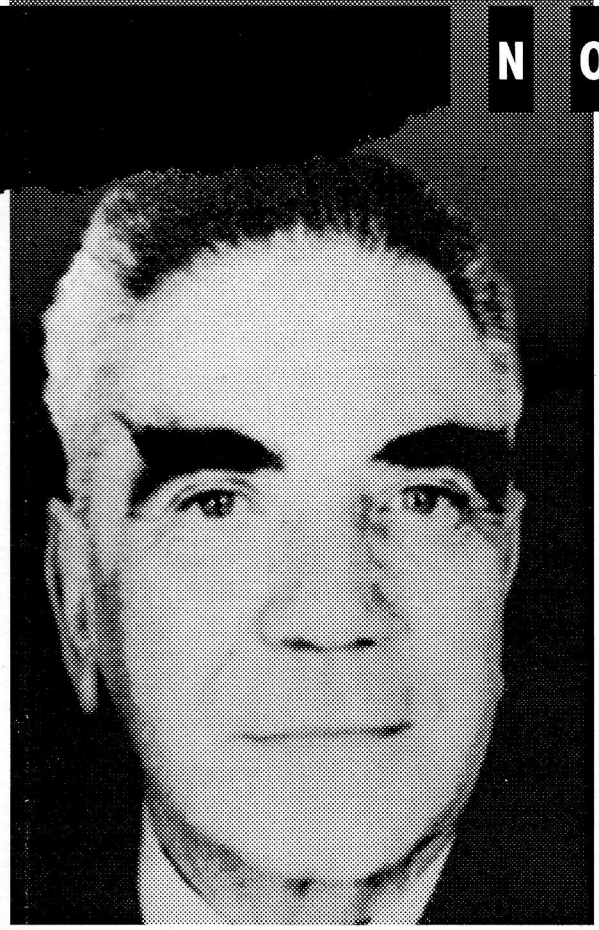
DRUŠTVO ANTROPOLOGOV SLOVENIJE
SLOVENE ANTHROPOLOGICAL SOCIETY

ANTHROPOLOGICAL NOTEBOOKS



year VI, no. 1

EDUCATIONAL ANTHROPOLOGY
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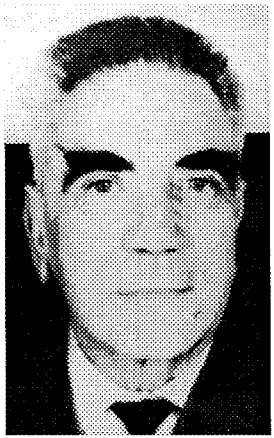
LJUBLJANA 2000



STANKO

1901 • 1987

GOGALA

Stanko Gogala (1901-1987) held a PhD in philosophy. He taught at the Teacher Training College in Ljubljana. He was a professor of pedagogy at the Faculty of Arts and from 1964-66 a dean of the Faculty as well. He published in scientific journals **Popotnik, Sodobna pedagogika, Čas, Pedagoški zbornik**. He considered pedagogy as a science of the enculturation of a young human being. The educational process is a cultural process when the objective spirit grows into the subjective child's spirit - see also Hegel. Thus the child becomes his/her true self, his/her self-image. The conflict between society and the individual is solved by making social interests his/hers, and vice versa. He was against overloading pupils or students with learning content. He supported the growing importance of general education in the framework of professional education, namely in the education of teachers. He stressed the relevance of the experienced educational process and the significance of critical thinking for pupils and students. Knowing the relativity of conceptions, he cherished tolerance towards the differently minded.

ANTHROPOLOGICAL NOTEBOOKS VI/1

CONTRIBUTIONS TO THE EDUCATIONAL ANTHROPOLOGY

Edited by Bogomir Novak and Janez Kolenc

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Introduction

Dear reader,

You are holding the first issue of Anthropological Notebooks *dedicated mainly to educational anthropology. This area of research is deficient in Slovenia, especially if compared with the state of the art in other developed countries. Furthermore, there is no Slovene journal dealing only with the problems of this area. Educational anthropology has become an interdisciplinary area of research and it embraces cultural, social and psychological anthropology, philosophy of education as well as other disciplines comprised in the changing identity of pedagogy, which can be differently defined and understood. It covers a wide range of research problems concerning particular problems of the school culture and of education in its broader context.*

