education (Belousa, Vanaģele & Jurāne, 2006: 35), especially to allow him/her to increase awareness of educational aims and to activate a critical approach to situations.

Taking into account the priority of working on a teacher's previous belief system brings another reflection: the passive aspect of *prejudices* does not exist without their necessary *active* aspect. Gadamer, in *Wahrheit und Methode* (1960), has analysed the hermeneutical circle according to which neither enlargement of ideas nor expansion of consciousness becomes effective without a process of integration of prejudices. This process reflects the twofold statute of the *condition*. On one hand, a given condition is a *limitation*, the element that determines the nature of the entity: this aspect, reflected in teacher education, represents the passive role of prejudices in the formation of a critical approach to culture. On the other hand, the condition represents the elements that contribute to the existence of the entity. In education, previous cultural conditions mean not only a limitation but also a necessary *beginning* basis preliminary to the appearance and acquisition of new perspectives. So, teacher education should not present a sudden position or force the critical acquisition of new cultural contents. Instead, it should promote an active adherence to educational perspectives that promote a personal and creative integration to an individual's cultural heritage (Konsa, 2004: 20-21).

These considerations lead directly to the recognition of teacher *freedom* and personal intellectual autonomy (which does not exclude, but in fact promotes social participation) that have to be constantly and fully developed during the formative process and through action research activities (Davidova & Kokina, 2002).

### **The processes of teacher education: A life long *performative* practising of aims**

To find the means to improve teacher education, we need to consider the actual aims because those concerning ethical and deontological awareness cannot be taught simply as content within a given class, detached from the other fields of knowledge and praxis. This would lead rather to a false and apparent education than to a real and *shared moral competence* that coincides with the deepest sense of sustainability in education. On the contrary, considering that this particular aspect of teacher education – the critical development of a subjective moral competence (i.e. the evaluation of the environmental consequences of action) – is more an attitude to “spend” in a specific work than on a pre-determined cultural skill, it has to be taught by actual practice and experience in every formation phase. This means that the capacity to provide an appropriate education must involve the constant personal active involvement of both teacher and pupil.

This idea goes again in the direction of the priority of active education. In fact, practical and “lived” competences and skills cannot be taught “theoretically”, but only in their real *being – activated* and *performed*. This is not only the case of all communicative competences (Habermas, 1983; Pagani, 2003), but also of the promotion of the principles of holistic mental and practical framework: integration, ecology, and spirituality meta-contents (Salite & Pipere, 2006: 5) can well sum up the authentic and deepest sense of a synergy with different forms of *Being/beings*.

The sense of a “performative” interpretation of educative processes recalls the theory of speech acts (Austin, 1962; Habermas, 1983), which grasps, in many utilisations of speaking rules, the performance of an action: this is the case when *saying* something, we *do* something. In this sense, the effectuation of an action, both in a material and linguistic way, represents, in education, the activation of a capacity, which covers a range of possibilities of human relation, material consequences, empowerment of capabilities, intellectual conceptualisations. With an enlarged use of the term “performative”, we mean that there is no efficient education without an actual performing of an ideal capacity or judgement. Therefore, even becoming active elements in the building of a new society and of “everyday” democracy (Lukk, Veisson, Ruus & Sarv, 2006) an equalitarianism is possible only if, during all self-formation, the teacher has become used to practising and implementing self-responsibility in different contexts and circumstances.

That is why, in our opinion, it is better to talk about *paths* rather than *means* and *instruments* of education. In fact, all means are *ways-to*, they are paths. But path and means differ in indicating two different degrees of precision: while path is the indication of a road, in which the walker is always *engaged* in a choice of direction and timing, means are fixed once for ever, and they can only be used or not, being not sufficiently open to *personal configuration*. In education, all right paths are not radically different from the essence and moral content of the aims: on the contrary, there is a strong “metaphysical” link between the aim and the modality of its realization. The following considerations should be read in the consciousness that they mean to draw coherent paths towards morally desirable sustainable aims.

We have noticed that good teacher education is not attainable without a considering the moral and personal background of the trainees. Moreover, considering that no teacher works alone and within the context of a more or less consensual plan, he/she should be well trained in that special virtue that is “cooperation” (Žogla, 2002: 54). This is not only a “virtue” in the sense that a cooperative teacher works better and more harmoniously with colleagues and pupils, but also in the sense that a constant and precocious exercise in cooperating is the best way to realize one of the main aims of pupil education, that is the formation of social links and of a common and consensual kern of values and practises.

Moreover, work cooperation (*co-labour-action*) is, metaphysically, one of the explications of the *virtuality* of action and Being that Blondel calls *co-energy*: “There is no unity without cohesion, nor cohesion without cooperation” (Blondel, 1995: 216). And the phenomena of co-direction of will, of linguistic formation of consensus, of *converging* of energies, of *co-involving* personal freedoms unfold a central educational virtuality. Therefore, in the sustainability approach, collaboration and cooperation should be established not on the basis of *competition*, but on the more ethical and useful consideration of common interest. Hence, *common good* should be the “spring” to unfold all positive virtualities of educational teacher collaboration, like Blondel, who was a philosopher and a passionate teacher, wrote: “The purpose of education is the common good” (Blondel, 1930: 774-775). We could define the path of collaboration as “universal” for its possibility to be referred to every field of education and knowledge, and for its clear ethical finality. In order to realize this, the best path appears to be a precocious involvement of the teacher’s evaluative capacity to understand concrete environmental problems, as well as a communicative and ethical approach to decisions about the aims.

Offering a comprehensive view of the goals and paths of teacher education is a task that goes beyond our intentions. Nevertheless, some general directories can be attained through the simultaneous consideration of both philosophical and pedagogical issues. It is impossible to rightly direct teacher education without an integral attempt to understand the totality of human subjective capacities, as well as of social and global consequences of action. Hence, a good education should aim at *wholeness*, *comprehensiveness*, and *integration* of curricula, thought, and action (Bulajeva & Duoblienė, 2005).

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## TEACHERS AS AGENTS OF SOCIETAL CHANGE

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### Abstract

*This article discusses theoretical and practical aspects of transformative learning that can become a way for adults to critically evaluate and essentially comprehend themselves and their input in education, whose goal is to create action towards a sustainable society. The review of contemporary literature focuses on sustainability as a holistic concept linked to the idea of vision as significant in engendering alternative transformative power. The framework of a sustainable development has a potential to stimulate teachers' engagement with educational and societal processes with respect to the future development of a society within an ethical framework around values of democracy and active societal engagement.*

*The aim of the research presented here is to explore the effect of critical transformative learning process for revitalizing adults' societal action brought about by engagement with in-service course for adults, aiming to gradually assist adults helping them to become creative producers of self and agents of transformations in education.*

*Key words: adults; teachers; transformative learning; sustainability; societal action.*

### Current situation in education in Latvia

It is a critical period of tremendous changes in the education system of Latvia. There is a transfer from centralized soviet model of teaching to more democratic models where power has shifted exclusively to the school level. Teacher's professional role has changed from the one of an implementer of general curriculum to that of a designer of individual educational programs. Today many teachers have chosen to reform the curricula and teaching approaches in their schools. They quickly acted on replacing Soviet-era courses and textbooks with new teaching materials and methods suitable for democracy. Active teaching methods extensively used by educators are most compatible with the educational goal of developing knowledge and skills necessary for effective and responsible citizenship. A new democracy opens the possibility for teachers to be the initiators of change. A critical analysis of the current situation and teachers' views shows the obstacles in the way of teachers becoming agents of transformation.

## Study design and data collection

The central point of the research was to discover the effects of restorative and transformative learning processes on teachers' social action. The author believes that both restorative and transformative learning illustrate an efficient educational process for sustainability. It fosters the transformation of teachers' views to the broader horizons of meaning and expanded sense of self. The research shows how a course on adult learning influences teachers' perceptions about the possibility to initiate changes in education and in the society.

The reform processes in Latvia has contributed to the structure and design of teacher training programs, underscoring the society's need to prepare educators who can make changes in the society.

For this purpose, the in-service course *Theoretical and Practical Aspects of Adult Learning* was offered at master's level. This course presents challenges for the deliverers as in order for this course to be effective it needs to focus on influencing teachers' attitudes towards themselves, others, and the world. The aim of this course was to lead teachers towards a self-reflective awareness of their teaching philosophy and their commitment to make a difference in education and society at large. Thus, the course provided teachers the opportunity to examine and evaluate their beliefs. This becomes a prerogative for implementing ideals of a sustainable education in practice. Relevant scholarly literature allowed the course participants exploring, discussing, and criticizing the theories and their own teaching skills. It was acknowledged that teachers begin the program with high expertise in their field of teaching, and a desire to deepen their knowledge. The participants of the course were teachers who have a high expertise in a subject matter. Twelve master's students – in-service teachers volunteered to participate in this study. Their average age was slightly over thirty, and they had 8-12 years of teaching experience.

The data for this study comes from four main sources. Pre-course and post-course questionnaires were offered to 64 participants to discover changes in teachers' perceptions on educational change. Essays and 60 minutes long narrative interviews were used as the research tools for twelve teachers who volunteered to participate in this research.

The objective was to explore how teachers position themselves in their world and act upon their intuitions. Teachers were exposed to theories of transformative learning and teaching in order to become active participants in the educational processes. Within the structure of the mentioned study course the transformative learning process was initiated by actively encouraging participants to build an expanded worldview that could empower them to challenge and influence their educational practice.

The pre-course questionnaire provided data on participants' profile and understandings on educational change. Both, a post-course questionnaires and essays explained changes in teachers' conceptual understandings and in having agency in initiating changes in the society after the participation in the study course.

Narrative interviews were used to explore the teachers' views of their role in processes of educational changes. Each participant was asked what positively offers meaning to him/her, what demotes meaningfulness, how meaning relates to forms of work and existence, and how new options for change can be developed.

As MacIntyre (1981) asserts, in the process of the analyses of narratives, the focus is on narrative segments in order to categorize the general themes implicit in narratives. Elbaz (1991) explains the particular purpose of this approach in terms of ‘voice’, where teachers are given the right to write in reference to themselves and with regard to their teaching. Each teacher was treated as a sense-maker who has the ability to successfully invent meaning for oneself and his/her students. Essays helped to develop an interpretive understanding of teachers’ subjective meanings, values, and motives to determine conditions for facilitating teachers’ engagement with societal and educational processes. Freire (1986) suggests that meanings, values, and motives can be consolidated in themes.

Descriptive and interpretative validity of the themes from teachers’ written accounts were established as teachers reflected on personal experiences and were engaged in dialectical identification of obstacles for the desired ideals and everyday reality, and the process of argumentation.

### **Overcoming alienation: Self within the social relations**

As the findings of the sociology of science indicate, a large part of knowledge is unconsciously produced and unconsciously acquired by the individual through the dominant system of values (Berger & Luckmann, 1966). If individuals have consciously produced all the knowledge we have right now, there might not be any oppressive social order or false knowledge. All the distorted forms of knowledge are unconsciously produced knowledge. As Israel (1971) comments, each individual during his/her lifetime uncritically builds up knowledge. Such knowledge has a separate and transcendent existence, which oppresses, controls the self, and fosters an individual estrangement from the self, social relationships, and the surrounding. As a consequence of our alienation from knowledge, we suffer painful meaninglessness, lawlessness, social isolation, and self-estrangement.

For the individual to overcome this estrangement, as Mezirow (1991) suggests, a teacher needs to be engaged in critical reflection of his/her experiences, which in turn leads to a perspective transformation. “Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectations to make possible a more inclusive and integrated perspectives; and, finally, making choices or otherwise acting upon these new understandings” (p. 167). Perspective transformation is very helpful in explaining, how the meaning structures that adults have acquired over a lifetime, become transformed. These meaning structures are frames of reference that are based on teachers’ cultural and contextual experiences that influence how they behave and interpret events. According to Taylor (1998), meaning schemes can be deconstructed and acted upon in a rational way. This happens through such stages as self-examination, critical assessment of assumptions, recognition that others have shared similar transformations, development of competence, and self-confidence in new roles, and reintegration into life on the basis of new perspectives. In order for the transformation to take place in overcoming estrangement and finding deeper meaning for oneself, Habermas (1971) suggests to gain 1) freedom from internal constraints; 2) freedom from external constraints; 3) self-reflective critique of knowl-

edge; 4) utilization of that criticized knowledge; and 5) consistency of the environment with communicative rationality and consensus-building. As he argues, freedom from both internal and external constraints, such as an internal leader or external authorities, ensures that the participants are free to critique their beliefs and understandings.

The use of self-reflective critique of knowledge ensured that teachers during the study course were involved in examining their beliefs and assumptions. Consistency with communicative rationality ensured that the group of teachers willingly was working toward a rational ideal of a sustainable society. For this reason teachers were given the opportunity to act as 'reflective practitioners' (Schon, 1983) who are engaged in a reflective conversation with the situation and their beliefs and assumptions.

Habermas promotes communicative action that is undistorted by the structural influences of instrumental rationality. He states that "truth means the promise to attain a rational consensus, where 'rational' refers to fully reflective communicative rationality" (Alveson, 1996: 142) and not to self-reinforced instrumental rationality. Habermas (Langsdorf, 1997) believes that human being is capable of exercise agency in order to resist oppressive structures. Habermas is concerned with the discourse in the public sphere. This involves the process of transition "from I to Us, and then to We of that community" (in Gunson & Collins, 1997).

In the process of critical reflection teachers are encouraged to examine the ways that individuals are always socially situated and are embedded in complex social relations and discourses. It gives teachers an opportunity to become agents of civic courage, and therefore citizens who have the knowledge and courage to take seriously the need to make "despair unconvincing and hope practical" (in Giroux & Aronowitz, 1985). Teachers' societal action helps to destroy the myth that teachers should seek the guidance from the above. It also expands teachers' role from classroom technician to active political agent.

Teachers need to become transformative agents who treat students as active agents, utilize dialogic methods of teaching, and seek to make learning process where self-understanding and emancipation is possible. Using the terminology by Habermas, emancipation is freedom from distorted communication that is itself a form of ideological imposition serving the strategic ends of specific social groups. Teachers as agents of societal change are capable of much more than simply following rules to solve pre-defined rules. They are active interpreters and negotiators involved in a process of cultural reconstructions and educational re-conceptualization. Since they gain the power to reconstruct their own consciousness, they are capable of reinventing future in common effort with other self-determined agents. According to Habermas (1997), the new partnership of understanding, discussion, participation, and consensus form a basis for social action.

Heidegger suggests the powerful critique of the way our society, culture, and the educational system have come to express a nihilistic and technological understanding of our existence and meaning in the process of recovery of the long-observed essence of education. He encourages engaging teachers in a deconstructive journey in order to envision a way to restore meaning of one's life and come to a core of one's being.

## Restoring one's inner space or getting in touch with one's authentic self

Self-formation begins with the position that each of us is born with an innate core that is authentic. As a desired end of formation of an authentic person, authenticity is seen as the genuine, real, or inner self that is whole and good. Authentic individuals feel worthy and good about them and are able to form positive intimate relationships with others. All life experiences, from the moment of birth, influence the formation of self and authenticity as daily experiences interact with the self in a continuous processes that involves filtering, integrating, and/or rejecting data from the social and physical environment. The process of transformation begins a journey towards one's true self (Heidegger, 1998). Primarily, this is the question about discovering the 'truth'. By truth, he understands 'revealedness' or 'phenomenological manifestations', and the way in which 'revealedness' takes shape in a 'series of different ontological constellations of intelligibility' (in Thompson, 2001: 63). Truth can not be understood as an accurate representation.

Palmer (1998) refers to the classical meaning of education that is 'leading out' from within the self a core of wisdom that has the power to resist falsehood and 'live in the light of truth,' not by external norms but by reasoned and reflective self-determination. Therefore, "the inward teacher is the living core of our lives that is addressed and evoked by any education worthy of the name" (p.31).

Referring to Plato's allegory of cave, Heidegger suggests several stages for teachers in order to come to essence of their being and meaning. The teacher as a prisoner of reinforced assumptions, first, 1) begins in captivity within the cave, then 2) escapes the chains and turns around to discover the fire and objects responsible for the shadows on the wall previously perceived as reality, and afterwards, 3) ascends from the cave into the light of the outside world, coming to understand what is seen there as made possible by the light of the sun, and finally 4) returns to the cave, taking up struggle to free the other prisoners who resist their liberation. For Heidegger, this scenario suggests pedagogy of ontological education. Because of this metaphysical understanding 'being' becomes dissolved into 'becoming'. Thus, teachers are freed from "ontologically anaesthetized enframers and from their bondage to a self-reifying mode of ontological revealing" (Heidegger, 1998: 222). Heidegger perceives the return to the cave as the highest stage of ontological education, which means revolution in consciousness. Thus, ontological education requires teachers to question ontological presuppositions that guide their practice. For this reason, the researcher used teachers' experiences gained in narrative accounts with the purpose of not simply to affirm teachers' state of being but to raise questions about changes in the conditions of their existence. In this understanding the act of telling moves beyond to the ontological 'reflection' with elements of 'analyzing,' 'designating,' and 'pointing' (p. 222). The scene of telling thus stretches beyond the past and present towards the future, and beyond the 'personal' towards societal. Thus, teachers become encouraged to define their experience as transformative, lived, complex, and ongoing process rather than fixed and self-evident thing.

## Research findings: Barriers to societal action

As social-change educators frequently perceive it, education is an applicable analytical method to significantly improve society, critically evaluate and primarily grasp oneself in the world, and to see themselves as creators of culture, history, and an alternative societal vision (Freire, 1986). 'Participation' entails inviting and empowering teachers in shaping and defining the ideals of a sustainable society. The context in Latvia is that of a decline in participation in religion, politics, and social life of the country (Clark, 2002).

Citizens become civically involved for three reasons: because they can, because they want to, or because they are asked. The first refers to the level of resources that contributes to an individual's ability to participate. The second element refers to positive attitudes and motivation towards political engagement. The final element refers to one's access to social networks that may mobilize individuals who would otherwise not become involved (Cintora, 1999).