*The contributions in this journal are not closely concerned with the formal definitions of educational anthropology but, rather, they try to analyse some of its problems from the content point. Thus they may be taken as a sequel to the setting forth of the problems dwelt on by the first and the most distinguished Slovene researcher of educational anthropology - Dr. Franc Pediček (*1922). He considers the task of educational anthropology as making a topic out of lifelong learning and lifelong education (i.e. from one's birth to death). Therefore, he directs his efforts into differentiation of the research in educational anthropology, mainly in the make-up of human beings during the phases of their development: from child-pedagogy, and science dealing with youngsters, to the science concerned with adults and to the seniors. For this reason his papers look into different areas of education, ranging from family and school to the new approaches to the advisory services. His next essential intention has been to methodologically open and make a topic out of the implementation of the holistic school paradigm in comparison with the (post)modern school and curricular reforms.*

Pediček was the first in Slovenia to develop the Marxist educational anthropology based on the humanities, which was oriented towards the established State-influenced, self-management and liberalistic ideology on the education policy. He was in favour of the implementation of the school paradigm. The professional grounds for the researches in education from the educational anthropology perspective had been developed by two Slovene educational scientists - Dr Karel Ozvald and Dr Stanko Gogala.

However, the Slovene school has not seen any substantial moves in the direction of the described educational anthropological concept for the last ten years. Nevertheless, this issue offers some articles treating the problem at some points and giving some answers, too. The articles in this issue aim to cast some light on the topics that are still unknown in to Slovene educational anthropology, and thus to open it up; four foreign and three Slovene authors have contributed their papers.

The articles in this issue are related to the crisis in education (J. Raven), the changed paradigm in teacher education (Y., C. Cheng, B. Novak), the digital world

and dialogical school (D. Rutar), new forms of knowledge and a good teacher (I. Sa Chaves et. al., N. Entwistle et al.) and to the relationship between critical thinking in the school culture and among the educated public (B. Žalec). The abstracts and key words are translated into Slovene so that Slovene readers can benefit from the articles as well. In addition, the reader will find some book reviews (B. Telban, B. Novak), evaluations of some international scientific conferences (T. Tomazo Ravnik, B. Novak), and the study of anthropology at universities (B. Bajd, C. Susanne). This issue of Anthropological Notebooks *includes contributions by foreign participants from ECER Conferences in Edinburgh: N. Entwistle and J. Raven, (both from Edinburgh), I. Sa Chaves (Portugal) and Y., C. Cheng (Hong Kong).*

Editor-In-Chief
Bogomir Novak

EDUCATION FROM THE ANTHROPOLOGICAL POINT OF VIEW

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ABSTRACT

The concept of man is fuzzy, vague and historically open. Trends of the development of the modern world are non-humanistic and quite humanistic. What corresponds best to this anthropological situation is a pluralistic, open education. The central aim of such an education is to produce a critical thinker. Some conditions and possibilities for carrying out this ideal in modernity are concerned.

KEY WORDS: concept of man, open education, critical thinking, religion, educated public.

Pedagogical work must in a sense correspond to a modern concept of man. Our dominating concept[1] of man is fuzzy and prototypical, vague and historically open, potentially in both directions, *in the concept* and *out of the concept*, or, in other words, extensionally relative or changing.

In the classical set theory, for a defined set S, for every object x of the domain it is true that it is either a member of S or it is not a member of S. Membership in the set is not gradual, there are only two possibilities: two values, 1 or 0. In the fuzzy set theory the membership is gradual: the grade of the membership of x in S could be all values between 0 and 1 inclusive, for instance 0.2 and of y 0.7 *etc* (*see* Harrah, 1995; compare also Pavešič, 2000). Intermediate grades are grades of uncertainty. Fuzziness is a characteristic of many of our concepts

The majority of our concepts is prototypical, lacking sharp defining conditions (*see* Thagard, 1993: 19; Hudnik, 1994). Our categories are organised around stereotypical examplars. Category membership is a matter of degree (*see* Heil, 1995). Considerable evidence for this is supplied by the work of E. Rosch, her collaborators and their successors (*see* Rosch et al. 1976). If the question in the experiment is, for instance, "Is x a bird?", and if you show to the tested persons a picture of a sparrow, the reaction time of the affirmative answer is very short. But if you show them a picture of a penguin or of an owl, the reaction time is relatively longer. Sparrows are more stereotypical birds than for instance penguins. I assume that we would get similar results if we made experiments of this type for humans: an average twenty-year-old man is a more stereotypical human than a five months old foe-