As the pre-course questionnaire indicates, a majority of teachers (83%) (N=54) do not believe that they can affect the landscapes of country's policy-makers. In contrast, a small percentage (16%) of teachers believe that they have some impact on policy processes in the country and education, though they still see the dominant political model as one of closed policy making in which teachers do not play a vital role. The responses to the pre-course questionnaire show 78% of teachers concerned about local community issues; 89% indicated that they have confidence in their ability to help others; 6% of teachers asserted that they could make difference in the society and in the educational system; 5% mentioned that they might have a positive impact on educational processes, however; and 65% of teachers responded that they could make a difference in their lives.

The post-course questionnaire indicates that the number of teachers who believe that they can make changes in their lives increased to 75%, and those who believe that they can have a positive impact on educational processes increased to 12%.

Both the literature (Latvia Human Development Report (LHDR), 2001; Clark, 2002; Merkel, 1998; Sakwa, 1999) and the evidence of the teachers' accounts indicate, teachers' passivity in Latvia can be explained by the following:

First, since the Soviet era, passive resistance was a form of institutional opposition against the public policy. The generation of teachers that grew up under the circumstances of Soviet regime, has no experience of initiating changes, since teachers' action was restricted to the complementary demands of the unified state-supervised academic system. The Soviet system systematically eroded these elements to varying degrees through tight control of their citizens. The totalitarian nature of the regime lowered attitudes of efficacy and empowerment. Communist regimes discouraged or tried to control any form of collective action. As teachers wrote, they had few opportunities for pursuing their own interest through collective action:

*All standards were given and determined by the state. I just had to follow the state set curriculum.*

With the fall of communism and the processes of liberalization teachers regained their voice in pursuing changes in education, but they had neither skills nor experience for initiating changes. Huge workload and bureaucratic requirements diminished teachers'

time and motivation for societal action to a great extent and thus did not use their initiative.

Secondly, state activity depends upon people's ability to ultimately attain culpability for their action. The critical deficiency of liable policy-making impedes the development of the country, and does not permit the formulation of a sequential and goal oriented public policy. Irresponsible policy-making is an example and a justification for a cynical public attitude against the regulations of state institutions. Teachers indicated:

*Ministry [of Education] offers state standards, which are far off from a real situation.*

*There is a big gap between what Ministry [of Education] requires and a real life situation.*

*Sometimes I can not follow frequent changes in requirements initiated by the Ministry of Education.*

Thus, teachers adopt an instrumental mentality, and view education merely as a means of earning a living.

Thirdly, many teachers do not participate actively in educational processes, because they do not believe that they can make significant impact upon the educational policy processes. They view school as a political corporation geared to no higher ideals than its own maximized self-perpetuation according to optimal input/output rates. Irresponsible and closed policy-making leads towards passive society and citizens with low self-esteem (LHDR, 2001).

Teachers lack philosophical vision for revitalizing and reunifying education and country. This is contrary to the true function of education, that is, leading oneself to the core of ones being (Heidegger, in Thompson, 2001: 43). Instead, the educational system accustoms teachers to the educational system.

Fourthly, the majority of teachers live under conditions of economic hardships. Narrative interviews with teachers reveal that the majority of them are preoccupied with ensuring means of subsistence for themselves and their families. In fighting with their daily problems, they experience having no time and energy to become involved in solving issues affecting the whole society, or even making small changes in education. It is seen very clearly in teachers' written accounts and oral statements:

*Sometimes I feel I need a secretary to fill in all the papers. I have no time for working creatively.*

*The lack of finances and resources is one of the most serious obstacles for me.*

Teachers' passivity is a sign of alienation and marginalization from the public sphere.

*I am a small figure, I can do nothing in the country, and nobody wants to take my opinion into account.*

*Nobody listens to my suggestions on a state level, what can I do?*

*I am not an influential person; I need to follow the curriculum set by the state.*

The findings of teachers' low involvement in societal action are in line with Salites' (2006) research on barriers for teachers to participate in educational reform. Problems,

which undermine teachers' initiative and meaningful work, as mentioned by the teachers, can be classified in the following categories:

1. *The policies and procedures:*

- discrepancy between educational standards and a real situation;
- a gap between what Ministry requires and a real life situation;
- frequent changes in requirements initiated by the Ministries;
- never ending reforms in the country;
- no time been given for self-reflection about the necessity of changes.

2. *Inadequate resources:*

- shortage of resources;
- low financing of schools;
- low technical supplies for schools and classrooms;
- economic hardships (primarily teachers energy has been directed in making ends meet).

3. *Bureaucracy:*

- high, unrealistic testing requirements set by the state;
- conflicting expectations;
- the bureaucratic structures of their work;
- models of teaching imposed from above;
- bureaucratic inflexibility to change.

4. *Job related responsibilities:*

- too much paperwork;
- the overload among teachers;
- imposed changes and the timeliness for their implementation;
- innovation overload;
- lack of confidence in one's power and doubts about the significance of one's actions;
- unrealistic demands for teachers;
- discomfort with ever changing educational policy.

5. *Teachers' motivation to make changes in education:*

- low motivation;
- teachers do not believe that they can make significant impact upon the educational policy processes;
- teachers perceive school as a political corporation geared to no higher ideals than its own maximized rates among other institutions;
- prestige of teaching profession is very low, social guarantees are minimal;
- low financing of teachers' further education.

The first step was engaging teachers in critical evaluation of their views, assumptions, beliefs, conditions, meanings, and values before they could be encouraged to actively engage in societal and education processes of change and transformation. Therefore, the course participants were encouraged to pay attentions to meaning, which they ascribed to what they are doing, and invited to be attentive to the processes of their thinking.

## The power of transformative learning

The strength of transformative learning is that it affirms that transformation is not just an epistemological process involving a change in worldviews and habits of thinking; it is also an ontological process where participants experience change in their being and in the world. Transformative learning offers teachers avenues for getting involved in educational processes that enact their sense of social responsibility (Cranton, 1994; Mezirow, 1991).

Adult learners who were introduced to transformative learning during in-service course initially find the experience strikingly different from previous academic programs. Most adults have previously experienced a formal, structured approach to learning whereby they learned how to memorize facts and theories, and pass the tests. However, their accustomed rules for learning do not seem to apply in this new transformative learning environment where interactive strategies predominate and where previous learning skills seem incongruent.

At the beginning learners sounded sceptical about the particular relevance of new abstract concepts offered by transformative learning to their practice. In teachers' responses, we can see very clearly, the absence of larger horizons of meaning beyond the acquisitive self and paid work. This also reveals the need for adult education to encourage adults to find individual and collective forms in order to become agents of change in education.

The course provided space for discussions about the issues from allocated reading and records of teachers' experiences. Teachers were given an opportunity to explore their beliefs and values till they have identified the sources and the impact they can create. The course enabled adult learners to be more comfortable with examining their beliefs, by respecting their contributions and accepting them while continuing to create opportunities for further exploration. Through questioning teachers began to practice new critical thinking strategies and demonstrated the ability to view ordinary situations in new ways. Teachers began to find their voices, describing their experiences in relation to their own learning and began to acknowledge their classmates as co-contributors to their learning.

The process of overcoming alienated relationships takes place through three stages: receptivity, recognition, and grieving (Boyd & Myers, 1988: 277). First, teachers need to become open to receiving alternative expressions of meaning; then acknowledge that the message is authentic. Grieving takes place when an individual comprehends that old patterns of perceptions are no longer relevant, and they move to adopt or establish new ways, and finally, integrate old and new patterns of meaning. Through transformative learning process, adult learners were encouraged to examine their views by critical reflection. As Galbraith (1991) indicates, transformative learning helps learners to reflect on their current fixed perceptions of facts, concepts, or issues. Gradually learners gained competence; they then kept on reflecting on their altering perceptions. At the end of the course five of twelve interviewed teachers responded that they had developed the educational vision of transformative learning (Mezirow, 1991) and committed themselves to broadening their perspectives.

Narrative accounts indicate significant changes in teachers' perception of self and meaning of their work:

*I study; I experience the need for self-development. I also have discovered new resources within myself. We all need to grow as happy individuals in order to bring happiness to others.*

Several teachers' written comments indicate teachers' intentions to make some changes in education and the society:

*Changes in the society have to do with changes in one's thinking, style of life and the system of values. The reality of a democratic society requires one to develop new skills such as independent thinking, skills of decision-making, ability to figure out one's roles in the changing conditions of a society.*

*We are responsible for initiating changes in our lives. We can not wait until new skills develop without any efforts.*

*Only after learning to be responsible agents of our own lives, we can teach students to be responsible for their lives.*

Some of the participants felt that they have a capacity to influence processes in education:

*I believe I am working to make a difference. I also believe that lots of time I am not making a difference at all. I am in a position to influence many people but sometimes bureaucracy is so overwhelming.*

Before teachers can become initiators of changes in the society, they need to begin with changing themselves. As one teacher wrote:

*Without changing myself, I am not able to teach young people who are step ahead of me.*

There was also a common sense of futility and scepticism among teachers that meaningful action should be taken at the individual level.

As the post-course narrative accounts show, teachers reported that complex and deep changes are needed in society to address profound social, economic, and educational problems. Teachers felt stranded between the feeling individual responsibility, the seeming futility of individual action, excessive busyness, bureaucracy, and no perceived avenues for effective societal action. The majority of teachers report that they found themselves in the oppressed position when they have to agree principally to everything their employer wants them to do for the fear of losing their job.

Some participants describe that their professional role often demands silence. In other cases, bureaucratic administration, profit bottom lines, and public image prevent them from active political engagement. Rather than being passive, these participants were sincerely concerned and were attempting societal action, however, ineffectually through their jobs.

The participants clearly stated that during the course they did not change their fundamental principles and values as transformative theory often suggests. However, they were able to return to their inner world, which is submerged under the deluge of adult expectations, cultural scripts, and workplace practices. The participants made it clear that courage, loyalty, and societal action do not require transformation but rather, a restoration to a rightful place in their lives and society at large, as well as exploration of alienated relationships with them.

## Conclusions

Participation can be defined as an active engagement in decision-making. It involves getting together to participate in discussion, being heard, and influencing decisions made. Social participation refers to space constructed by teachers to work next to their authorities in the decision-making, policy formulation, and implementation process with the purpose of improving quality of life. Furthermore, for the participation to be successful, teachers and authorities must be willing to learn, negotiate, and engage in activities necessary to change the present situation in a mutually beneficial arrangement.

Due to the changing political, economic, social, and cultural conditions that have resulted in the transition towards democracy, active participation in a public sphere is a very significant issue for Latvia. Teachers' involvement in educational reform processes is heavily dependent on contextual factors as well as on attitudes, differences in resources of time, money, and knowledge. The growth of politically active society in Latvia as a new democracy has been especially slow.

There are variations in the way teachers understand and respond to the new opportunities of democracy and educational change. Teachers see their involvement in democratic social transformations in education as relevant, although several difficulties were acknowledged that prevented teachers' from active involvement, such as institutional bureaucracy, heavy workload, and alienation in social relations. There is a strong feeling of apathy and cynicism in teachers' responses.

Transformative education has the power to genuinely invite and empower the participation of adults in the ongoing transformation of their world and the society, as well as ensure the ongoing formation and transformation of teachers and students, if teachers themselves become active designers of their own lives and their classroom practice. As schools move into the post-modern age where teachers are experiencing overload, intensification, guilt, uncertainty, cynicism, and burnout, the best way to face pressures of time and space, is through teacher collaboration.

The collaboration of the administration and teacher training institutions and in-service teaching puts forward the following challenges:

- *The challenges for the administration of the educational institutions for renewing teachers' hope and meaning in their work and life:*
  - Fostering collaborative working relationships that will: 1) permit vulnerabilities, frustrations, and failures to be shared when facing educational reforms, 2) reduce overload by sharing among teachers the burdens and pressures that come from intensified work demands, 3) enable teachers to interact more confidently with multiplicity of reasonable and unreasonable innovations;
  - Increasing teachers' capacity for reflection;
  - Supporting dynamic networks among teachers and beyond the school as well;
  - Encouraging collaborative responsiveness;
  - Assisting teachers in collaborative planning;
  - Involving teachers in goal setting;
  - Providing opportunities for learning and continuous improvement.
- *The challenges for teacher training institutions in renewing teachers' avenues for hope:*
  - Providing space for teachers committing themselves to the quest for *ontic* realization and authenticity;

- Encouraging teachers' commitment to maximizing their capacity to learn about themselves;
- Encouraging teachers' creativity in designing educational curriculum;
- Fostering a positive orientation towards problem solving;
- Enabling teachers' entrepreneurial skills;
- Accustoming teachers to ever changing and blurred roles;
- Teaching about the positive dynamic and shifting forms of collaboration through networks and within the school community.

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## TEACHER EDUCATION FOR THE FUTURE: SOME AUSTRALIAN PERSPECTIVES

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### Abstract

*As a result of presentations in the PCC Conference in Sydney in 2005, this research aims to contribute Australian voices to the project being conducted simultaneously in other countries from the Pacific Circle Consortium. The research used project-devised survey and interview instruments with purposive sampled pairs of teachers and pre-service teachers during professional experience in 2005 and with teacher educators from the University of Western Sydney. The findings indicated that the participants have a common view of the purpose of education. However, there were range of issues that this view prompted participants to discuss. There were also perceived constraints, especially expressed by the experienced teachers. Implications of this finding are that teachers need forums in which to discuss their deep-seated philosophical approaches as they build a sustainable community of practice. The findings of this project can powerfully contribute to policy making at national and international government and university levels as they raise implications of how we meet challenges in future teacher education.*

*Key words: critical thinking; problem solving; teachers' beliefs; achieving goals; sustainable community of practice.*

A review of teacher education over the past fifty years will reveal that a significant change has taken place. Teacher preparation has metamorphosed from a training program in which students spent many hours each week engaged in practical activities, including preparing lessons with relevant resources, to an educational program ostensibly designed to give students the theoretical basis for their practice and with limited face-to-face exposure to teacher educators. This development is parallel to similar developments in teaching and has been very much influenced by changes in the Australian society.

The growth of knowledge and more specialised knowledge is evident in today's world. Technological changes have also had a great effect on the trends in teaching practice. Students can be overwhelmed by the many different areas of learning; and yet the need for all students to reach a certain standard of knowledge in order to function well in their everyday life is an imperative that cannot be overlooked. As well, those students who have a particular interest and ability in certain areas of knowledge must

also be enabled to reach their goals. In the light of such trends in learning, changes are needed in teacher education.

The task of teacher education can no longer be the imparting of knowledge alone. Teacher educators must become, as Darling-Hammond (2005: 3) claims, “diagnosticians and planners who understand the learning process and have a large repertoire of teaching methods at their disposal”. They must emphasise the point that teaching is both “learner-centred and learning-centred” (ibid, p. 4). They need to have the social responsibility to implement their philosophical approach (Pipere, 2006). This is the challenge for teacher education of the future.

The aim of the research was to investigate perceptions about the future directions for teacher education. Pre-service teachers and mentor teachers who supervised pre-service teachers responded to a survey; and these groups along with teacher educators were interviewed in focus group settings. The results contribute to a project being conducted simultaneously in other countries of the Pacific Circle Consortium, led by William Greene (Greene, Thorpe, Kim & Hillgoss, 2006). The current phase of this multinational study involves participants from the following locations: Christchurch NZ, Sydney Australia, Oregon US, Fiji, Korea, Latvia, and China.

## Literature

There is a need to develop critical thinking, reflection, and other learning skills for life that focus on autonomy and a sense of agency for children and adolescents. Elias (1997) discusses the several capacities of mind that make change possible and names the first of these as the “development of a “conscious I” capable of exercising critical reflection” (p. 3). This consciousness leads to the capacity to be a creative force in the world, “as expressed in the capacity to intervene in and transform the quality of discourse in a group or learning community” (p. 4). Hartwell (1997) writes of the mismatch between current school structures and the realities that will be experienced by students in the twenty-first century:

*While the popular concept of reality in the twentieth century has been mechanical, the metaphor for the twenty-first century is likely to be organic.... Schools have not yet reflected this shift... Universally, schools ...teach and reinforce by their structure and method a positivist, secular version of reality. Yet virtually all the positivist assumptions have been transformed by twentieth century scientific ideas: the theory of relativity, chaos theory and most recently the theory of complex adaptive systems (p. 676).*

Exploration with school structures occurs in different ways. In recent years Australian educational authorities have signalled a significant shift in curriculum policy with the introduction and implementation of Essential Learnings (Australian Capital Territory Department of Education and Training, 2005; Department of Education, Employment and Training, Northern Territory, 2003; Department of Education, Training and Employment, South Australia, 2001; Department of Education, Tasmania, 2003; Queensland Studies Authority, 2006; Victorian Curriculum and Assessment Authority, 2005).

There are slight differences between numbers of Essential Learnings between states in Australia, from three to five but the key point is that they represent more than a change from the six Key Learning Areas. Essential Learning reflects a curriculum that is

prescriptive in detail and includes an increased focus on key knowledge and skills combined with teaching processes that require a shift in pedagogy. The positive aspect of this approach is a focus on depth of understanding and rigour. The negatives for a diverse society include loss of focus on generic cross-curricula skills, values, and attributes that promote lifelong learning, development of strong learning communities, and active citizenship; and that extend beyond the educational environment associated with the compulsory years of schooling and into adulthood.

Furthermore, there is increasing emphasis in policy directions from the Federal Government on a national curriculum. Currently, five States and Territories are implementing Essential Learnings in their curricula models, either by embedding them within the traditional Key Learning Areas or as a major restructuring instrument. The Australian Capital Territory (ACT), Tasmania, and Victoria have an explicit focus on Essential Learnings, whereas the Northern Territory and South Australia have embedded Essential Learnings into the Key Learning Areas frameworks. Recently, Queensland has published draft Essential Learnings to be used in conjunction with the existing syllabuses. At the present time, New South Wales, in which this pilot research was conducted, is the only Australian state not yet implementing the direction of Essential Learnings.

Models of school education need to be responsive to the voice of students and adapt to the pressures of an increasingly complex learning environment (Watson, 2005). Through adaptive incorporation of complexity, the structures and systems of schools increase their sustainability (Bulajeva, 2003; Poom-Valickis, Saarits, Sikka, Talts & Veisson, 2003). The need to place a high priority on sustainability is the new reality for contemporary school education, recognising the centrality of students and their identity in the increasingly complex lives of adolescents (Carrington, 2006). O'Sullivan (2002) writes of the quality of life as part of the learning frame of reference, stating that the people

*in the minority world (first world) must confront and come to terms with the quality of life that we have created for ourselves and also assume the responsibility of how that manner of living has diminished the manner of living of countless people in the majority world and in our own... Our economic market vision has left our whole culture with a crisis of meaning* (p. 8).