1 For a general overview of the views on concepts see Thagard, 1993, especially chapter 2. I think that concepts are mental entities (*see* Thagard, 1993: 18). The list of processes thought to be those in which concepts play a role comprises the following: categorisation, learning, memory, deductive inference, explanation, problem solving, generalisation, analogical inference, language comprehension, language production (*see* Thagard, 1993: 22). Very original definition of conceptual cognition we find in Veber's text *The Problem of Production of Presentations* (*Problem predstavne produkcije*): the phenomena of conceptual presentation are not only the objects of this presentation, but also its reasons or motives (*see* Veber, 1928: 222-223).

tus. An important role is also played by differences in the tested persons or the object(s) of categorisation, including factors such as: race, gender, culture, age, *etc.*.

The relation concept of the stereotypical concept is a family concept. Such concepts were strongly pointed out by the late Wittgenstein.[2] Members of such concepts are connected by family resemblance. Wittgenstein's famous example is the concept of a game. We cannot state the necessary and sufficient conditions as being a token of the concept, and in that sense we cannot define it. Each member has the same properties of the concept, but none (not any class of them) is necessary. This fits very well with the stereotypical view of concepts: there is no set of necessary properties for being, for instance, a game, and the more properties of the game a thing has, the more stereotypical example of a game it is. And in my opinion the concept of a man is also such a family concept.

Man is also a vague concept. The common example of the vague concept (*see* Pelletier & Berkeley, 1995; compare also Pavešič, 2000) is *a bald man*. There are people that are surely not bald and there are people that are certainly bald. But there is a class of people for whom we are not able to decide whether they are bald or not. The boundaries of *being bald* are vague: we are not able to say and to decide in all cases where does baldness begin and where does it stop. Examples of the vague concepts are also *red, high mountain* and, according to my opinion, also *man*. One of the reasons for debates as to where or when the concept of *man* begins - which are especially hot in the discussions on the morality of abortions, - could be the vagueness of the concept *man* itself. We can also imagine that the rapid development of technology would have as a result creatures which would constitute an undecidable class regarding the concept *man*.

Another feature of the concept *man* is its historical openness. This is also true for the concept *work of art*. For a many great things, nowadays reckoned as a work of art, it was totally impossible that it could have been supposed as such in the past. And there are some that are not treated as such anymore, or their artisicity is estimated as being much, much lower than in the past.[3] Just think about the many prejudices which were, and some are still, connected with the concept of man. And also in this case we could conceive that the development of science and technology, and further discoveries would force us to recognize as humans or men or persons, if you like, some creatures, that nowadays are present only in some foggy dreams. In the case of openness of the concept, men, humans or persons are like

2 The doctrine of family resemblance is opposed to semantic essentialism, the doctrine that the proper application of a general term to particular objects demands that these particular objects share the same property. The doctrine of the family resemblance does not deny that there is such a common property; it denies that it must be. Wittgenstein's claim is empirical: there are at least some such terms that their use does not depend on a common property of the objects of their application. Wittgenstein writes : "Instead of pointing out something common to all ... I am saying that these phenomena have no one thing in common on account of which we use the same word for all - but they are *related* to one another in many different ways. ... The result of this examiation is: we see a complicated network of similarities overlapping and criss-crossing. I can think of no better expression to characterise these similarities than 'family resemblance'; for the various resemblance between members of a family: build, features, colour of eyes, gait, temperament, etc. etc. overlap and criss-cross in the same way (Wittgenstein, 1953: 31-2; quoted from Gerrard, 1991)." *See* also Thagard, 1993: 17.

3 "Santayana similarly believed that there is no more to beauty than pleasure miscast as an objective property of what happens to give us pleasure, even if, under different skies, a different order of things may cause individuals to feel pleasure. ... In any case, a philosophy of art, based on beauty and pleasure under European skies in the late nineteenth century would be entirely out of touch with art made under the skies of Modernism. ... A skyless philosophy is what philosophers aspire to, but their actual philosophies, like Santayana's aesthetics, are parochial reflections of specific moments in the history of their subjects. ... The art of Andy Warhol - the Napoleon of my own philosophy of art history - consisted in part of objects that would not have been possible as art a century earlier than their fabrication. *Brillo Box*, of 1964, is to a degree characterised by the fact that it would look like a box of Brillo *under whatever sky*. But only under the Manhattan sky in the 1960s could it have been see as a work of art (Danto, 1999: 1-5)."

works of art. I like very much the view of the concepts centred around the notion of frame. "Frames are symbolic structures that specify for a concept various slots and default values for a slot (Thagard, 1993: 25))".