Researchers such as Noddings (2003) also flag the importance of emotional and spiritual dimensions as well as the cognitive. This involves encouraging students to connect with experiences they have had, tapping into those dimensions.

Making use of multi-focused and cross-disciplinary tasks that are contextually relevant to students can move part of the way towards the United Nations four pillars of learning:

- 1) To do;
- 2) To know;
- 3) To be;
- 4) To live together (Delors, 1996).

At present focus rests on the first two pillars but there is likely to be a greater focus on the second two pillars in the future. Cranton (2000) writes of the ways in which educators can foster transformative learning by helping learners critically attend to the "sources, nature and consequences of taken-for granted assumptions" (p. 195) and then take

appropriate action. In her summation, educators have responsibilities to help learners become aware of how they learn and have a clear sense of self separate from the social collective (p. 197). Singh (2005) argues for the transformation of society through responsive education on the grounds that teachers must reassess “curriculum narratives centred on dated articulations of global/national connectivities” (in Apple, Kenway & Singh, 2005: 120). It is desirable for students to be empowered to act as change agents in schools. Giroux (2004) argues for the responsibility of teachers as public intellectuals to facilitate learners becoming “more than they are now” (p. 3).

## Method

In the light of such literature, the survey questions used in this project are intended to address specific research themes. The project was launched by the Pacific Circle Consortium and has led to significant international research (Belousa, Vanaģele & Jurāne, 2006; Greene et al., 2006). The themes are: the aims or purposes of education; practitioners’ beliefs about appropriate teaching and learning methods; and the role of teacher preparation for schools of the future.

In order to draw upon the experience of teachers in the field, teacher educators, and pre-service teachers (three groups of participants), the survey was organised to occur in a period of professional experience (practicum) in schools. This made it possible to collect responses individually as well as ‘pair’ teachers in the field with the pre-service teachers while they were together in their school location. This was also a methodological approach discussed by Connor from New Zealand in the Pacific Circle Consortium Conference in Sydney in 2005. In secondary schools, the sample focused on the target content area of English with a focus on critical evaluation of world events. This reduced the number of high school pre-service teachers within the target accessed by the research team. The number of primary pre-service teachers surveyed was selected to provide a balance with the secondary school participants. Consequently, five student teachers and their five mentors (supervising teachers in pre-service professional experience) were surveyed; and the pre-service teachers were in both primary and secondary school settings. There were also five teacher educators (from the School of Education). This paper reports on the responses of the participants in tables 1-5 below.

### *Stage 1 for pre-service teachers and mentor teachers*

In this exploratory study, two groups of participants were asked to complete a survey requiring written responses to questions about the major themes of this study. The survey questions have been asked by all participating countries in this international project. Student teachers and their mentors were surveyed at school sites.

### *Stage 2 for pre-service teachers and mentor teachers*

Next, each student teacher and mentor pair met to discuss their responses and they were encouraged to talk about reasons for each of the survey responses. When they finished discussion of all items on the survey, teams were asked to add insights, questions, or changes they had as a result of that discussion.

### Stage 2 for University teacher educators

A focus group session was held with teacher educators from the University of Western Sydney, involving one early childhood, two primary teacher educators, and two secondary teacher educators. A transcript summary was given to participants for member checking to see if it reflected the discussion. All surveys were analysed for thematic content and compared across groups. Data collected from the discussion forums was used to validate survey results to provide additional insights concerning the aims of education, the role of teacher preparation, and the global implications of ideas expressed among the societies represented.

### Findings

All of the teachers (including pre-service teachers) surveyed and interviewed thought that the purpose of education was to develop knowledge about yourself and the world, and become a contributing valued member of society. Within that broad response teachers spoke of challenging students, encouraging equity, promoting social justice, fostering independent learning, providing environmental education, and encouraging the learner to be responsible for and take ownership of their learning. Table 1 below shows the thoughts of the respondents about the purpose of education.

Table 1. Thoughts about the purpose of education

Respondents	Challenge students	Encourage equity	Foster social justice	Independent learning	Environment education	Owning learning	Curriculum pressures
Pre-service teachers	4	2	5	3	2	5	0
Mentor teachers	3	4	2	5	2	5	3
Teacher educators	5	5	5	5	3	4	2

Nevertheless, in this first question, some of the teachers particularly spoke of the blurring of aims and purposes: their philosophical approach, to *develop the personhood of the individual*, was sometimes perceived to be in conflict with curriculum pressures to complete specified content. The issues raised by the respondents provide tangents to the central purpose acknowledged by all of them. Teacher educators wanted to discuss pedagogy rather than curriculum pressures and that is reflected in their responses. A related question opened out the discussion, seeking answers to whether there should be common aims in compulsory education. This question raised issues of catering for diversity and differentiating aims.

Notably in this second question, the use of language was different among respondents. Some teachers declared the aim of compulsory education was the same but within that, students need to achieve their own goals: therefore, discussing differentiation. One teacher called this having group aims and individual aims. Some teachers stated that the aim should never be the same because everyone learns in different ways and at different paces; these teachers also spoke about students having the right to strive for goals they set for themselves. These differences are captured in Table 2 below.

Table 2. Issues about catering for diversity and differentiating aims

Respondents	Goals of learner	Positive re common aim	Negative re common aim	Society's expectations	Socially constructed learning	Ability Range issues	Time pressures
Pre-service teachers	5	4	1	2	3	5	4
Mentor teachers	5	4	1	2	2	4	4
Teacher educators	5	5	0	3	5	4	5

Regardless of a philosophical stand about whether there can be common aims for education, there was 100% response concerning the learner achieving their own goals and that it was a teacher's role to provide the learner with strategies to achieve them. Teachers spoke about society wanting to make *benchmark guidelines* and that *you're still expected to get the students to achieve curriculum outcomes at the standard level*. In such statements, the point made by these teachers was about external constraints. Several teachers spoke about group work with students as a key strategy for differentiating learning. Other issues concerned catering for high achievers. There were teachers who wanted to see those students grouped together in separate classes. On the other hand, the inclusion of students with special needs in the classroom, while it required a depth of planning from the teachers, was seen as positive for all students. A high proportion of teachers spoke about pressures of time. It appeared most negatively when it affected being able to meet student needs: *the logistics mean that you sacrifice the time you would like to give to help a student in order to meet the outcomes and the aims for everyone else*.

The next question asked the respondents to identify the positive and negative aspects of the ways schools and centres are currently organised. In presenting responses in table form (Tables 3a and 3b below), it is clear that the positive aspects are 'big picture' aspects. The negative aspects combine practical issues for teachers that impact on student learning and 'big picture' issues.

Table 3a. Positive aspects of current organisation of schools/centres

Respondents	Specific programs for gifted and life skills	Celebration of cultural diversity	Socially constructed learning
Pre-service teachers	2	5	4
Mentor teachers	5	4	5
Teacher educators	3	5	5

On the positive side, teachers spoke about schools and centres trying to cater for the needs of students with individually tailored programs; and one teacher said:

*Last year I taught a class with a girl who had Down Syndrome. And her needs were quite different from others in the group. However, it was still possible to integrate her in the group so that she was a part of the common goals. And she was being prepared for life through integration and through*

*being part of the learning experience even if her learning was very different. I think that is facilitated in the way the syllabi have the Life Skills in content and outcomes.*

Teachers also spoke about the value of experiencing cultural diversity in schools and of learning collaboratively. One teacher remarked on the change in the profession in the way that people enter teaching having been employed in other fields, bringing richness into the learning of the students.

Table 3b. Negative aspects of current organisation of schools/centres

Respondents	Class sizes	Funding	Preconceived ideas of staged development (homogenising)	School/centre responsible for social learning previously done in family	Working conditions for teachers	Better planning for middle years
Pre-service teachers	4	3	3	3	4	4
Mentor teachers	3	3	3	5	4	4
Teacher educators	3	3	4	4	4	5

Class sizes of multi-ability students were often the basis of negative comment. One teacher said:

*I think one of the major issues for schools, particularly secondary schools, is class size. With 30 students in each class, and teachers only seeing students on average for about three hours a week, it is particularly hard for any teacher to learn about their students' individual goals to be able to cater for them. On average, a secondary teacher can only spend one and a half minutes per student per lesson, assessing their progress in person, discussing difficulties and areas of progress. This leaves nowhere enough time to enable a teacher to get to know the student and their individual goals, and provide adequate support for each child to help them improve. With mixed ability classes, students with lower abilities or behavioural problems absorb even more of this time, meaning many students remain neglected by the classroom teacher. If class sizes were reduced, it would mean more face-to-face attention, and I believe in the long-term, better progress for the students.*

The funding issue covered a variety of responses. One teacher said that there were *insufficient funds to provide for students*. Another said: *The inequity of private and public education is demonstrated in the level of funding. Public education has global budgeting; and schools receive money on a numerical (student population) basis. This has a negative effect on teaching, on learning and on best practice.*

Several teachers and teacher educators noted the negative effect of expecting the same staged development of all students. Others noted the way in which schools have been mandated to take on responsibility for aspects of learning that were previously the domain of the family. Some teachers spoke about the ways in which that had an impact on the working conditions of teachers, making them more stressful. There was considerable agreement that the way to engage students in the early stages of high school was

to plan more constructively for middle years education. In schools where such planning was developing, teachers spoke positively about it:

*We have a middle school set-up here which limits the number of teachers to which students are exposed in Year 7 and 8. It acknowledges the need to provide a transition between the student-teacher interaction that is the pattern in primary school years and the specialisations in secondary school. It seems to get students more settled and involved with learning.*

Teachers' beliefs about what students would need to live in their future world brought a range of responses, as shown in Table 4 below. Despite the commitment to syllabus outcomes displayed in answers to previous questions, these responses were all to do with skills that are learned across curriculum disciplines: skills of creative problem solving, independent learning, and critical thinking alongside understanding of the effectiveness of group endeavour and appreciation of cultural differences. The environment and responsibility for it was a shared concern, coming out in statements from teachers such as:

*I have a daughter in primary school; and in the last two years that she has been there she has done a range of activities which have focused on the environment: water, changing climates. That's the sort of thing students need to be learning about and becoming passionate about. Trying to find solutions for these problems, trying to sustain the country in the way that we want it to be sustained; and for it to be here for their children.*

Table 4. Beliefs about students' needs for living in a future world

Respondents	Independent learning skills	Critical thinking on sustainable living and environment	Appreciation of cultural differences	Skills in problem solving	Understand effectiveness of group participation
Pre-service teachers	4	4	4	5	3
Mentor teachers	4	4	4	5	5
Teacher educators	5	5	5	5	5

Values of tolerance and compassion were also discussed by teachers in response to this fourth question. Teachers spoke of the need for students to be able to communicate effectively and to find meaning in their lives beyond that provided by employment.

When teachers were asked about the impact they would like to believe their teaching would have on students, they again spoke about learning that is not confined to curriculum areas. There was considerable agreement among the responses. Teachers wanted their students to be open-minded to life, willing to keep adding to their knowledge, able to make informed decisions and contribute well to their community. One teacher said:

*One of the things I really encourage is for students to follow their interest, to make work choices based on what they enjoy to do and what they feel they do well rather than what will make them the most money. Or what*

*other people think they should do. And I think it is really important as an adult to remember school as something positive, somewhere they have been listened to and noticed.*

In identifying ways in which their teaching aligned with their beliefs, teachers discussed creating trust and empathy in the classroom, being positive role models and catering to individual needs. One primary school teacher said:

*Unfortunately, children are seeing more graphic violence through media and technology. I guess we cannot stop this but I see my task as assisting children with their understanding and coping skills. So that hopefully in future life they might be able to change it or assist in changing what is happening.*

And a high school teacher added:

*I think my beliefs are reflected in the way that the classroom is organised and communication takes place. So that it's an open and safe environment. And that students are able to take the risks that it's necessary to take. That they take responsibility for their own learning and they're not just given everything. But also in terms of the content, so that there are political issues within the content, cultural issues within the content. That they explore issues that are relevant to the beginning years of high school as teenagers. That they explore issues that are happening within society.*

Examples of teaching methods that demonstrated such priorities included allowing children to work through a map-making problem and allowing them to come to conclusions in a group or on their own; acknowledging children's different languages and cultures through the stories, art and music of those countries; using group work to model a society where everyone is accepted, no matter what their ability or gift or experience. A high school teacher engaged a Year 11 class with a debate on Industrial Relations issues at the same time as they were being debated in the federal parliament. Another teacher spoke about reciprocal feedback between teacher and students: *I give the students a lot of feedback on work they've done, the positive aspects and the places where improvement can be made. I also encourage them to give me feedback as well on tasks I've set them.*

In response to a question on the aim of initial teacher education, teachers demonstrated a range of views, shown in Table 5 below. They discussed the importance of disposition and the impact of mentoring during professional experience blocks. One teacher said:

*I think programmes need to help people work out whether you're built to do teaching. For that reason, it's good to do pracs early on in courses. That helps you work out straight away whether teaching is the thing you want to pursue. They should also give pre-service teachers as much support (through mentors) in making a success in those beginning stages. Some people find the real world of teaching different from their expectations; and that discourages them and they stop teaching and go in another direction because of it.*

That these responses were so prevalent might indicate what teachers feel can realistically be accomplished in initial teacher education. There were comments about needing a higher focus on practice to accompany the theoretical grounding. There were also caveats about the examination-based nature of university education. One teacher said:

*I believe that my course was right for me. And the inclusion of literacies and social justice was important. And my method lectures prepared me for the things I should know in the context of the classroom. But in general the course put emphasis on my needing to pass exams rather than what I've learned since in the process.*

Table 5. Beliefs about the aim or purpose of initial teacher education programmes

Respondents	Develop strategies for teaching	Determine disposition for teaching	Develop ideology for teaching	Mentor towards teaching
Pre-service teachers	4	5	4	3
Mentor teachers	5	4	5	4
Teacher educators	5	4	4	5

In forming a response to what initial teacher education should provide, teachers spoke about the need for potential teachers to develop a commitment to learning. One teacher said:

*I think pre-service teachers need as much practice as possible. I think nothing prepares you more than actually getting in and doing it. Teaching practice should commence almost at the beginning so that people can walk away before they've invested too much in it. Because some people are not suited. I think it's important for students to have an understanding of how people learn. It's important that they have current sound methods; and that they know how to find what they're going to need when they leave the tertiary institution. That they know how to keep learning because it never stops as a teacher.*

Reflecting on the roles of teachers in a globalised era, participants discussed the need to teach students about diversity and discrimination. They needed to teach students about institutions of power and privilege and how these institutions are reinforced by media and politics. One primary schoolteacher said: *In a way we assist children in debriefing their world.* From the high school perspective, another teacher said:

*It's about responsibility. School students need to be taught how to decipher the amount of information that is available to them. They need to know what is appropriate or inappropriate; and to get through to the balanced picture. Responsibility for the students is not limited to their house or their neighbourhood. It's their world as well. If there are people starving and dying in Africa, it's not unrelated to what is happening in their home in Sydney. And in terms of reconciliation, we need to have role models in the school who present a different view from the government one.*

Teachers stated that recent world events had influenced their beliefs about teachers' roles. One teacher said:

*I think that a large part of thinking critically is being able to understand the media, and more importantly understand bias within the media. History teaches students how to recognise these biases in hindsight, whereas I think that in order to prevent further conflict and misunderstanding in our world, it is important to see these biases in operation today; and make informed decisions about how to respond and form opinion. Recent events such as the "war on terror", riots around the world and the increasing amount of gang violence as demonstrated in the media, provides provocative material for unpacking these biases.*

The final question asked teachers to consider how they would continue to develop their teaching practice in accord with the globalised teacher role. One of the themes in their responses was the importance of keeping content relevant and up-to-date; and to encourage students to discuss issues and express their varying points of view. Teachers acknowledged that, through discussion, students form their own opinion, their own identity and gain the self-confidence they need in their life journey.

## Discussion

The most striking aspect of this research is that pre-service teachers, teachers, and teacher educators alike ignored questions of specialised knowledge and spoke in urgent tones of the need for skills that are learned across curriculum disciplines. Pre-service teachers in secondary schools are often focused intently on the pedagogy of their subject as they develop ways of managing the learning environment of the classroom. Pre-service teachers in NSW primary schools follow political imperatives of attention to literacy and numeracy and struggle to find time to accommodate learning in different domains. Consequently, it is gratifying to record the strong support in this small sample for broad-based skills: skills of creative problem solving, independent learning, and critical thinking alongside understanding of the effectiveness of group endeavour and appreciation of cultural differences. In this small sample there is evidence of unanimity on which to build towards the sustainable future of education and teacher education.

The School of Education at the University of Western Sydney includes units of study on diversity and social justice in its pre-service degree programs. It also actively seeks to broaden the perspective of secondary pre-service teachers through their undertaking a community service-learning subject in which students engage with external agencies (such as Mission Australia, the Salvation Army, and the Dusseldorp Foundation) to provide project-based learning (beyond the bounds of their subject discipline) for students 'at risk'.

The discussion about future directions for teacher education is particularly interesting in an Australian context. The purposes of the current national reform include achieving greater consistency in curriculum through the National Statements of Learning being incorporated into state and territory curriculum documents. There is probably broad agreement across the country that there should be general consistency in the curriculum of the major subject areas, and recent studies show that this is already the case – the curricula of the major subject areas show a high degree of commonality. The

drive currently is towards National Assessment (Cooney, 2006). Therein lies the problem. Teachers and teacher educators generally acknowledge the capacity of every young person to learn intellectually, spiritually, morally, physically, socially, and aesthetically. It would be so much neater if all this development were ordered and uniform but that conformist expectation does not allow any learner to 'walk to a different drum' or realise their own unique potential. Consequently, political decisions can leave teachers and teacher educators feeling concerned and frustrated. Teachers need forums in which to give voice to their philosophical approaches and research such as this is a powerful way in which teachers' and teacher educators' ideas can be shared. In so doing they can build a sustainable community of practice. In the next phase of this research, it will be critical to include voices from the other Australian states.