This is how the situation of the concept of *man* seems to me, if we take into account views in modern analytic or scientific philosophy and in science, especially biological and cognitive, in general. Fuzziness, vagueness and openness are the elements of their corresponding anthropology. We do not have any definition of *man* that would match our actual concept of *a man*.

Another group of problems connected with man that are at least theoretically problematic includes ethical problems which concern mainly our treatment of man. It seems that there could be no ethics, no doctrine about the right or wrong (values) respectively which would be so strongly justified, as is the case in formal and natural sciences.[4] Furthermore, the increasingly realistic possibilities of eugenics, - man's artificial production of himself, - represents a strong challenge to our system of values and judgements of our actions. In the teacher/pupil context this means that we are closely involved in forming or choosing our pupils. We need a code for judging what should, could or may be produced by such anthropo-technology, and who is the subject to decide about these matters in particular cases (*see* Sloterdijk, 1999; Hribar 2000a, 2000b; Šenk, 2000). These are the "non-humanistc" features of the situation and the development of the states of affairs.

But there are, of course, also other views and other aspects of the present situation. One is the trend of the development of society and of politics - at least in the developed, more democratic world, which is quite "humanistic": values such as solidarity, equality, care for the poor, weak and old, ecology are increasingly present, such as an obligation, in the projects of modern societies and their main political subjects, no matter what their "orientation" may be. These are the values of the Christian democrats, moderate left parties (Giddens's third way), social liberals and the like (*see* Giddens, 2000). So there is at least some public consensus about these values in the democratic world. Analogous consensus concerns the dignity of all persons and their basic human rights, which represent the basis for the principle of intervention by the "outer" world in the affairs of some sovereign, but non-democratic country.

So the present situation of man is on the one hand "open" and "uncertain", but, on the other hand, at least in the West, rooted in the conception of the dignity of every person and in respecting her/his basic human rights. What school, what pedagogy, what education does suit this situation? It seems to me that the right answer, at least concerning the laic school, is: pluralistic, open education, education for tolerance and for democracy and for patriotism,[5] for empathy and persons without prejudices, for adultness, and interest in life. It should not be based on imposing on pupils some fixed or particular picture of man, neither religious nor confessional, nor an impatient atheistic one. There should not be stressed only educational contents, but maybe in the first line an attitude or disposition; not so much a particular attitude, but if I may put it so, above all some total or general attitude. One of

4 The justification of this impossibility depends of course on the theory or philosophy of science, which one accepts. I think that, roughly, the Quinean view on science is correct and I found Quine's argumentation for the impossibility based on the premise that there are no observational sentences of ethics quite convincing (*see* Quine, 1979; Žalec, 1994). For the criticism of the Quine's thesis *see* White, 1986, for Quine's reply to the criticism *see* Quine, 1986.

5 We should keep apart nationalism and patriotism. It seems that a certain degree of patriotism is necesseary for democratic society and therefore education cannot be indiferent to it (*see* Taylor, 1995: 194-202; Žalec, 2000b: 121-124).

the names for such an attitude is critical thinking, and one of the most important contemporary writers about critical thinking is the American philosopher Harvey Siegel.

Pace Siegel, a shaping and developing of critical thinking is the basic and the top purpose of education. Critical thinking is a moral obligation and the central purpose of education. It is strongly connected with rationality. To be rational is, roughly said, to have good reasons. For critical thinking it is not enough to have some skills or the knowledge how, and abilities, which enable us to evaluate the reasons properly. The critical thinking person must also have certain dispositions and some habits of mind and the adequate character features. The thinking and acting of critical thinking must be, in a proper way, moved by good reasons. A legitimate philosophical task is to defend the development of rationality and of critical thinking (in school), and besides this also the questioning about possibilities (to what extent) and about ways of carrying out and achieving the purpose.

Siegel defines a critical thinker as a person who is in a certain sense moved by reasons. The critical thinking has two components: 1) the component for estimating the reasons, 2) critical reason. To the first component belong skills and faculties, which make possible an adequate evaluation of reasons. The second component is constituted of dispositions, mental habits and features of the character of a person. A critical thinker should not only be capable, but always also prepared to correctly estimate the reasons by habit. He must live a life in which reasons play the central role. Siegel is stressing two things: 1) reasons have an evidential power, 2) reasons have a normative effect. These two are the key features of reason (*see* RR: 4)[6] and both are embraced in the concept of a critical thinker as a person adequately moved by reasons. In *Educating reason* Siegel has brought forward four reasons for the claim (*see* Siegel, 1988: 55-61), that critical thinking is a fundamental aim of education:

1. respecting students or pupils as persons,
2. self-sufficiency and preparation for adultness,
3. introduction to the rational traditions,
4. democratic life.

Siegel's view of education originates in the views of the enlightenment, and is connected with epistemology, because rationality is at the bottom an epistemological concept. So epistemology should be introduced in the education of a critical thinker. Siegel set five reasons for doing so (*see* RR: 24):

1. Epistemology motivates pupils. It seems to them challenging and interesting.
2. Introducing epistemology in the course of the critical thinking gives the course a content. It is not any more only a course in skills.
3. Epistemology is important if we want pupils to understand what we teach them: why we should avoid mistakes in thinking, and why we should provide the evidence for our claims.

6 Here, and in the following text, I will use 'RR' for Siegel, 1997.

4) It helps pupils to see that the course of critical thinking - also a justification for its introduction into the curriculum - is founded on epistemology. This helps pupils to reach a more integral insight into nature and the sense of the course in critical thinking.

5) By placing epistemology in the course of critical thinking we enable pupils to question in an articulated way critical thinking itself, and so we remain loyal to the principles of critical thinking.

If the components of the estimation of the reasons and of critical reason are really the central constituents of critical thinking, we could break the question of generalizability of critical thinking into two separated questions that concern the generalisability of both components. The practical question is how we could best teach students to think critically. The abstract or theoretical question concerns the nature and the applicability of the skills and the criteria for estimating the reasons. Siegel claims that the skills and criteria for estimating reasons are partly generalisible, but epistemology - on which critical thinking is grounded - and critical reason are generalisible on the whole (*see* RR: 27).

Siegel speaks in favour of the rational theory of education, which offers an opposition to the understanding of teachers and pupils as automata (*see* RR: 44-46). According to this theory, to teach somebody that something is so and so does not mean just preparing a person to believe us: deception, for instance, is not a form of teaching. To teach a person that something is so and so, means that the person - because of the reasons that are our reasons – believes this. To teach means that we reveal our reasons to the pupils, and by this we subject them to the evaluation and critique of reason. To teach means to acknowledge the pupil's demand for judging on the basis of reasons (*see* Schefler, 1960: 57 - 58). But teaching does not demand that what we teach must be true. It also allows for the teaching of what is false.

Siegel has, interestingly, completed his theory of critical thinking by his concept of felt reason (*see* RR: 47-52). The felt reasons have an important role in education, especially in education, the goal of which is to develop the rational dispositions, attitudes and faculties in persons. Siegel takes as an example Dostoievsky's novel *The Brothers Karamazov.* What does Dostoievsky teach us? In the novel we find views about God, religion, morality, psychology, the state, nature *etc.*, that are very well known from the philosophical literature. But what is in a specific novelistic way shown in the novel is that these big questions are important for our lives, and could be important in such a degree as they are important for the lives Ivan or Aljoša. Dostoievsky succeeded in making us feel the directing and normative force of the reasons. By this the philosophical questions and answers to them become alive, although both are not new at all.[7]

In literature we find two accounts on critical thinking. The first regards skills as sufficient for critical thinking, but the partisans of the second stress also the necessity of the adequate character for a critical thinker. One of the main arguments against the first position is that it allows the sophist - a person, whose aim is not knowledge, but only manipulating with arguments for some other interest - to pass for a critical thinker. Only the skill thinker is not yet a critical thinker (*see* RR: 65-67).

7 This does not mean that I am reducing the value of literature to its possible didactic function.

Prejudices, according to Siegel, are incompatible with critical thinking. The necessary condition for the prejudice is the lack of critical reflection. Even more: the prejudice is "guarded" from reflection because it suits certain interests of the believer. The believing person actively protects her/his prejudiced belief from the "damaging" evidence. Prejudices violate both components of critical thinking: they are incompatible with the use of the skills of the evaluation of the reasons and with the attitudes, dispositions, habits and features of the character that constitute a critical mind. If somebody incorrectly generalizes, overlooks or ignores the opposing evidence she/he violates the rules of the evaluation of reasons. People with prejudices does not look for the evidence which would place in question their beliefs.