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## SYSTEMIC ECOLOGICAL APPROACH IN TEACHER EDUCATION: ECOLOGICAL DIDACTIC MODEL OF STUDENTS' PEDAGOGICAL PRACTICE

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### **Abstract**

*The article deals with the ecological didactic model of students' as prospective teachers' pedagogical practice. The model has been developed to facilitate university students' systemic ecological thinking, professional development, including the development of various competences, and their successful integration within the multilevel, multicomponent, and multifunctional environment of a comprehensive school. The model describes a comprehensive school as multilevel and multifunctional environment, where the students (trainees) and the teachers (supervisors of training) are integral parts of such environment. The functioning of a triad – a university lecturer-supervisor of pedagogical practice, a student, and a supervisor of pedagogical practice at school – as an interactional system is significant for the model. The principles of organization, implementation and evaluation of the pedagogical practice and the didactic requirements for the students have been developed within the given model. At present this model is under the theoretical and practical approbation.*

**Key words:** *ecological didactic model; systemic ecological thinking; educational environment of school; pedagogical practice.*

Changes, development, interaction, and sustainability are the key words that characterize processes in our society, including education. The ideas by Sterling (2001), Steinbah and Jelensky (Штейнбах & Еленский, 2004) that one of the main aims of education nowadays is to facilitate the development of *ecological thinking*, the formation of *ecological awareness* are very important. In the 21<sup>st</sup> century every individual should develop within the educational process as a personality, not only *receiving* from the environment, including also society, but also *giving* to it. Within the pedagogical process of schools there should be discovered and ensured the balance between human *ego-* and *eco-* centric thinking and performance (Capra, 1996; Salīte, 2002; Vaines, 1990). Within the modern educational process there should be developed non-consumering attitude towards the environment, human life, and activities in this environment (Briede et al., 2005; Katane & Pēks, 2006; Гурьянова, 2005).

In human ecology, the person and the environment are viewed as being interconnected in an active process of mutual influence and change (Bronfenbrenner, 1996; Lakatos et al., 2003; Malberg, 1986; Orlove, 1980; Taylor, 1934; Visvander, 1986). For example, Bronfenbrenner (2005: 107) writes: “The ecology of human development is the scientific study of the progressive, mutual accommodation, *throughout the life course*, between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by the relations between these settings, and by the larger contexts in which the settings are embedded”. In “*Properties of the Person from an Ecological Perspective*”, he (ibid.: 120-127) tells about the necessity of ecological context and cognitive capacities (e.g., competences) of human beings: “Consistent with an ecological view of organism-environmental interaction ... the person (is) an active agent who contributes to his or her own development. Correspondingly, personal characteristics are distinguished in terms of their potential to evoke response from, alter, or create the external environment, thereby influencing the subsequent course of the person’s psychological growth”.

Subsequently, in contemporary teacher education, we should ensure that students as prospective educators develop their competences in the process of interaction with the educational environment.

One of the prior research and teaching trends of the Institute of Education and Home Economics (IEHE) at the Latvia University of Agriculture is the development of educational ecology as the theoretical concept for teacher education. In our research (Katane, 2005a; 2005b; 2006; Katane & Pēks, 2006) we have developed ecological didactic model of students’ as prospective teachers’ pedagogical practice (Katane, 2006).

The main objectives of a model are to: 1) develop the prospective teachers’ ecological thinking, 2) facilitate their integration into the educational environment of a comprehensive school; 3) promote the next teachers’ professional development, i.e. development of various competences in the educational environment of school as the interaction system. The aim of this article is to describe and substantiate the systemic ecological approach for teacher education and training.

### **Ecological didactic model of students’ pedagogical practice**

Ittelson (1969), Levin (Левин, 2001), Rubinstein (Рубинштейн, 2004) among others emphasize the idea that the question, how environment influences a human being, should be formulated differently, that is, how a human being perceives the environment. Therefore, it is very important, when supervising the students’ pedagogical practice, to answer the following questions: what kind of environment’s images (conceptions) are interiorized in a student’s psyche; what does the student want and what he/she can see and evaluate in the educational environment of school; what kind of attitudes does he/she have towards this environment. Thinking about the pedagogical practice at school, it is important to respect the peculiarities of next teachers’ perceptions, thinking, and values orientation towards school as environment, at the same time engaging them in ecological education. The experience shows that the image of a school that university students’ carry since their childhood is a keystone in the process of professional development. During the pedagogical practice the university teacher’s task is to broaden and, if necessary, to correct the students’ previous views by developing a conception

about a school as a complex system of educational environment, by directing students' thinking and offering new knowledge. The students should be taught to think accordingly the new social role they are to acquire during the pedagogical practice – a teacher. The student should think and act ecologically – to be oriented towards *ME AT SCHOOL*, not *ME and THE SCHOOL*.

Two qualitative indexes of professionals' training should be stressed as integral to its effectiveness (Shirobokov & Roe, 2005):

- the time needed by the university graduate to adapt to the environment in accordance with his/her specialty;
- the number of related subdisciplines that enable the graduate's work without a substantial amount of time spent on adaptation and mastering these additional relevant specializations.

Therefore during the studies at the university, it is important to develop prospective teachers' systemic ecological thinking, various competences, including skills how to adapt to a changing environment in general and how to adapt specifically to an environment of professional practice. Both prospective teachers and novice teachers must know how to adapt to the educational environment of schools, to study their cultural environment, including pedagogical culture, and understand how to foster their professional self-development within this environment (Briede, 2004a; Hanno et al., 2000; Katane, 2006).

The model of school as a multilevel and multifunctional environment (Katane, 2005a; 2005b; 2006) served as a starting point for elaboration of ecological didactic model of prospective teachers' pedagogical practice. The model contains three levels of school environment (see Figure 1 and Table 1).

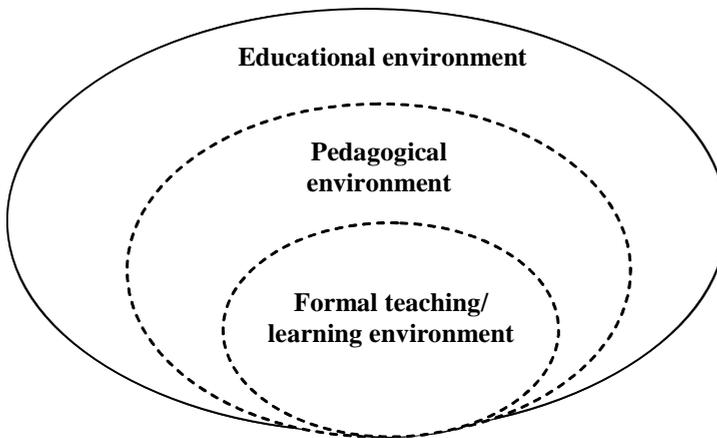


Figure 1. The inclusive model of a school as a multilevel and multifunctional environment

Table 1. The description of multilevel and multifunctional environment of a school

Functions of school environment	Levels of school environment		
	1. Formal teaching-learning environment	2. Pedagogical environment	3. Educational environment
1	2	3	4
The subjects and objects of interaction	<b>Subjects of interaction</b>		
	Teachers, pupils.	Teachers and other members of school staff, pupils, pupils' family members.	Teachers and other members of school staff, pupils, pupils' family members, all those concerned (society).
	<b>Objects of interaction</b>		
	School subjects.	<ul style="list-style-type: none"> <li>• the content of school subjects;</li> <li>• the educational content of extra-curricular events, the class teacher's lessons, interest related group activities;</li> <li>• the content of environmental, career, and other types of education;</li> <li>• the content of activities within non-formal youth organizations;</li> <li>• the content of family education;</li> <li>• the content of teachers' further education.</li> </ul>	The content of formal and non-formal education within the context of lifelong education.
Substructures of school environment	<ul style="list-style-type: none"> <li>• Grades;</li> <li>• The group/grade substructures of preschool, primary, elementary, and secondary school levels;</li> <li>• Subject related commissions of teachers/departments;</li> <li>• Didactic sectors.</li> </ul>	<ul style="list-style-type: none"> <li>• All substructures of teaching/learning environment;</li> <li>• Pedagogical council;</li> <li>• Parents' committee;</li> <li>• Pupils' committee;</li> <li>• Pupils' interest related groups;</li> <li>• The groups of pupils and youth's non-formal organizations;</li> </ul>	<ul style="list-style-type: none"> <li>• A variety of the school subject groups, substructures, organizational forms of the interaction of educational environment, as well as many environmental functions. The provision of lifelong and life-wide education from the pre-school till the adult education.</li> </ul>

Sequel to Table 1 see on p. 44.

1	2	3	4
		<ul style="list-style-type: none"> <li>• Interest related clubs for pupils' families;</li> <li>• The groups of formal and non-formal education for teachers, school specialists, and pupils' parents and other family members.</li> </ul>	<ul style="list-style-type: none"> <li>• Different non-formal substructures.</li> </ul>
<b>Type of interaction</b>	<ul style="list-style-type: none"> <li>• Teaching/learning process;</li> <li>• The organizational form of grades-lessons prevails.</li> </ul>	<ul style="list-style-type: none"> <li>• Pedagogical process (educational and teaching/learning process);</li> <li>• The restructuring of environment;</li> <li>• A variety of interaction forms;</li> <li>• Increase of substructures, functions of subjects and objects.</li> </ul>	<ul style="list-style-type: none"> <li>• Educational process. A great variety of educational contents, forms, types and functions.</li> </ul>
<b>Other types of environmental description</b>	<ul style="list-style-type: none"> <li>• Relatively closed (discreet) environment;</li> <li>• The interaction process strictly limited in time, in line with the state and school normative regulations, for example, the sample plans of lessons, provided by the state authorities;</li> <li>• Teaching/learning process and its results are evaluated formally in compliance with the developed and defined criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively open environment;</li> <li>• Functioning outside the formal time envisaged for learning, including the time after the lessons, very often – weekends and holidays;</li> <li>• The influence on pupils' development and self-realization might also be of latent nature with the future significance, when the teacher as a significant personality influences the pupil's life also after the graduation of school.</li> </ul>	<ul style="list-style-type: none"> <li>• Open educational environment;</li> <li>• Performs not only the functions of pedagogical work, but also takes care of the sustainability of inner and outer cultural environment of school by offering opportunities for lifelong education;</li> <li>• Conceptions, strategic programs, educational programs etc. developed for the sustainable development of school;</li> <li>• School is a self-educating, self-developing, and self-evaluating environmental system (learning organization).</li> </ul>

Thus, we can define the school environment as a mutually dependent structure of environmental systems.

The substantiation of levels provided in Table 1 is based on author's reflection on pedagogical and academical experience and studies on school pedagogy and educational ecology. The interdependence of such basic categories as teaching/learning process, pedagogical process, and educational process has to be considered in the school pedagogy. In human ecology, including educational ecology, the development of environmental models is based on systems ecological thinking, which enables to identify the above-structures and substructures of environmental systems and describe them from the structural, functional, and evolutionary aspect. Works by Bronfenbrenner (1979/1996), Bubolz and Sontag (1993), Hirsto (2001), Huitt (1995), Sage (1998a; 1998b), Sterling (2001) and others testify that ecological systems within the environmental models are represented as interdependent, concentric circles. Thus, the principle of environmental taxonomy has been taken into consideration in presented model of school environment.

### *Pedagogical dyad in the ecological didactic model of students' pedagogical practice*

When educating a prospective teacher, it is essential to facilitate his/her readiness to cooperate and work in a team, take and share the pedagogical responsibility, and acquire different teacher's roles within the educational environment of a school. Within the study course "Pedagogical Practice" it is important to ensure the coordinated and goal-oriented functioning of a pedagogical triad as a united system of cooperation (Figure 2).

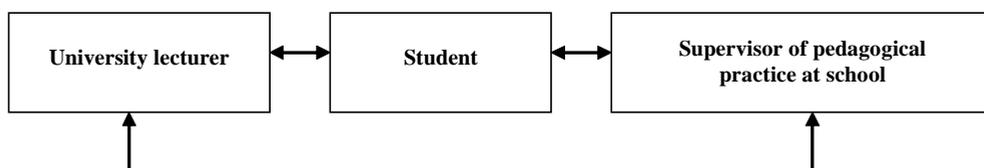


Figure 2. The triad of pedagogical interaction

There are also three dyads functioning simultaneously and independently in this triad:

- 1) university lecturer ↔ student;
- 2) student ↔ supervisor of pedagogical practice at school;
- 3) university lecturer ↔ supervisor of pedagogical practice at school.

The performance of these dyads greatly influences the student's professional development. In ecological didactic model, the choice of varied forms and types of cooperation within the dyad *student ↔ supervisor of pedagogical practice at school* and the planning, implementation, and evaluation of prospective teachers' pedagogical activities are of special importance (Figure 2).

The ideas on the performance of pedagogical dyads is based on conceptions, theories, and models by Bronfenbrenner (1996), Lerner (Лернер, 1981), Petrovsky (Петров-

ский, 1990), Vigotsky (Выготский, 2000), Vorobyov (Vorobjovs, 1993) and others. Three types of dyadic interactions are presented in these theories: 1) visiting dyad, 2) collaborational dyad, and 3) independent performance/leading dyad. All these types can be found in Latvian ethnopedagogy, including the descriptions of interaction between an adult and a child/young people (Barons, 1989; Rudzītis, 1974). The significance of these dyads has been tested through the centuries. The students, proceeding through all the stages of pedagogical practice, change from one role to another, improve their professional competences qualitatively, increase the number of their functions and the scope of their tasks, and accept more responsibility, while performing pedagogical work at school.

Table 2. The succession of pedagogical dyads during the pedagogical practice within the levels of school environment

The levels of school environment	The succession of pedagogical dyads		
	1 <sup>st</sup> dyad: Visiting dyad at the 1st stage of practice	2 <sup>nd</sup> dyad: Collaborational dyad at the 2nd stage of practice	3 <sup>rd</sup> dyad: Leading dyad at the 3rd stage of practice
1. Formal teaching-learning environment	•	•	•
2. Pedagogical environment		•	•
3. Educational environment			•

The requirements and tasks to be performed during the pedagogical practice were based on the multilevel model of school environment (see Table 2):

- 1st stage of practice: the 2<sup>nd</sup> year students act only at the level of formal teaching/learning environment of a school. During the lesson visiting practice the interaction *student ↔ supervisor of pedagogical practice* occurs within the visiting dyad.
- 2nd stage of practice: during the first pedagogical practice (assisting practice) the 3<sup>rd</sup> year students' (assistants' of the supervisors of pedagogical practice at school) professional activities are carried out at in the pedagogical environment of school, including the formal teaching/learning environment. The interaction *student ↔ supervisor of pedagogical practice* occurs within the collaborational dyad.
- 3rd stage of practice: during the second pedagogical practice the 4<sup>th</sup> year students' professional activities are carried out on the level of educational environment of school; they continue to develop the holistic approach towards the school as entirety of multilevel and multifunctional educational environment. The interaction *student ↔ supervisor of pedagogical practice* is characterized by a leading dyad: the focus is on the student's independent performance. The supervisor of practice has only the advisor's and expert's roles.

Thus the scope of students' competences and functions increases proceeding the stages of pedagogical practice and the levels of school environment and so does the degree of student's integration into the multilevel and multifunctional environment of school.

*The planning, organization, and evaluation of pedagogical practice*

In the ecological didactic model, each stage of students' pedagogical practice at school forms a single cycle, which starts with planning, proceeds with the implementation of a plan, and ends with the evaluation, including coming to new conclusions and, if necessary, making corrections, when planning the next stage of pedagogical practice (Figure 3).

Every stage of practice is planned, implemented, and evaluated at a new level of school environment, at a new stage of pedagogical dyad, indicating a wider scope of students' competences. The duration of pedagogical practice also increases according to the stages. The ecological approach, including thinking within the systems of time and environment, the taxonomy principle of the systems of multilevel and multifunctional environment of a school, as well as the principle of pedagogical dyad underset the objectives of pedagogical practice, structural requirements, and evaluation criteria for the student's report on pedagogical practice.

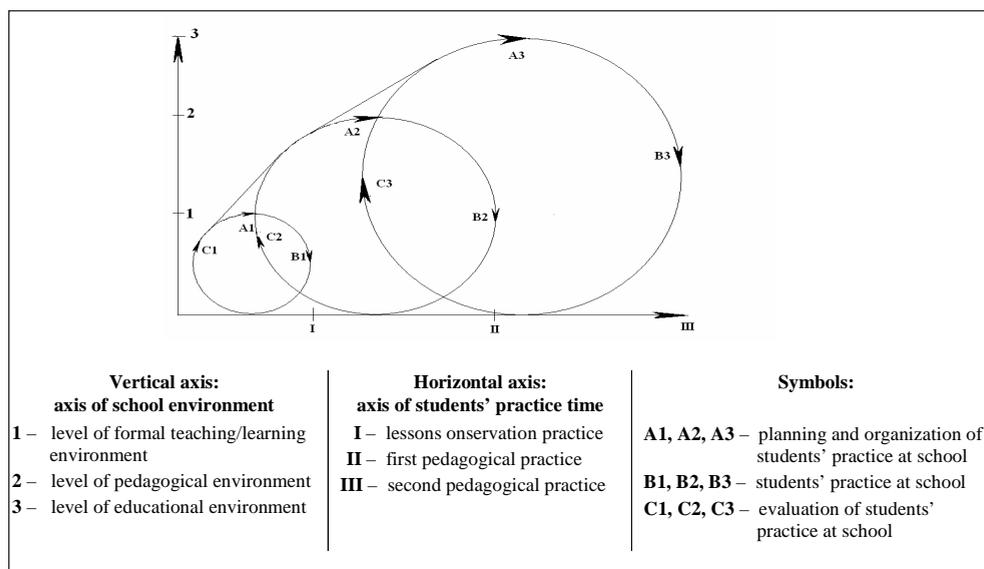


Figure 3. The cycles of students' practice at school within the environment and time (Katane, 2006)

Shirobokov and Roe (2005) states that three important functions within a multifunctional system of assessment are: 1) *regulation function*, which includes recording of academic achievements of a particular student in a criterion-referenced fashion according to the standard of educator profession that is formally approved by the country;

2) *normative-diagnostic function*, which includes fundamental aspects of interconnection between all the participants of the educational process, as well as substantive and affective reflection upon particular pedagogies by both teachers and students; 3) *facilitation function*, which is connected with the students' motivation.