Education for critical thinking therefore eliminates prejudices by developing the skills of evaluation of reasons. The dimension of critical thinking, which is especially relevant in the struggle with prejudices, is the attitude of a critical thinker towards the ideal of respect for persons. To be without prejudices towards the persons who are different from us is to posses a certain moral sensitivity. This means being capable of the state of empathy in regard to such persons, to be able to understand how they feel as the victims of the prejudices. To help pupils to develop the sensitivity for the situation of the other, of different persons, is to help pupils to learn to treat other people as persons, and this is a part of the process of raising somebody into a critical thinker.

Although it seems that there is no doubt about a critical thinker being one of the central aims of the education in modern school, there are of course some problems connected with the way of realising or reaching the ideal.

The first group of problems concerns some special educational contents, above all some religious contents. It is beyond doubt that the modern open education for critical thinking should include in its educational contents some religious topics. Religion is an important part of our past, of our present and, it seems, also of our future. What is posing a problem is that it seems that, in order to be able to understand properly some religious facts, we must personally experience things of the relevant kind. If we direct our attention too positivistically to some religious facts, it seems that we miss just those things that are essential for religion. But on the other hand a modern laic school should present to the pupils some objective corpus of knowledge and should not "brainwash" the pupils. The line of thinking that entertains the scruple is the following: if you do not experience certain things, you do not know what for instance Christianity, in its essence, is. If you do experience it, your "brain is washed", you are "damaged" as a critical thinker.

The crux of the problem is psychological, it has to do with religious experience. We should analyse the group of religious experience and try to husk the core of it. One thing that seems to me extremely important to notice in this context is the distinction between the primal religious feelings and the confessions (*see* Veber, 1923). The internal core of true religion consists of the nonconfessional feelings, which are primal also in the genetic sense, in both ontogenetic and filogenetic respects. The object of these feelings is transcendence, a "world" which is so radically different from ours that we define or describe it mainly negatively, as something that is beyond all imagination, a very big, huge, proper and really true mystery. In that world the believers project their truly good and important life, whereas this "earthly" life is at best a bridge or a means to the transcendence. The importance of the earthly life is evaluated solely in respect to the transcendence, which is the real sense of our being. These primal religious feelings are doubtless compatible with the justified beliefs of a critical thinker and with science, and were and are shared by many truly critical thinkers.

The essence of the confession is in describing, determining or defining this big mystery. Throughout history, confessions were in stronger or milder opposition to the scientific beliefs and therefore also to the beliefs of a critical thinker. But confessional experiences and beliefs are secondary and not really essential for religion. What pupils should be acquainted with in the modern school, and what is reachable only through some kind of feeling or experience, are these primal religious feelings, not the confessional. Confessional beliefs are in some contexts important and should find a relevant place in school, but they and their meanings should be evaluated as any other beliefs or meanings respectively. What in modern school should be avoided is a dogmatic confessionalism, a dogmatic and rough anti-religious attitude and a dogmatic mysticism.

The acquaintance with the fact that life is radically mysterious - not mysterious only in the sense of some scientific questions- is, I believe, extremely important from the moral point of view.

Critical thinking is aiming for knowledge and so *eo ipso* aiming for the truth. To be a critical thinker you need courage on the one side and reason, weightiness and realism on the other. Critical thinking is, therefore, a rational tendency to the truth. And courage, reason and the truth are the central values of every culture of some importance. A characteristic feature of every great culture is also to see through the idol of practicality, through the idolatry of practicality in the sense of positive valuation of only material goods. Culture is like a spider's web: though invisible it is of the strongest and most inconceivable cohesiveness. What we will be able to pass on to the following generations is of the same "substance" as Sophocles' Antigona and Oedipus Rex, Mozart's and Beethoven's symphonies, Michelangelo's David and also Newton's and Einstein's physics; in a word, spiritual goods. These goods are the aim on their own, and they surpass the mind which realises everything only practically. Economy and wealth, which in a sense enabled us to achieve these spiritual goods, are never the purpose but only the means, although they seem so inevitable and important from the ordinary point of view. Our attention to this fact was also drawn by the Slovenian philosopher France Veber. To loose the awareness of this fact can lead to economic individualism or even more terrible collectivism (*see* Veber, 1979).

The essential part of critical thinking is reflection. Although we have often too much information, I am deeply convinced that the goal of the human life is to be well-informed, and *sapere aude* and reflection are the maxim and driving power of the human progress. But partial and incomplete reflection is sometimes worse than ignorance. Such thinking can give birth to nihilism and cynicism, which have gained mastery over the modern world to a too great extent. Yet tackling and prevailing over cynicism is possible only with another form of that what has to some extent helped to form the two: with reflection. Only with the proper culture is it possible for the human race to intuit the *telos* of its existence under the firmament of modern uncertainty.

Life is mysterious, this is impossible to avoid, and we have to be aware of it; otherwise, - and history shows this to us with a fearful persuasiveness,- the human race could find itself with lightning-like rapidity in an impetuous swirl of thrilling happenings which, as their final consequence, could bring the human race to destruction. So we find ourselves in front of a paradoxical thesis in our reflection: maybe the greatest value of critical thinking is in the inaccessibleness of answers to the question to which it calls attention, and to which it responds, in a certain uncertainty of its knowledge. With this it teaches us to be modest and humble on the one hand and to tend towards sensible and clever thinking and acting on the other. "I know that I don't know anything", *docta ignorantia* are profound

words, the meaning of which is never forgotten by a truly critical thinker. This is not an individual attitude or tendency; this is at most, if I can say so, the total attitude of critical thinkers from Socrates on.

Another group of problems in carrying out the ideal of a critical thinker has primarily a social nature. We can distinguish between teaching in the sense of carrying on some material knowledge, and teaching in the sense of giving some functional knowledge, of forming a critical thinker, of critical education. There are three essential factors for teachers to carry on the critical education: autonomy, expert knowledge and responsibility. Poverty, and a strong autocratic tradition could be very hindering. Some paternalistic traditions are very hostile to critical education, while on the other side the atmosphere of partnership is very stimulating for critical education. It is very important, for instance, that pupils feel the school they visit as their school, as a place, where their desires and opinions are not always (fully) accepted, but where they are at least taken into consideration. In this respect a good school is like a good state. Also informal education is very important. Doubtless these are crucial factors in critical thinking, and I am aware that the list of similar social factors is much longer. Each of them deserves proper consideration, but I wish to concentrate on one not mentioned above - the role of educated public.[8]

The educated public is a necessary condition for the existence of critical thinking in society. Also scientific circles need some corrective. No one is so critical on his/her own as to be able to survive and remain so critical without a test, a feedback, a corrective from other people. No one is "a saint" in the sense of critical thinking that could remain "pure", without a public. The educated public should not be confounded with an expert scientific community; we should discern these two things and distinguish the two concepts. There is no doubt that nowadays we have very developed scientific communities, specialised in one scientific topic, speaking more or less specialised scientific idioms marked by ontological relativity etc. Never in the past was science so developed and so specialised. It is questionable if that can also be said of the educated public. The educated public is not a set of experts but it is a set of laymen or a set of heterogenic professional profiles. The scientific communities could contribute to some degree to the forming of critical thinking in society, but they are far from being sufficient without the educated public. They are too specialised in some narrow field, and they are closed in very narrow professional circles. One might be able to flourish in such a narrow professional community-of-thought by sticking to the (critical) rules of this community, and yet still not be by any means a critical thinker. Such a person could be called a noncritical specialist (ger. *Fachmann*). Although science needs autonomy

8 According to MacIntyre, there are two goals set before a teacher in the modern West: to prepare a young person for a certain social role and to raise him into a critical thinker (using our terminology). MacIntyre claims that modernity is excluding the possibility of an educated public and *eo ipso* of reaching of the second goal of education. He listed three necessary conditions for an educated public: 1) sufficiently big class of individuals with an education that enables them active participation in a rational debate. They must be aware that the question discussed has practical, generally important consequences for their common social life and that they represent the public. These features distinguish them from an expert group and from a passive crowd that constitute only an audience for discussions with other people. 2) The common agreement about the standards of discussion and about the acceptable form of rational justification of the claims. The prevalence of a certain sort of dogmatism or scepticism could make constructive activity of the educated public totally impossible. 3) The background of a large class of common beliefs and attitudes, based on the massive reading of a set of texts, that pass for canonical inside a community - and this is possible only if there is established some interpretative understanding as to how these texts should be read and understood. MacIntyre decribes factors that destroyed the educated public in Scotland in the 18th century, and claims that still active causes of destruction of the Scottish educated public and their consequences are the guarantee for (the concept of) an educated public having no influence on the life in modern society. At its best it is a phantasm that frightens educating systems (*see* Macintyre, 1997).

and although there should be no democracy in science, it is also true that on the other hand the work of the scientific community is strongly nontransparent and being subjected to the educated public in a clever mode that could have some positive effects in this direction. The actual effect of the work of (particular members) of the scientific community could become more transparent.