At the IEHE students' performance during the pedagogical practice is evaluated according to the principle of accumulation. The assessment of students' pedagogical practice consists of: 1) student's self-assessment; 2) assessment provided by the supervisor at school; 3) the assessment of a written report on pedagogical practice (provided by the university lecturer – supervisor of pedagogical practice); 4) assessment provided by the advisor of the Bachelor's Paper on the student's research carried out at school during the pedagogical practice; 5) assessment of pedagogical practice presentation: student's presentation of visuals is evaluated by the university lecturer – supervisor of pedagogical practice and several experts.

The ecologically based system of assessment enables students to develop self-evaluation and reflection on their achievements in the educational environment. The students develop their reports and presentation on pedagogical practice in accordance with: 1) the aims and tasks of pedagogical practice, 2) students' competences and functions, 3) the stages of pedagogical dyads during the given period of practice, and 4) the model of multilevel and multifunctional educational environment of a school.

Many scientists (for example, Bigge & Shermis, 1992; Briede, 2004a, Briede, 2004b; McCombs & Marzano, 1990; Parker, 1997, etc.) point out the importance of *reflection competence* in the study process. McCombs & Marzano (1990) argues that students need training to recognize the link between studies and themselves, i.e. to understand the "I" component in order to realize a sense of personal control over learning abilities. Reflective teaching helps to evaluate the results of such kind of influence critically and to explain are we being human or not considering only positivist view (Briede, 2004b). According to Bigge and Shermis (1992), scientific cognitions, education that centers on reflection level teaching and learning consists of both students and teachers experimentally reconstructing their respective life spaces so as to add to their meaning and thereby to increase the involved person's abilities, both individually and collectively, to direct the course and contents of their future life spaces. Reflective practice supplies flexible and self-evaluative professional development. It relevantly promotes the skills to react to the changing conditions appropriately, at the same time keeping high professional and academic level. Reflective practice should be a curriculum component.

## Evaluation of the ecological didactic model of students' pedagogical practice

The ecological didactic model of students' pedagogical practice has been under the theoretical and practical approbation already for 2.5 years.

The university teachers delivering other study courses, supervisors of pedagogical practice at schools, and the students themselves were involved in the practical approbation of the model. There were four seminars on conceptual and practical issues held on both organizational principles and theoretical substantiation of requirements for pedagogical practice. The seminars aimed to develop uniform conceptual approach to the facilitation of prospective teachers' systems ecological thinking, professional competences, and readiness for the development of professional activities by means of univer-

sity teachers', practice supervisors', and students' exchange of experience and reflection on it. Regarding the conceptualization of reflection on teacher's pedagogical experience we refer to Krastiņa & Pipere (2004), Skujiņa (Skujiņa et al., 2000) and others.

As a result of collaboration, the ecological didactic model of students' pedagogical practice has been improved (see Table 3) and several new teaching aids were developed.

Table 3. The changes in the ecological didactic model of students' pedagogical practice

FROM	TO
1. The types of students' practice at school are viewed as separate disciplines, which are not interconnected and which are supervised by different university teachers.	The holistic and ecological approach to the planning, organization, and evaluation of all types of practice. The pedagogical practice at school is looked upon through the systems principle and idea of consecutiveness.
2. Two types of students' practice at school: 1) lessons' visiting practice; 2) pedagogical practice.	Three types of students' practice at school: 1) lessons' visiting practice; 2) assisting practice; 3) the practice of independent pedagogical performance.
3. The focus is on the majoring subject at school. The emphasis is placed on the acquisition of subject didactics/methodology.	The focus is on a student as a prospective teacher, his/her systems ecological thinking and multifunctional performance within the school environment: 1) the studies of and the integration into the educational environment of the school; 2) the development of teachers' various competences and roles through extending the range of the prospective teachers' functions and the environment of pedagogical activities by every next stage of practice.
4. Formal collaboration among the university teachers, delivering different study courses.	The team-work of the teaching staff within the framework of a particular study programme.
5. Formal, mediated collaboration with the supervisors of pedagogical practice at schools.	The triad as an interaction system, where the coordinated functioning of three dyads (university teacher – student; student – supervisor of pedagogical practice at school; university teacher – supervisor of pedagogical practice at school) is very important.
6. The evaluation provided by the university teacher – supervisor of pedagogical practice is the determinative final assessment.	The accumulative evaluation, where the students' reflection and self-evaluation of their pedagogical experience is considered as important.

The ecological didactic model of students' pedagogical practice was evaluated in the spring and autumn of 2006.

To evaluate the model, following research methods were used:

- 1) Analysis of the university teachers, supervisors of pedagogical practice at schools, and students' reflections on their experience;
- 2) Analysis of documents: 4<sup>th</sup> year students' reports on their pedagogical practice, the transcripts of the seminars organized for the teachers from the IEHE, headmasters and teachers, representing the schools of students' pedagogical practice;
- 3) pedagogical visiting (the visiting and evaluation of students' lessons at school and presentations on their pedagogical practice);
- 4) expertise of model by educators and students.

In the spring 2006, the expertise of the ecological didactic model of pedagogical practice was performed where the trainees were the students from the study program "Home Environment and Information Technologies in Education" at the IEHE.

The group of 11 experts was assembled. The basic criteria for the choice of experts were: 1) the involvement in the evaluation of the ecological didactic model of pedagogical practice; 2) the possibly diverse competences regarding the evaluation of the given problems (Albrehta, 1998; Бешелев & Гурвич, 1974).

The selected experts represented different areas of competences. They worked as: 1) the headmasters of comprehensive schools (the head of the groups, performing the accreditation of schools and the certification of headmasters in Latvia, among them), 2) the supervisors of pedagogical practice at schools (including the master teachers of school subjects, the heads of the subjects' commissions of teachers), 3) university teachers, employed at the IEHE (directors of different study programs of teacher pre-service and further education, university teachers – supervisors of pedagogical practice and lessons visiting practice); 4) psychologists, employed at schools, 5) the representatives of the administration (deputy dean for studies, the director of the IEHE). Before the assessment, the author of this article presented and discussed the ecological didactic model of pedagogical practice with the experts. The main issues discussed were the main trends of model development: the concept and its substantiation, clarity and comprehensibility, systematic and gradual sequencing, as well as benefits of model for the development of students' competences and preparedness for the professional performance in the educational environment of a school. After the presentation, discussions, exchange of information, and verbal assessments, the experts individually assessed the ecological didactic model of pedagogical practice using the special worksheets.

In the autumn 2006, the model was assessed by the 4<sup>th</sup> year students, studying at the IEHE. The assessment was performed on the day the students' presented the reports on pedagogical practice.

During the presentation and evaluation of pedagogical practice (verbally assessing the experience gathered during the practice), the students focused on: 1) the description, analysis, and evaluation of schools as multilevel and multifunctional educational environment, including pedagogical culture; 2) the significance of development of their (students') as prospective teachers' systemic ecological thinking and integration into educational environment, 4) the openness of the school to the new teachers; 4) development of students' professional competence, 5) the organizational issues of practice, 6) different opportunities to collaborate, 6) the pedagogical and psychological support

available, etc. Then 18 students individually assessed the model of pedagogical practice using special worksheets.

In order to obtain data, the technique of Dembo-Rubinstein's projective test was used during the expertise. Worksheets contained vertical line segments where the upper point of segment was formulated as the highest positive evaluation of the model, but the lowest point of segment – the lowest negative evaluation. The line segment was not divided by sections and the person, assessing the model, could draw a cross any place on the line segment. This projective technique enabled to avoid the criterial assessment and ensured the holistic approach to the evaluation, respecting cognitive, affective, and intuitive components of evaluation. The length of a line segment (10 cm) was chosen to enable the reading of the data on 10-point scale. The evaluations, provided by experts and students, were divided in four levels: 1) very high evaluation (level 4: 8-10 points); 2) relatively high evaluation (level 3: 5-8 points); 3) relatively low evaluation (level 2: 2.5-5 points); 4) very low evaluation (level 1: 0-2.5 points). Then the assessment provided by experts and students was compared:

- 1) very high evaluation (level 4) has been given to the model by 91% of experts and 78% of students;
- 2) relatively high evaluation (level 3) has been given to the model by 9% of experts and 22% of students;
- 3) nobody from the experts and students has evaluated the model of pedagogical practice relatively low (level 2) and very low (level 1).

Having summarized the information obtained through all research methods, we can conclude that the ecological didactic model of pedagogical practice facilitates the future teachers' systems ecological thinking, enables them to successfully adapt into the educational environment of a particular school and to become aware of oneself as an integral part of the environment within the interaction system, promotes the development of various competences, and facilitates the students' readiness for the professional activities within the multilevel environment of a school.

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## BUILDING SOCIAL CAPITAL THROUGH HOME-SCHOOL COOPERATION

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### Abstract

*The background to the study examines parental involvement in education as a form of social capital and focuses on how involvement may be developed through three dimensions of social capital: bonding, bridging, and linking. Both groups (students and parents) were surveyed using questionnaires. The data of two different studies have been used: a cross-sectional study carried out in sixty-five schools in Estonia and a study of a comprehensive school to introduce practical implementations of the findings. The results of the studies indicate a high degree of readiness for cooperation from both sides – parents and the school, even though their understanding of responsibilities slightly differ. Parents and teachers should have mutual power and influence regarding the child's education, although schools have to take the prime responsibility in organizing the cooperation process.*

**Key words:** *parental involvement; social capital; home-school cooperation; family relationships; school climate.*

Current discourse in education acknowledges the partnership between parents and school. The increased interest in the relationship between home and school is one of the most positive educational developments of the past decade. Today, at all levels of education, there is overwhelming agreement that parents have a valuable role to play in the education of their children. Parental involvement is promoted at government level (Nassar & Rebane, 2002) and the prevalent culture of rights encourages parents to exercise their rights in the field of education.

The term 'involvement' is often used in this context synonymously with the words 'partnership', 'participation', 'collaboration' or 'cooperation'. But there seems to be a consensus in all these explanations: home-school partnership or cooperation is a working relationship that is characterized by a shared sense of purpose, mutual respect, and the willingness to negotiate (Godber, 2002). The basis for a good relationship lies in communication and the gate-keepers of it are teachers. The teacher is an initiator, a coordinator, and an evaluator of the process. The majority of parents want their children to be successful at school but many parents do not know how to assist their children in ways that improve school performance (Hill & Craft, 2003). Managing these tasks requires a new type of knowledge compared to the one that traditional teacher

training programs provide. The changes in teacher training (especially since the middle of the nineties) have mostly been connected with the ideas of learning organization and child-centeredness; less attention has been paid to a systemic approach, team work/cooperation and consulting skills – which are essential for building an effective home-school collaboration system; therefore these changes should be included in both teachers initial as well as in-service training.

Emphasizing the importance of home-school collaboration creates a new concept of educational development – viewed together with the other three parties at school: administration, teachers, and students it forms a holistic approach which in turn is one of the prerequisites for implementing the idea of sustainable development. The holistic meaning of sustainable development embraces the integration of different aspects – economic, environmental, social, and cultural, broadening it beyond the primary concern for the environment as it is generally understood (United..., 1996). The study of Raudsepp (2006) showed that the cultural and the social aspects of sustainable development have not been paid enough attention to in education, although education has a vital role in achieving objectives with respect to sustainable development in all parts of society as it supports forming people's values and behaviour (United..., 1996). Therefore the teachers could be seen as policy makers and teacher training faces another important task – to train teachers for working with different audiences in order to target as many sectors of society as possible. Public awareness and understanding of sustainable development is one of the highest priorities of United Nations (United..., 1996), therefore educating parents is definitely an inseparable part of educational process at school. Involving parents has a dual purpose: it helps to encourage a new consciousness and directs both parents' attitude, their values and behavioural changes towards establishing more sustainable lifestyles and, on the other hand, parents become educators themselves imparting the idea of sustainability to their children.

Parent *involvement* has been identified as a primary component of *school* climate, and is also linked with key educational and social-emotional outcomes for students and also their school performance. Much research has proven its positive impact on child's academic improvement (Cassel, 2003; Cordy & Wilson, 2004; Eddy, 2004; Fantuzzo, 1999; Hill & Craft, 2003; McNeal, 1999; Perais & Pastor, 2000; Shepard & Carlson, 2003). But at the same time it is not simply parental involvement in children's education that matters for the improved academic achievement, rather it is the production of social capital through specific human interactions in the school. Social capital or social connectedness has been defined as the cultural resources and interpersonal bonds shared by community members (Jack & Jordan, 1999). Parental involvement can be conceptualized as a form of social capital that provides individuals with access to resources that improve their academic achievement.

Like other forms of capital, social capital is a resource that students may draw upon when they need to enhance productivity. One of the primary functions of social capital is to enable a student to gain access to human, cultural, and other forms of capital, as well as to institutional resources and support (Coleman, 1988).

There has been much discussion of the concept of social capital since it was introduced by Coleman (1994) as an extension of prior research on financial and human capital. Whereas financial capital describes a family's wealth or income, and human capital is measured by parents' education (especially by mothers' education), Coleman defines social capital by referring to its function, viewing social capital as a resource

that can be drawn from. Bourdieu (1986) defines social capital as a resource made up of social obligations (or connections), which is convertible, in certain conditions, into economic capital. Later the definition of social capital was refined (Perna & Titus, 2005) to include the norms of reciprocity and trustworthiness that exist in the social networks of individuals.

Coleman (1994) and Bourdieu (1986) offer two somewhat different conceptualizations of social capital. Coleman's approach stresses the role of social capital in communicating the norms, trust, authority, and social controls that an individual must understand and adopt in order to succeed. Coleman's approach is most frequently used in educational research (Perna & Titus, 2005) as it is wider (compared to Bourdieu's) and therefore useful for operationalisation in the frame of an empirical and quantitative study. Coleman identifies the ways in which parental involvement can build social capital, suggesting that social capital is derived from two types of relationships: the relationship between a student and his/her parents; and relationships between a student's parents and other adults, particularly adults who are connected to the school that the student attends (Coleman, 1988).

Bourdieu (1986) focuses on the ways in which some individuals are advantaged because of their membership in particular groups. According to him, the amount of social capital to which an individual may gain access through social networks and relationships depends on the size of the networks as well as on the amounts of economic, cultural, and social capital that individuals in the network possess. Bourdieu views social capital as a mechanism that the dominant class uses to maintain its dominant position (Lin, 2001). Bourdieu's use of the term is narrower than Coleman's, seeing the effect of social capital at an individual level only and therefore it cannot be viewed as the best approach to describe the home-school relationships supporting child's development.

Drawing on the work of Coleman and Bourdieu, Lin (2001) developed a theory of social capital that focuses on the mechanisms and processes through which an individual obtains the resources that are embedded in social networks. Lin suggests that, whereas closed networks, or strong ties, may effectively preserve resources, weak ties may enable an individual to access resources that are not available via strong ties. In other words, weak ties may serve as a "bridge" to networks that possess information and resources different from those that are provided by strong ties or by an individual's family and close friends (Lin, 2001). Lin assumes that, although individuals generally establish relationships with individuals who have similar perspectives and socio-economic backgrounds, some individuals seek relationships with individuals who are of a somewhat "better" social status in order to gain additional resources (Perna & Titus, 2005).

Most scholars argue that social capital is not a single entity that families either have or do not have (Woolcock, 2001). Rather, it is multidimensional, existing on at least three dimensions. The first dimension is *bonding*, which refers to homogeneous relationships within a close group – for example within the family between parent, children, and kin (Woolcock, 2001). Bonding social capital provides a sense of belonging and is critical to the sense of well-being of the members of families and groups and fulfils immediate need for belonging, love, emotional support, and solidarity. Terriori (2006) in her study of the connections forged between members of a temporary group stated that a sense of belonging was central to the development of cohesiveness in the

group and that it was created through the group members' communication with each other.

*Bridging*, the second dimension, refers to connections with diverse social groups: heterogeneous relationships with more distant friends, relations, and neighbours. Woolcock (2001) sees bridging as a horizontal metaphor, meaning that connections are made outside of the immediate network but with those who are similar in terms of demographic characteristics, including socioeconomic status, beliefs and values, life experience, and existing social capital.

*Linking* social capital, the third dimension, contributes a vertical dimension. It is the addition of linking social capital to bonding and bridging that is vital to the achievement of the positive outcomes associated with social capital (Terrion, 2006). Although bonding and bridging connect the parents of different groups with new contacts, linking social capital provides opportunities for families in the form of access to advice, resources, and information; it helps to develop linkages with individuals in positions of power.

Considering these three different approaches to social capital with regard to its three dimensions, some links could be drawn out – Coleman's approach seems to deal more with *bonding* dimension as it is based on strong ties, close relationships while Lin assumes both kind of ties, strong and weak, to have their certain roles in building of social capital, which in turn describes the main content of *bridging* dimension. Bourdieu's point of view, dealing with the questions of power and dominance, is more focused on vertical relationships and therefore discusses the problems of the third dimension – *linking*.

## The research questions and methods

The current article provides a survey of two studies: one of them may be seen as a scientific foundation and the other as its practical expansion at a grass-root level. The first one was a cross-sectional study carried out in Estonia in 2004 by university scholars. The results of the research were introduced at different conferences (Lukk, 2005a) and they encouraged some of the headmasters/head teachers to start the reorganization process at their schools. The results presented in the article are based on the data of the study, which was carried out in one of the biggest public comprehensive schools in Estonia in 2005.

The focus of the university study included school factors that presumably had a connection with either students' truancy or their low academic achievement. The underlying question of the study was how and to what extent could school support students' coping and prevent their dropping out and other unacceptable behavioural outcomes. The study embraced many aspects of the school climate and the learning environment, investigating the opinions of school leaders: headmasters and head teachers, teachers, students, and also parents. The data were gathered using self-report questionnaires. The questionnaires to all examined parties (school administration, teachers, students, and parents) consisted of the same content blocks about the questions studied. The blocks embraced a wide range of different aspects connected to the school climate and the learning environment.

The sample was composed of 65 schools in Estonia (10% of all schools). The number of participants included 120 representatives of school administrations, 624

teachers, 3838 students from 7th, 9th, and 11-12th grades, and 2048 parents. The respondent schools formed an adequate representation of schools both geographically, according to the language of conduct (Estonian or Russian (27%)), and concerning the results of state exams during the last three years (the best and the weakest results in their area – county or city). Full anonymity was guaranteed for all participants (both individuals and schools in general).

The aim of the comprehensive school's study focused on home-school cooperation and the main question was what should the school do to achieve a better cooperation with parents in order to support children's coping at school. The method of the research was a questionnaire to parents and it embraced different aspects: the main learning orientations of the school; student's daily routine at school; student-teacher relationships; communication between home and school; different forms of home-school cooperation; extra-curricular activities. The sample consisted of 504 parents (86% women and 14% men).

The analysis was based on quantitative research methods (f- and t-tests were used to compare means and dispersion; regression analysis for a connection model; factor and cluster analyses for grouping).

The results of both studies have been discussed in the framework of social capital, through its three dimensions (Woolcock, 2001).

### The first dimension: Bonding

*Bonding* describes the relationships within a family. According to Coleman's (1988) perspective on social capital, parents play a primary role in promoting the attainment of their children. Close relationships within family are based on caring, effective communication, shared goals, values, and expectations.

Comparing the opinions of parents and children about caring in the family shows a statistically significant difference ( $p=0.000$ ) (Figure 1). Children tend to assess the level of caring lower than parents do. More than 20% of children stated that they do not/rather not agree that the members of their family care about each other.

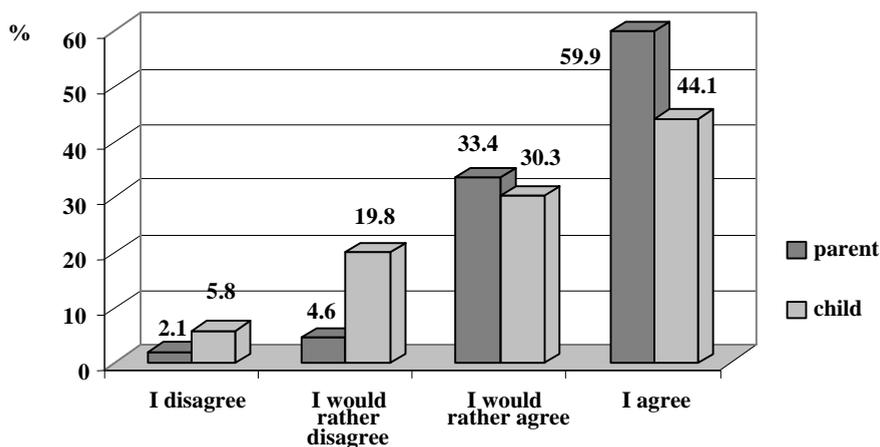


Figure 1. The family members care about each other

One of the reasons may be that the relationships between siblings are often problematic especially at adolescent age. However, it is a quite serious fact if only less than half of the students can express their complete agreement with the statement.

9.5% of the children said that they had experienced violence at home lately and only 5.1% of parents stated that about their child (the significance of the difference was  $p=0.008$ ).

One of the questions studied the different aspects of child's life that parents are concerned about. The results revealed that 18.6% of parents worry about the relationships in their family. Parents from Russian schools and from schools in the capital city showed much higher percentages (36% and 23.5% accordingly) comparing to parents from rural or country regions (13%), which may be due to the more stressful lifestyle. People living in the capital city have to manage in a much busier environment and face more challenges in their daily life. Russian parents tend to feel quite uncertain in our contemporary society (Lukk et al., 2006) about their future and about their children's coping in their future lives. Having that uncertainty in their minds as an underlying factor of distress may also cause tensions in their family life.

Communication plays a pivotal role in the production of social capital (Terrion, 2006). The analysis of the difference between parents' and children's opinions about the school revealed a statistically significant ( $p<0.01$ ) difference in their views on some characteristics (Figure 2). The most remarkable differences were about the clear aims of the school and whether new teaching methods and techniques are used in teaching process or not.

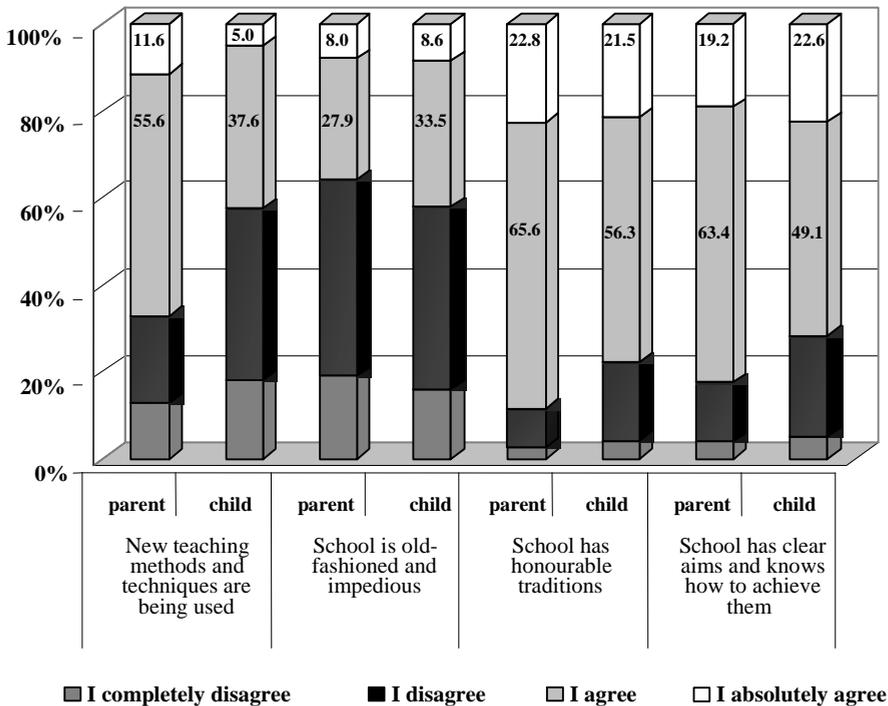


Figure 2. Parents' and children's opinion about the school

Most of the parents (82.6%) support the statement that the school, their child attends, has clear aims and knows how to achieve them. But at the same time only 71.7% of children seem to know that – which shows an information gap on that point. The same trend can be noticed in the question about the new teaching methods and techniques as well (67.2% of parents and 42.6% of children).

Ranking the sequence of the topics, that families discuss, showed that in most cases parents and children talk about school, which may seem as a very positive fact. But at a closer look it turns out that the main subject of these discussions is grades, not deep conversations about learning in general, about the things children study at school, or about how they have developed. In the context of social capital this means that a lot of resources have been left unused. Talking about grades does not deliver the message about the importance of education; it does not show the right way to choose as it does not lead the child to self-assessment; it does not help him or her to learn to set goals, to work out the plan, to carry it out, and to draw conclusions – it does not help a child to learn the process of learning.

### The second dimension: Bridging

A primary function of social capital is to enable a student to gain access to human, cultural, and other forms of capital, as well as to institutional resources and support (Perna & Titus, 2005). Although the family has an important role as a resource of social capital, it cannot be viewed as the only one. According to Bronfenbrenner's (2000) theory, the network, a child is connected to, is much wider and therefore while talking about *bridging* we move to the next sphere – school. School is an institution where children spend quite a large amount of their time. Coleman (1994) stresses the relationship between a student and his/her parents, but also the relationships between a student's parents and other adults, particularly adults who are connected to the school that the student attends: teachers and other parents. One may argue that the ties are much weaker in school community than they are in family and therefore they are not of such a great importance. But the weak ties may serve as a "bridge" to networks that possess information and resources that are different from those that are provided by strong ties or by an individual's family and close friends (Terrion, 2006). Therefore the role of teachers as network coordinators cannot be underestimated.

Social capital is built on a foundation of trust (Jack & Jordan, 1999). Studying how much parents trust the school their child attends showed that most parents (79.5%) trust their child's school and the teachers – the average index of trust was 4.35 (on a scale of 1-6). Regression analyses also revealed that parents' general opinion of the school is mostly predicted by trust; the second and the third variables were parents' opinion of home-school relationships and child's willingness to go to school – which is one of the factors that determines joy of school.

Parents' opinions about teachers were grouped by cluster analysis and four different clusters were formed:

- 1) Student-oriented caring teachers: teachers who are interested in child's development, they monitor systematically student improvement; they think that assessing or grading is a tool to support child's learning process and the most important is a positive learning environment at the lesson.

- 2) Positively strict teachers: teachers who maintain good discipline by being objective and reasonably demanding; student opinion is important for them; they think that grades are objective descriptors of child's development.
- 3) Subject-oriented teachers: teachers who have extensive knowledge in their subject and the most important for them is to prepare their students for their level tests and exams.
- 4) Strict competitors: teachers who consider punishment as the main factor influencing child's academic attainment; the base for development lies in competition; it is very hard for them to accept students who are too different from a "normal average".

These groups show clearly that there has been a shift towards child-centeredness in our schools, although a lot of work is still to be done to change the way of thinking of all teachers. The most important in that process is to have the general climate of school focused on child-centeredness and that would influence even the teachers who are still holding onto old-fashioned ways to try to keep up with the inevitable changes.

The forms of home-school cooperation vary greatly from school to school. The two main forms are parents' meetings and parent-teacher discussions (Lukk, 2005b). The study showed that parents expect some changes in that field – they would like their child to attend the meetings or parent-teacher discussions as well; they would like to visit the classes; to have some kind of a parent organization.

The study of the comprehensive school revealed quite similar results – parents asked for more openness and child's presence while his or her development is being discussed. The evidence showed that parents cared deeply about their children's school progress and they wanted to know more about children's learning, but they did not want to share the teaching responsibilities with teachers. Parents clearly suggested that they needed more guidance and explanation. They wanted to learn more about what the schools' aims were and how children learn.

Parents expected schools to cover the basic aspects for parental involvement, such as simple and understandable communication about children's progress and problems, while their obligations should include encouraging their children to get the most out of school experiences. The parents' responses suggest that they believe schools and parents have different tasks and roles. However, parents suggested that having different tasks should not prevent them from complementing each other. Exchange of information is welcome and needed, but 30% said the schools' obligations should include "providing high quality education" and "taking the responsibility to guide them through educational activities".

The parents of that particular school also suggested having some kind of a parent organization. After preparing for about half a year, a new system was implemented in the school – the parents of one age-group children (i.e. the parents of 7-th-grade students) formed a so called "education club" where different topics about child development and educational problems are discussed. The club meetings take place once a month and are extremely popular among the parents of teenagers.

The analysis revealed that parents' opinions were generally very consistent with what they needed and wanted from the school in terms of both effective parental involvement and effective education for their children. But at the same time the respondents were often troubled and confused, and their responses were sometimes even contradictory. Parents clearly lacked sufficient knowledge about the schools and their financial

constraints. However, according to parents, clear communication is a crucial point for parental involvement and this may provide a significant means by which parents and schools may start to develop effective relationships in the future.

### **The Third Dimension: Linking**

Social capital focuses on social networks and the ways in which social networks and connections are sustained (Perna & Titus, 2005), it is acquired through individual's relationships with other individuals, particularly through membership in social networks and other social structures. Linking social capital embraces individual's relationships with social structures on a vertical line, which in schools mean the parental involvement in different events, meetings, schooling organized by schools and parent organizations.

The underlying prerequisite of the effective functioning of that vertical line is the characteristics of the school: specifically, the extent to which the school encourages parental involvement, the volume of resources that may be accessed via social networks at the school, the homogeneity of the social networks at the school, and the school climate in general (Perna & Titus, 2005).

In the current study parents assessed schools by different variables, which were analyzed by factor analysis. Three factors were extracted:

1. Respectable/Honourable schools (descriptive power 34%): schools with a strongly inclusive and democratic leadership style; the school has well-established aims, strong traditions, and a good reputation; at the same time they are opened to new ideas.
2. Progressive schools (descriptive power 24%): open-minded and forward-looking, these are the schools that keep up with the demands of the modern society; the leadership style is clear and objective – involving all interest groups.
3. Impeding schools (descriptive power 13%): schools that still hold onto old-fashioned ways and habits; implementing new ideas or views is an extremely slow process; students are regarded and treated according to their socio-economic status.

The results reveal that most of the schools have recognized the necessity for change, try to be opened and to involve different interest groups in school development. But all changes take some time until they function without serious problems. So there are still some reasons that hinder effective home-school cooperation. Researches have shown (Lukk et al., 2006) that parents who have been ready to cooperate have lost their willingness because of the negative experience with school. The number of parents who either cannot find time or are not interested is quite large, but it still cannot be an excuse for no home-school cooperation at all. Knowing these facts it is now school's – both administration and teachers – obligation to become an active party of the process organizing the work in a way that would motivate parents to participate.

The research carried out in the comprehensive school helped school administration to implement some very important changes. Studying the aspects of a "vertical line" and including parents in the process of drawing up the developmental plan for the school, it turned out that parents were very concerned about primary school children's afternoon time. Their suggestion was to find the way to look after children until their parents come home from work – which means until about 5 o'clock. This idea led the

school to introducing an absolutely new system – The Afternoon School. Primary school children (grades 1-4) can spend their time under supervision in different activity centers – reading center, drawing center, film center, and playing center. The new system has been launched by parents and it has had a great impact on the reputation of the school.

Once parents and teachers realize their capabilities and roles, they can work together effectively in helping their children learn. A shift is needed from the paradigm of parents and teachers working separately to parents and teachers working together for the benefit of the child. The relationship between parents and teachers should be one in which both have mutual power and influence regarding the child's education. The existing cultural discontinuity can be addressed by the teacher shifting from – “telling to showing” parents what to do – by explicitly teaching parents to assume new roles (Musti-Rao & Cartledge, 2004).

## Conclusion

With the growing diversity in schools, the role of teachers, especially in urban schools, has changed dramatically, becoming decidedly more challenging. Teachers are under constant pressure from the school district to achieve established standards of excellence, making it essential to work collaboratively with parents toward a common goal of children's success in school. Instead of considering parents as a threat or nuisance, teachers have the opportunity to elicit help from parents. Just as more information about the schools allows parents to assist their children better, the more information teachers have about the children's home environment, the better equipped they will be to accommodate the needs of the parents and the children.

Parental involvement is only a factor of the more complex phenomena – social capital. Social capital is a term that has different explanations and exists on at least three dimensions: bonding, bridging, and linking. Different aspects of home-school cooperation in the framework of these three dimensions have been discussed in the article:

- the relationships within family as the indicators of *bonding*. The most important results were that more attention should be paid on caring between family members and parents should talk to the children about the importance of school and education instead of concentrating only on grades;
- parent-teacher communication and parents' opinion about teachers as aspects of *bridging*. Parents trust school and teachers but they expect them to be more open; varying the forms of home-school cooperation would provide more opportunities for parents to find the most suitable way of communication for them. A shift is needed from the paradigm of parents and teachers working separately to parents and teachers working together for the benefit of the child. Communication is the heart of the whole exchange process. Help and involvement may occur only when communication is recognized as the generator of fruitful relationships;
- school-related questions as part of the *linking* dimension. The results reveal that schools have recognized the necessity for change; they try to be open and involve different interest groups in school development. A very important aspect of parental involvement is an exchange of expertise and abilities. Schools provide parents with ideas on how to help their children with adequate attitude and interest, and they invite parents to become involved with curriculum matters such as planning, classroom activities, and children's assessment.

The focus of efforts for both parents and teachers needs to be the educational success of the child. The relationship between parents and teachers should be one in which both have mutual power and influence regarding the child's education. It is essential that schools and particularly teachers recognize parents as assets. Only then we can speak about building social capital that enables parents to better support their children.

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## SUSTAINABLE EDUCATION AND SOCIALIZATION THROUGH MISTAKES

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### Abstract

*The central question in this article is how teachers socialize pupils. Our hypothesis is that socialization takes place when an individual identifies something as a problem or as undesirable. In the process of socialization, teachers sometimes make mistakes. Attempting to hide these mistakes, however, may result in new or even greater mistakes. D.Kahneman implies that people do not like loss or failure. People attempt to justify earlier incorrect decisions by often undergoing senseless stress and exertion. People agree to exert themselves to guarantee what in their opinion is a fair and equitable solution to a particular situation. Subjective probabilities play an important role in our lives. This paper presents the results of an ethnographical study of education. Our findings suggest that mistakes and negativity contribute to strengthening norms because “bad is more representative than good”. In addition to negativity, teachers try to teach norms through collegial responsibility and conscience, and regulation is important at every step. This study concludes that both success and failure are constantly renewed in a cycle. That is why people tend to use earlier behaviour models, including self-evaluation and beliefs, which are continually actualized. The importance of a supportive, positive, and optimistic learning environment cannot be underestimated. The concept of psychologically sustainable education requires greater in-depth study.*

**Key words:** pedagogy; socialization; sustainable education; children.

Education is an obligation, but meeting educational commitments should not harm children's self-esteem. Many things occur at school and negative emotions may become prevalent among some children. Consequently, teachers ask if this is a normal occurrence, a theoretical problem, or something that should be taken seriously.

According to Jämsä, the push for sustainable education has come from outside the institution of education. Initially, this push was promoted by some insightful individuals and private organisations. Later, governments and international organizations, especially the United Nations, become involved (Jämsä, 2006). Estonia began to follow their rules and general concepts upon becoming member of the European Union, including sustainable education. The essential importance of a child's psychological environment cannot be underestimated in this regard.

This paper analyzes how teachers try to socialize pupils, a process that often focuses on identifying certain actions or characteristics as problems or as undesirable. In doing so, teachers sometimes make mistakes, which if hidden, can result in new or even greater mistakes.

A 'problem child' is a student who does not conform to the norms of the school and whose behaviour disturbs the teacher. In fact, in many cases, marginal pupils can be considered as normal. However, at some stage these students simply drop out of school, which represents a simpler solution for the institution (Leino & Lahelma, 2002). Variables related to society, the educational institutions, teachers, and the individual student's personal characteristics are important to consider when discussing so-called problem children. The dropouts and "grade repeater" problem is closely connected with the concept of sustainable development. The learning environment must support child development. However, if the educational system fails to support child development, it cannot be attributed to the children themselves. Normally, persons or institutions that exercise power also exercise rights, and teachers exercise supreme power in the case of the classroom. Sometimes authority supports development, meaning that power and sustainability are not necessarily opposites. However, the abuse of power can slow or even brake development. According to Jämsä (2006), the idea of sustainability should be closely connected to the personal world of each individual. Sustainability, in this sense, is concerned with the personal lives of the students as they gain experience interacting among themselves and with their world. Schools and sustainable development need to be synonymous if teachers are to better serve their students.

## Theoretical background

The idea about the asymmetry of positive and negative has been used since the 1960s. It presumes that people develop their own opinion of things based on the positive and negative impressions they gain by experience. However, in reality, negativity tends to predominate. If there is some bad information about a specific person, that person is considered bad. However, even a very positive impression succeeds only in creating a general impression. This phenomenon probably occurs because negative things jeopardize the wellbeing and safety of persons. Negative messages are more effective in influencing our everyday lives as well, because security is considered emotionally important for everyone (Lindeman & Mäkelä, 1994). People spend more time thinking about ambiguous and conflicted situations than about clear and peaceful ones (Martin & Tesser, 1996). Because teachers are in charge of their classes, the regulation of negativity in class becomes evident and can be intensive: teachers often create what is accepted as normal through discipline, punishment, intervention, and admonishment (Leino & Männiste, 1996). Teachers believe this is the correct way to regulate their classes and often do not realize a more in-depth self-evaluation of what they actually do. This kind of behaviour is possible because the school is an institution with a well-established power structure.

The second significant source of inspiration for this article was the Nobel Prize awarded to psychologist professor Daniel Kahneman. His message is that people do not like loss and failure, which is why people go through often senseless stress and exertion to justify earlier wrong decisions. People agree to exert themselves to guarantee what in

their opinion is a fair and equitable solution to a particular situation. Subjective probabilities play an important role in our lives. The decisions we make, the conclusions we reach, and the explanations we offer are usually based on our judgments of the likelihood of uncertain events (Kahneman & Tversky, 1985).

Teachers construct norms by justifying their own mistakes. They sometimes seem to observe ‘problem’ children as if they were looking for proof to confirm their doubts. Instructors are sure that their feelings are true. As a result, they define some people as more negative than others. Cases that confirm teacher attitudes are stressed while contradictions are forgotten. Consequently, teachers presume to know everything about their students and assign them positions within the group. Being ‘special’ becomes an important characteristic of classroom settings because teachers stress aspects of student behaviour that support their earlier convictions (Kivinen & Kivirauma, 1985).

The purpose of socialization is to promote integration into society. Nobody asks an individual if she/he wishes to undergo the process of socialization; rules are imposed and the individual has to cope with them. The process of socialization contributes significantly to so-called school problems. It is difficult to determine if the problem is real or the result of the subjective impression.

### About the research method

The research method applied in this study is the ethnography of education. *Ethnos*, a Greek term, denotes a people, a race, or cultural group. When *ethno* as a prefix is combined with *graphic* to form the term *ethnographic*, it refers to the sub-discipline known as descriptive anthropology – and in its broadest sense, the science devoted to describing ways of life of humankind (Vidich & Stanford, 1998). In the past, ethnography has been associated with discovery, describing specific groups of people who had not been treated before. Modern (or post-modern) ethnography is conscious that it operates within a complex matrix of already existing alternative representations and provides insight from this awareness (or form of reflexivity). Ethnographers study how people live within and respond to a specific social environment and participate in everyday routines, communicating and registering what they see and hear. Ethnographic researchers dive into a new world and objectively analyze what occurs and propose possible solutions and their objective is not to define the truth, but to uncover different truths (Emerson et al., 1995). Ethnography involves research that employs a variety of information sources (Pösö, 1993). Ethnographers are similar to vacuum cleaners in that they suck up everything that happens in their vicinity (Thorne, 1997). They study the reaction of people, their hesitations and behaviour: an ethnographer maps social life as a process (Emerson et al., 1995). Ethnographic research views teaching as an instance of symbolic interaction (Gage, 1985). The task of ethnography is not only to observe and describe social interaction, but to record and interpret the meanings of human actions (Kincheloe & McLaren, 1998). The school environment is “familiar” as almost everyone has attended school at one time or another. The task of the social scientist is to make the familiar strange (Delamont, 1981).

## Data gathering

Ordinary classes in Estonian schools are large, with up to 36 children per class. As a result, teachers often do not have sufficient time to provide more personalized attention. Consequently, they often find it easier to label some students as “problems”, transferring them to special classes. This paper presents the results of an ethnographic study carried out in a special education class.

One hundred and eighty class sessions were observed in 1999 and 2000. Evening classes, conversations with students during breaks, and teacher interviews were also carried out. The school selected was located in a typical residential area where all the students living within the district were enrolled, resulting in a heterogeneous student population, typical of most Estonian schools. The fifth grade class consisted of nine girls and 12 boys with an average age of between 11 and 12 years. Of the 21 students who attended the class, 13 were dysgraphics or dyslectics, eight had serious difficulties in mathematics (some did not even know the multiplication table), five spoke only Russian and were labelled “problem children” because of their limited Estonian proficiency, six suffered from various internal illnesses, and three had serious behaviour problems. The teacher responsible for the group had almost 30 years of teaching experience. The main focus of this work was to study how the teacher coped with children and their social and learning problems at school. My findings related to student socialization through mistakes are the result of my Ph.D. thesis.

## Results

The concept of a good child in an ordinary school is a given: the child should be intelligent, clean, hardworking, inspired, verbally controlled (speaking only when asked and using proper expressions), and docile. Furthermore, the good student should have good attendance, finish work within allotted time, be respectful towards others, and respect school property. Children perceive that the role of a good pupil is to remain unnoticed. In order to “fit” into this role, they create and later maintain behavioural traditions and rules that stem from the hidden curriculum and cannot be broken (Gordon et al., 2000). Healthy person by all means possibly rejects the label of failure. Marginalized children do not reach official learning objectives either (Kivirauma, 1995). Although not the ‘primary’ cause, the relation to important others is a central issue in labelling-theory.

Teacher: “*Karl, I will tell you for the very last time. See, the door is there. If you bother me once again, we will visit the principal and talk with him*”.

Teacher mistakes in this situation include:

- 1) a promise that cannot be kept – ‘*very last time*’ is utopian. There is never an absolute “very last time” and everybody knew that;
- 2) the words ‘*the door is there*’ refers to a virtual surrender as it usually perceived as the easiest way to solve a problem;
- 3) the expression ‘*talk with principal*’ is also a very poor choice of words. It is incorrect to use a verb associated with normal social interaction in such a negative context. In addition, referring to a higher person who has nothing to do with the helplessness of the teacher is demagogy.

The concept of sustainable education points out that students should take responsibility for sustainability (Jämsä, 2006). This, however, is difficult when students are labelled and the subjects of pedagogical mistakes.

*The class is noisy. The teacher turns around and says: "I don't know who is speaking all the time – you can come here and start writing!"*

In this case, the teacher fails to maintain the attention of the children. This lack of attention results in restlessness that the teacher tries to punish with work. Using work to punish children is a notable remnant of the Soviet period, when the norm was to work hard with a morose face. Unfortunately the joy of work is often omitted at school (Leino, 2002a). In this example, the teacher wants the class to be silent again and, although the intention is good, the strategy is not the best. Even in a special education class the very experienced teacher uses punishment.

The accumulation of mistakes can be viewed from different levels. For example, from the child's level:

*After a wrong answer the reaction of a boy is unpredictable. He solved conflicts with others most times in a physical way. One day after a bad mark he didn't come to school. As a result, the knowledge he gained at school is incomplete and his grades become worse and worse.*

Pedagogy implies some degree of authority that needs to be accepted by students in one way or another (Nuutinen, 1995). If for some reason students do not fit into the social standard, they sometimes make new mistakes using avoidance strategies so that classmates do not notice their diversity.

The home level:

*The teacher complains: "It was difficult to contact the mother, and when the situation worsened, she avoided contact even more. She didn't come to meetings anymore; she turned off the phone and locked the door when the teacher came".*

Instead of helping the child, the mother cancelled contact with the school. Of course, this kind of avoidance behaviour does not solve the problem. Children with lower social status are subjected to a fate that is determined for them in school. The only thing 'special-children' share in common is the label, not reasons for the way they behave or any specific personal qualities (Kivirauma, 1995).

The teachers level shows the result of observation:

*The teacher tried to solve conflicts: she sent the boy out of class or suggested the rest of the class leave the boy alone when it was obvious he couldn't control himself.*

This can be viewed as an effort to cover one mistake with another because the most difficult thing is to avoid conflicts and, if they occur, resolve them peacefully. The easiest strategy, therefore, is to either isolate the child or send her/him away. School and teacher are always right because they have the power.

The institutional level is represented by the description of a situation:

*In 1995/96 four 1<sup>st</sup> grade classes (27 children in each) started at this school. Later all students continued in three classes (36 children in each) – some of the students happened to be in the class that majored in a foreign language against their will. In two years time, several children developed an inferiority complex. In the fourth grade the school found the possibility to return again to the four classes (from three), where one class consisted of children who had study problems. They started in the wrong class that made them quiet and passive because of feeling inferior.*

Because teachers have power, they tend to consider themselves as normal. In the opinion of ‘normal people’, ‘special’ and ‘different’ persons sometimes make life more problematic and dangerous (Ulvinen, 1993). Social problems receive a lot of attention in school – this is part of the socialization process, which in pedagogy seems to be more important than the academic formation. Teachers think they know what is best for the child, which probably results from culture, tradition, and common socializations rules. The main way to deal with differences at school is to label problems as personal. Official classifications tell more about the person who gives the label than the child. Externally, similar behaviours can take place in the same classroom environment, but the motives for what appears to be the same behaviour may be very different. Usually, classifications hide more than they attempt to define – most ‘problem children’ behave well most of the time, too.

The social aim of labels is control. Labels are comfortable because they keep people from thinking. Defining people and using sanctions point to power used by the person who holds power over the person who must behave (Kivirauma, 1995). For example, students cannot argue or debate at school out of fear that she/he will be criticized or punished.

Teacher: “*Karl, you are in 3rd place in our class because of bad behaviour*”.

Karl: “*So what? I am like I am*”.

Karl’s reaction to this was to start to argue.

Ethnographic analysis suggests that students are supposed to be in the right place at the right time, with appropriate embodiment and equipment; they should know when and how they are supposed to speak, to move, to raise their hand. Moreover, they should have good manners. It is advisable to leave an impression of a diligent pupil at school for fear you might be moved to a special educational institution. According to Pring (1984), people are constantly more worried about what children do than what they think, and they punish them accordingly.

*The boy was often sullen and sat the whole period without working with the others. He did not obey teacher instructions – the principle of the boy was: “I’ll do it if I want to”.*

Schools require children work alone, be attentive, be patient, to exercise self-control, to forget the experiential world, and to subject themselves to the authority of the teacher (Kuusinen, 1992). In fact, in some ways Estonian school do not differ from schools in many other European countries, where students are socialized to respect authority, to be obedient, and to avoid trouble when possible (Leino, 2002a). However, the Soviet period influences probably make the situation in Estonia’s educational system worse because authoritarianism is still widely practiced.

*David is angry because Kati reads so much. Teacher: "You are not my assistance teacher!"*

If children commented something in a 'wrong way', the teacher punished them. The intention behind some of the correction was to show who the boss was, which is not the best practice in a democratic society. One of a teacher's duties is to guarantee students can work in peace, and using the authority is often the simplest way to insure tranquillity in the classroom.

Mihkel: *"I can't do this work so fast"*. Teacher: *"You can give orders around here after you've studied in the university"*.

In this class, I observed the teacher impose herself at every moment. To be more exact, students (especially boys) were trained by correcting every (even the smallest) mistake, resulting in an unfair dichotomy as the teacher can make repeated mistakes without students expressing opinions about them.

Teacher to Tom, who chatters all the time: *"If you are so clever, why don't you share it with the class?"*

The teacher was stricter with boys than with girls because of something similar to a "power struggle" to determine who actually led the class, the teacher or the "bad boy". For example, boys could not answer questions while sitting at their desk. Boys wishing to participate had to signal so by raising their hands. Girls, on the other hand, could respond while sitting at their desks. Furthermore, if the answer was correct, they received praise. A provocative boy, for example, had to leave class, while girls only receive mild reprimands:

Teacher: *"Girls, I have not commented on you today, but this does not mean that I don't see or hear"*.

If a girl was late, she was allowed to sit at her desk without comment. Boys, however, had to excuse themselves, explaining why they were late as they quietly shut the door.

The boys are late and run into the class – shutting the door very noisily.  
Teacher: *"Please, shut the door in an orderly and quiet way – like at home"*.  
Jan: *"But I always shut it at home in such a full swing"*. The teacher: *"Well, I can see that unfortunately several things from home are different in school"*.

It seems like the school's learning environment is more sustainable for girls than for boys.

Jan: *"I would like to talk about hamsters"*. The teacher approves of such a nice beginning: *"What a nice beginning – I would like to!"*

Conditional moods are something feminine and the female teacher approved of a boy who displayed this characteristic, which is quite different from the dominative, commanding voice used by some boys (and by the teacher herself). According to my ethnographical findings, social norms in class are often constructed through the bad behaviour of boys, and noisiness is one of the most common "bad" behaviours.

One major educational problem in Estonia in the 1990s was (and still is) the low academic achievement in grades 7-9, particularly among boys (Heinlo, 2001). According to Table 1, boys have more problems coping with school demands.

Table 1. The dropout rate and grade repeaters in Estonian schools (Statistikaamet [www.stat.ee](http://www.stat.ee), 2006)

Year	Number of students (thousands)		Dropout rate (% of boys)		Class repeaters (% of boys)	
	Grades 1-6	Grades 7-9	Grades 1-9		Grades 1-9	
1995	126	57	1625	(954= 59%)	8224	(5993= 73%)
2000	117	62	1787	(1129=63%)	6067	(4294= 71%)
2003	92	65	1790	(1063=60%)	4249	(3025= 71%)

According to Martin and Tesser (1996), people act to 'be' who they think they ought to be or want to be by using any of several guiding principles implied by the idealized self to which they aspire. After continued criticism, stressing negativity and making new educational mistakes, the self-esteem of students is probably not the very positive, meaning achievement will probably not be as high. Once more, Jämsä (2006) writes: "The explicit meaning of sustainable education points out that the students should be awakened to realize their own responsibility for sustainability". It is probably easier if one is conscious about positive-negative asymmetry and Kahnemans findings. We cannot change human psychology, but sustainable education will be promoted if we understand and accept it; thus avoiding mistakes when possible.

### Socialization through positive reinforcement

We prefer avoiding crises. According to the Oxford English Dictionary, a crisis is "a vitally important or decisive stage in the progress of anything; a turning-point; also a state of affairs in which a decisive change for better or worse is imminent" (Braham, 1988: 16). Thus, teachers can cope with problems in a positive, rather than negative fashion. During this research I also noticed the benefit of a positive learning environment: the virtuous cycle is possible when socialization takes place through supportive reinforcement. The teacher recalls the beginning:

*I began by helping children positively self-evaluate themselves. The first weeks passed with me consistently suggesting they were good students. I had to shape healthy attitudes toward learning and behaviour. Unfortunately, in attempting to change attitudes, I sensed the children were "closed" and passive. Only two or three children consistently worked with me during the lessons. We discussed the children's positive aspects and what we felt might be improved. We then drew up class rules, established a tradition of celebrating birthdays, and elected a head of the class, as well as other active roles.*

*Above all, I tried to create a joyful atmosphere in the class by creating a positive attitude toward learning by continuously stressing how good the children were. I all of the sudden noticed a miracle had taken place: the children needed to talk and they gained satisfaction in doing things. Evidently, they had been kept silent by force in the past.*

*I had to find tasks for everyone – an evening party enabled this. For instance, the two most silent girls in the class turned out to be the best or-*

*ganizers. In order to satisfy the need for communication and performance, special class activities were organized once a month.*

Success in this class was promoted by an emotional, personal relation that was formed with the students. The teacher used several means to achieve this goal, including looking at students in a friendlier way, using their first names, speaking in a moderate voice, and providing physical contact such as stroking or patting their shoulders. The teacher ultimately opened up:

What thoughts she came to work with in the morning:

*Beautiful, clean snow and the full moon created today a very special feeling.*

What her own family did:

*My daughter and granddaughter learned to read through my writing letters to them.*

What she was like as a child:

*My favourite subjects were history and literature.*

How she prepared the lessons:

*Yesterday night until two o'clock I prepared group work tasks for you, because I love you so much.*

Experiencing this kind of humanity in the teacher, children opened up as well. They became bolder and more trustful as they shared their sorrows and joys. The teacher passed from being an authoritarian teacher to a friend. The good teacher knew that effective pedagogy should not be limited to the classroom. The following stories suggest satisfaction with successes that she had with problematic children by acting as a play therapist.

*The teacher decided to go into the play yard with the boy instead of studying. It was a beautiful winter day. She suggested that the boy build a snowman with her. Then Yan looked at the teacher for the very first time with a sincere and happy face. "I was happy that I got him to speak!" – recalls the teacher. The boy talked very little about his impressions, but he talked nevertheless. In the yard they decided to remain friends.*

Thus joy, play, and pleasure help to solve the school tensions. The shortcomings and problems caused by the ordinary school have to be remedied by a different therapy, which is practiced in special education (Leino, 2002a: 54; Leino, 2002b: 105).

Behaviour is a product of internal and external factors. This is the environment of physiological needs, real or imagined, attitudes to the behaviour and communications of others, emotional states, creative capacities and so on (Smyth, 1988: 36). Teachers teach better if they have the intention of being friendly and good.

## Discussion

Student expectations of the school greatly differ among individuals and not all children adapt well to a school culture that primarily stresses middle class values (Silvennoinen, 1992). Students from working class families suffer a much higher failure rate than others because the institution values certain kinds of students. To cope with this disparity, these children create a subculture with values that provide them some degree of success and a better position (Kivirauma, 1995). However, the subculture often does not coincide with the social standards and norms of the school, where the ideal student is polite, orderly, and well trained. Often, students with the ‘wrong’ subculture receive more criticism from teachers who consciously or subconsciously attempt to impose middle class values.

The middle class values of Estonia mean having (or working toward) a good workplace and coping with one’s own life – and teachers place great importance on this. Students who are considered “bad” face threats of not being admitted into secondary school, which in Estonia characterizes them as outcasts. A concrete example of this is that adult education programs in Estonia are located only in larger cities. Because unsuccessful citizens sometimes represent a burden to the taxpayers, they often suffer from criticism and ostracism, beginning in their early years. The Estonian school system’s concept of a ‘proper citizen’ appears to be a Soviet-style, obedient factory worker. Unidirectional communication from the teacher to the students does not permit much dialogue and individual reflection. The ‘previous’ educational system was also very similar in nature. Contemporary Estonian society, however, requires independent and creative people to sustain its development. This necessity probably creates tension between the sometimes conflicting needs of freedom and control in Nordic schools as well (Gordon et al., 2000; Leino & Lahelma, 2002). However, post-Soviet countries have undergone intensive societal changes in a relatively short time.

School is one of the most important periods in a child’s life and pedagogy, by definition, is a process in which something of value is passed on from the teacher to the student. Children depend on significant persons who set boundaries. People’s identities, in part, are based on the sum of positive and negative comments, but according to positive-negative asymmetry, negative comments have more influence (Ulvinen, 1993). People also generally tend to attribute success to their personal efforts, abilities, and skills, while they often attribute failure to luck, task difficulty, or other external factors. Student performance and teacher behaviours have provided significant evidence of this asymmetry. It has also been shown that actors may give themselves more credit for success and blame themselves less for failure than others who evaluate them (Ross & Anderson, 1985). However, this is not the case for others. Relatively little negative information about a person is sufficient for she/he to be considered as “bad”, while even a positive impression only succeeds in creating a general impression (Lindeman & Mäkelä, 1994). According to Baudrillard, people tend to identify and “fix” differences in other people as soon as they meet. People stress differences much more than their similarities and use this information to set boundaries (Virtanen, 1998). This is an innately human process that is also observable in schools. Bernstein has argued that the *A* can only be *A* if it can effectively insulate itself from *B* (Bernstein, 1996: 20).

Both success and failure are constantly renewed in vicious circles (Salmela-Aro & Nurmi, 2000). The importance of supportive, positive, optimistic learning environment

cannot be underestimated. The concept of psychologically sustainable education requires much future study.

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## **SUSTAINABILITY PEDAGOGY IN PRACTICE: AN EXAMPLE FROM HEALTH EDUCATION**

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### **Abstract**

*At the UN World Summit on Sustainable Development in Johannesburg, the period between 2005 and 2015 was declared to be the decade of sustainability. Therefore, it is important to see the implementation of sustainability pedagogy come to the fore in every country. Putting this into practice may lead to hardships for headmasters and teachers in schools. This process requires changes in behavior and approaches, besides, the development of certain students' skills have to be considered that the institutions have not perceived as their duty so far.*

*To implement the idea of sustainability in education, in every country from elementary to higher education, properly trained and prepared teachers are needed. Post-graduate teacher training, international interchange of experience have to be stressed. Furthermore, to understand the content of sustainability and put it into everyday practice in schools, the activities have to be fact-based, with clear directions and have easily available teacher aids. The article demonstrates method how to implement projects related to healthy nutrition.*

**Key words:** *sustainability pedagogy; health education; postgraduate teacher training; lifelong learning; practical education.*

### **Introduction**

In our fast everyday life, we do not even notice what is going on around us. A dreadful piece of news from the media, acquaintances, or family members make us think and re-evaluate our deeds.

In our civilized world, unfortunately, we do not even know or just ignore what values we are surrounded by, that are natural for us as they belong to the everyday life. Think of drinking water, clean air, food of adequate quantity and quality, physical and mental health above all. Consequently, it is important to establish and preserve an

adequate value system, as protecting our planet is a common duty and responsibility of humankind.

The Environment and Development World Committee (Brundtland Committee) called upon peoples to take common responsibility, in its publication “Our common future” in 1987. In this publication, the expression “sustainable development” was used officially for the first time and the committee forged the role of educators in the implementation of this aim. The document stresses:

*We turn to the youth particularly. All the educators of the world will have a key role in forwarding our report to them. If our urgent message can not reach the present-day parents and decision-makers, we will hazard our children's right to healthy and life-giving environment. If we are not able to translate our words into the language that could be understood by people, whether old or young, and that could reach their heart and mind, we will not be able to carry out the great social changes by the help of which we can set the course of development right* (Brundtland et al., 1987).

To implement the advice of the Brundtland Committee, first of all, the practical elaboration and popularization of sustainability pedagogy is needed. In Hungary the practical performance of sustainability pedagogy is still in its infancy. Many people are not even aware of the concept of sustainable development, as it has turned out from a national survey. According to that survey, focusing on children between 9 and 11 years of age, sustainable development is just a physical concept, which means to hold or lift something up. The second meaning, according to the children participating in the survey, is related to the sustainer of a family or institution (Havas, 2001).

However, we believe that the interpretation of sustainable development is correct only if we admit that it also includes social, economic, and political elements. Thus, sustainability must be examined in accordance with at least three systems: environmental, social, and economic ones (Wheeler & Bijur, 2000, Lakatos, 2002).

In order to implement sustainability pedagogy, a system approach is needed in education. To carry this out, we must transform our knowledge-centered education into teaching/learning process based on experience, for which the relevant attitude and skills need to be established. The following sentence clearly highlights the need for sustainability pedagogy: “Many of us think that education on sustainability is an actual matter of developing education. Well, in the 21<sup>st</sup> century it seems that it is the agenda itself ” (Orr, 1998).

Considering the above mentioned, in the life of teachers an essential problem can be the question of when and how to deal with sustainability pedagogy. Primarily, they must understand that educating sustainability is not an extra subject in the timetable and moreover, it is not a subject where accomplishment is measured and rewarded with marks. The idea of sustainable development must be part of our everyday life, which is mediated to the students by the atmosphere of educational institutions and the personality and good example of educators (Harris, 2004).

It is important that all the staff at school be aware of the importance of conveying values, since during teaching sustainability, isolation between different sciences disappears. We must understand and reject the common practice in environmental education that it is the duty of teachers of natural sciences solely, for it is a common duty and

responsibility. As it is a study process, it does not begin within the educational institution and does not come to an end when the students finish their studies at school.

### **The practice of sustainability pedagogy**

Sustainability pedagogy must yield positive changes in attitudes and behavior. To this end, different skills and abilities must be established. The publication that appeared after the UNESCO's conference in Johannesburg lists the following *skills*:

- criticism
- creativity
- communication
- cooperation
- crisis management
- decision-making
- evaluation
- use of new technologies
- social participation

The same document includes the attitudes, values, and knowledge needed for sustainability pedagogy.

#### *Values and attitudes:*

- respect of life on Earth in its diversity
- care and sense of fellowship with living beings, showing understanding, respect and love towards them
- building peaceful society on the principle of democratic, or just, sustainable, social participation
- aiming at preserving the beauties of Planet Earth

#### *Knowledge:*

- concept of sustainable development
- the principle of interdependence
- essential human needs
- human rights
- democracy
- relation between local and global matters
- biological diversity
- ecological footprint
- principle of precaution (UNESCO, 2002).

As it is obvious from the listing, teaching sustainable development is a really complex task, which, we might think, is a serious challenge to most of us. We must evolve in the students several abilities and skills which were probably not considered to be a tasks by all educational institutions. Certainly, the enumerated knowledge listed above has to be incorporated in subjects, and the possible methodological questions and the missing educational aids have not been even mentioned yet.

## **Possibilities of implementing sustainability pedagogy**

In Hungary, the National Core Curriculum (NCC), which is in complete accordance with Tbilisi document, was introduced in 1997-98. The National Core Curriculum is the central regulatory document concerning the content of curricula in public education. This document, in its chapter about common requirements in different fields of education, dealt with environmental education, then its version updated in 2003, distinguished the environmental education among the prior developmental sections.

Meanwhile, in 2002 Framework Curriculum was issued, regulating the content of elementary and secondary education. The articulation of sustainable development in Hungarian educational legislation was present for the first time in this document.

The Framework Curriculum envisages the adding of the knowledge of environmental education in natural science and social science school subjects. A teacher handbook and guidelines for teachers from 1st up to 12th grade have also been created including the detailed content of environmental education in each subject.

Even so, putting the elements of sustainable development into practice is not resolved in many schools. As the results of a survey in 2003 show, regardless of legal regulations, a majority of students do not participate in environmental education. The survey included 52 schools. According to the survey, elementary schools are in the best situation: here 94% of students take part in environmental education on average, however, in some schools this rate was only 30%. In grammar schools, on average, 89% of students, in secondary technical schools 88%, and in vocational schools 62% of students take part in environmental education. In this respect, vocational schools are in the worst situation. Here, according to the results of the survey, this rate is only 10% in some schools (Havas et al., 2004). It is also obvious from the survey, that students in the Hungarian educational system are not aware of the concept of sustainable development.

To solve this urgent problem, it would be useful to get teachers to learn about methods they could easily apply in their teaching. Furthermore, it would certainly be necessary to familiarize them with how to use educational packages and to extend the scope of teaching materials.

## **A possible way to health education**

In this article, we would like to highlight the fact that teaching the elements of sustainable development and evolving skills and abilities mentioned above can be implemented in schools where the teachers do not have a large practical experience, teaching materials are not at their disposal, or they lack supporters within the institution. We are convinced that teachers with their good example, behavior, and creativity will lead the institution to the right path through small visible steps.

In a secondary technical school where the practice of sustainability pedagogy, unfortunately, is still not a part of everyday life, we dealt with topics connected to sustainability on lessons held by class teachers.

The following topics were presented:

- shopping habits – conscious customers;
- ecological footprint;
- poverty-wealth;

- sustainable towns/cities;
- healthy way of life, drugs;
- healthy way of life, alcohol consumption;
- healthy way of life, smoking;
- healthy way of life, healthy nutrition.

In this article we will demonstrate one possible method how to implement projects related to healthy nutrition. Through it, we also would like to remind other teachers that health education must constitute an integral part of education on sustainability, for we can not talk about sustainability without healthy environment and healthy humans.

The length of time for implementation of this project is determined by the composition and interests of the study group. For this reason, we do not give a certain number of lessons, as in practice you will have to decide how much time you should spend with this and similar projects.

If we apply a system approach, it is recommended to deal with sustainable cities first, then with shopping habits and healthy nutrition afterwards. You will realize that these topics have many common features, and it would be a great fault to deal with these separately. If we just think it over, our habitation in many cases defines our way of life, or at least it greatly affects it, from which our shopping habits emerge, and from these unambiguously our eating habits arise.

To work on the topic you will need: calorie chart, pictures of abnormally thin and overweight men, women, teenagers, and children, scale, tape-measure, calculator, frequently bought foods or their packaging collected in a box/basket (for example: biscuits, crisps, milk, tinned meat, bakery products, vegetables, fruit, soft drinks), solely healthy foods collected in a box/basket (vegetables, fruit, dairy products), whiteboard, wrapping paper, sheets, colored pens/chalk.

Initially, we ask the students to form teams, especially working in a class with a higher number of students. It is recommended that students form their teams with the teacher being aware of the exclusion of any pupils. We give a sheet of paper for each team and ask them to remember how many times and what they ate the day before and then to write it on the sheet. After it, we should discuss it together and write everything on the whiteboard, so that students can see how many students had breakfast, how many ate something two, three, or five times the day before, who had dinner and who did not (the questions can be altered freely). After this, we hand out each group a calorie chart. We recommend a use of calorie chart that includes precise data of the most frequently consumed edibles referring to 100 grams. Using it, we can easily count the amount of energy consumed by the body and specify the rate of each nutriment (protein, carbohydrate, fat) reaching our body. On these grounds, we can judge the quality of our eating habits. It is not difficult to find a calorie chart like this on the Internet or in special books on nutrition (Barna, 1996).

Then we ask the teams to count how many calories they get during one meal. When they are ready, we also talk about it together comparing the amount of necessary calories to the amount of calorie taken. We count the number of students who are “over or under the limits”. Then, every team choose one or two items of food they like from the baskets and study what these foods contain. If we are the experts in biology, or in chemistry, we can talk about how these components affect the human body. If we are not the experts, we might call a specialist (dieticians, health visitors) or use the Internet. If these possibilities are not available, we continue to ask students to find

components that can be found in many foods consumed by them. Next, every team select something from the baskets containing only healthy foods, and they learn about the components of these items comparing with the ones examined before. Then, we discuss their experience.

Before the next task, we put the pictures of thin and overweight persons in a visible place. We put the question how these states of health could have evolve, what consequences they could have, and how we can prevent them. Here, the question must emerge that how it is possible to decide whether a person is thin, overweight, or has an ideal body weight. As the experience shows, the students are usually acquainted with the concept of body weight index, however, we must describe it if they are not, and familiarize them with the easy method of how to count it.

Table 1. Counting body weight index (Barna, 1996)

<p><b>Body weight index (BWI)</b></p> <p>It is an easy calculation with the help of which you can quickly find out if you are thin, have an ideal weight, or you should lose some kilos.</p> <p><b>BWI= weight (kg)/height (m)<sup>2</sup></b></p> <p><b>You are thin: <math>d \leq 20</math></b></p> <p><b>Ideal weight: 20-25</b></p> <p><b>You have some kilos surplus: <math>25 &lt;</math></b></p> <p>For example: let's take a 60-kilo and 170-cm (=1,7m) tall person: <math>60/1,7^2=20,76</math> that is he/she has ideal weight.</p>
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Afterwards, everyone gets the chance to scale their body weight and measure their height with the help of a tape-measure so that they could count their own body weight index and draw a conclusion. Finally, we can make a little card together, including the basic rules of healthy nutrition.

In our opinion, these lessons could serve to improve different skills, especially for students to improve their communication, cooperation, and evaluation skills.

### Some insights on project implementation on healthy nutrition

Describing the project in details, we are providing some teaching materials which can be immediately applied, probably in expanded or altered way, as the teacher wishes by taking into consideration the students' personality and habits.

When implementing the project, teachers have to be prepared that students come from different family background and have been brought up in different ways. In other words, their habits and diets may differ in a great extent. The claim to healthy nutrition and healthy way of living is an asset that together with other values will transform into a value system. The ranking of health in the value system is influenced by a great number of factors. In case of teenagers, circles of friends, contemporaries, or media play an important role in habit formation. These factors may influence healthy behavior both in a positive and negative way. Knowing all these facts, the teacher in charge of the project has to be prepared for possible conflicts and be ready to solve them.

In our present project, 28 students (20 boys and 8 girls) took part. They were quite open-minded and interested in the topic and participated in the common tasks with pleasure. During the discussions after the first task, it became clear that most of them take a meal irregularly. They often miss the main meal that is lunch in most cases. They explained it by their busy weekdays when out of school activities, coaching, and music lessons are regularly scheduled. Many times they feel hunger that probably influences their concentration negatively and leads to tiredness (Miles & Eid, 1997). Four students indicated that they have breakfast regularly at home before leaving for school; the others have breakfast at school before the first lesson or in one of the breaks. It could contribute to obesity as a risk factor, as those who leave breakfast tend to pick during the day (Resnicow, 1991).

During this project, it became obvious that the greatest inadequacy is found in the knowledge of both girls and boys about the constituents of edibles and the role of ingredients. Girls consider their physical appearance attuned with the expectations of our society as very important. In order to reach it, they consciously try to take healthy nourishment. Due to just this, the girls are most interested in the amount of fat in food. On the other hand, they do not care about the amount of sugar or sugar syrup in each product. Recognizing that low fat products are not analogical to the low calorie edibles really astonished them.

Everyone counted his body weight index and the results did not surprise the boys. However, many of the girls had to realize that their index numbers are normal, so they are not obese at all.

Two boys gave an account of their experiences in primary school. They were overweight, were made fun of by their classmates and often overlooked during ball games. Not even their study performance was good and they really did not like going to school. They added that their parents did not think they were obese. Then, some health problem led to a change in their lifestyles with the help of a specialist. Since then they have been doing sports regularly and consciously paying attention to nutrition. Both of them are overjoyed that they have had no problem with their weight during their secondary school years and for this reason they fit in very well in the school community.

Carrying out the project was not a difficult task since there were neither too skinny nor overweight children in the group. The children did a great job drawing up the reasons of under and over-nutrition. Among others, they mentioned advertisements, circles of friends, family habits and rigidity of these, fast food restaurants, busy parents, the impact of models in magazines that can be both positive and negative. They were astonished at the fact that irregular meals may result in serious diseases such as gastric ulcer, duodenum ulcer, heart and vascular diseases. Two of the students gave a precise account of their decision, namely that they would try to change and call their family members' attention to the dangers of their ways of life.

In order to make health education efficient, we must find the values supporting health whose influence will encourage the change of lifestyle. These supporting values are interpersonal contacts, problem solving, and flexible handling of conflicts (Meleg, 2002).

Students must understand that their everyday lives are not formed by outer circumstances, but life can be altered and pre-planned by themselves, for which they are responsible (Meleg, 2002). It can only be implemented with the personal example of the teacher and with the cooperation of teachers and health care specialists.

## Conclusion

We chose to present the example of this project as it draws the attention to the importance of health education that must constitute an essential part of education on sustainability. As we know, the Hungarian inhabitants' state of health is by far inadequate. In Hungary, the first two causes of death are cardiovascular system diseases and tumors. In the evolution of both diseases, unhealthy way of life, within this unhealthy nutrition, has a really significant risk factor (Antal et al., 2003). The consequences of unsuitable nutrition in childhood affect the state of health on a long term, and they can cause enduring impairment in the operation of the body. Therefore, application of this and similar projects is really important in educational institutions from elementary to higher education.

We would like to emphasize the role and responsibility of higher education, and especially of teacher training at this field. In this regard the practice-based postgraduate teacher training which does not address the science teachers only, and where participants could learn playful, easily attained, simple methods that they could easily apply during their work at school can not be underestimated. In this way, during their everyday work they could successfully contribute to the efficient education of future generations. Development of sustainability pedagogy is a responsibility for every member of educational community and this article could raise awareness that it is a feasible and accessible course.

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