The scientific community is full of people who survive because they stick to some basic rules of their scientific environment and because they do not contribute anything by themselves or because their work is not interesting to most people. Also the potential dangers of the scientific work could become more transparent. Round tables, not expert symposia, could contribute to such transparency. But you need the educated public for round tables. The educated public is also the source of experts. The educated public forces the scientific communities to take into account the aspects of their work which they probably otherwise would not notice. It forces them to become more critical in the sense of taking into account the whole situation and not only one segment of it. Also, to be a critical thinker in one field, you have to be critical in general. For a critical discussion in specialised scientific communities only the scientific knowledge is important, but to participate in discussion with the educated public some expert knowledge is needed, but that is not enough. There should never be forgotten also the danger of technocracy. It seems to me that a more general factor for forming a critical thinker is therefore the educated public and not the scientific community. But regardless of the attitude to the question of which factor is more important, the scientific community or the educated public, it seems doubtless that the educated public is also necessary. And the problem of our society is not to establish the scientific community but to establish the educated public.

POVZETEK

Pojem človeka je mehek, nejasen in zgodovinsko odprt. Trendi razvoja sodobnega sveta so po eni strani nehumanistični, po drugi strani pa je položaj precej humanističen. Takšni antropološki situaciji najbolje ustreza pluralistična, odprta edukacija. Osrednji smoter takšne edukacije je kritični mislec. Besedilo obravnava nekatere pogoje in možnosti uresničitve tega ideala v sodobnosti.

KLJUČNE BESEDE: ***pojmovanje človeka, odprta edukacija, kritično mišljenje, religija, izobražena javnost***

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THE CRISIS IN EDUCATION

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ABSTRACT

In this article it will first be demonstrated that those persons are correct who think that the educational system should be fostering the competencies which make for enterprise. Thereafter we discuss the often surprising barriers which must be overcome if educational programmes which foster such qualities are to be more widely introduced.

KEY WORDS: crisis in education, educational system, competencies, school goals, teachers, knowledge.

EDUCATION INVOLVES FOSTERING COMPETENCIES RATHER THAN CONVEYING KNOWLEDGE

Most official documents which specify the goals of general education emphasise problem-solving ability, the ability to work with others, enterprise skills, leadership, and the ability to understand and influence what happens in society. This is true for the UK (HMI 1978, 1980; DES 1977, 1985; Scottish Education Department 1965; "Munn" Report 1977; MSC 1984–85; Burgess 1986), the US (Boyer 1983; National Task Force for Economic Growth 1983; National Commission On Excellence In Education 1984) and other countries (Passow, Noah, Eckstein, & Mallea 1976; Little 1983; Marimuthu 1983). These views are echoed in surveys of the opinions of teachers, pupils, parents, employees and employers (Bill, Trew, & Wilson 1974; Raven et al 1975a & b; Raven 1977; Morton-Williams et al 1968; MacBeath, Mearns, Thomson, & How 1981; CES 1977; Flanagan & Russ-Eft 1975; Johnston & Bachman 1976; De Landsheere 1977). The opinions of all of these groups are supported by research into the qualities which are actually required at work and in society (Raven 1984/1997; Flanagan 1976, 1978, 1983; Spencer & Spencer 1993). The qualities which have been mentioned and others like them are required by machine operatives (Flanagan & Burns 1955; ITRU 1979), by navvies (Sykes 1969), by bus drivers (Van Beinum 1965), by small businessmen,[1] by civil servants (Raven 1984/1997),[2] by engineers (Beuret & Webb 1983),

1 See McClelland 1961; Burgess and Pratt 1970; Schwartz 1987

2 What is most noticeable about Schwartz (1987) is that, although he was nominally studying businessmen's responsiveness to changes in their environment, their ultimate success in reaching the objectives the country (i.e. civil servants) had set for them was dependent on the quality of the judgements of civil servants – both in establishing the objectives and in correctly understanding how to manipulate prices and grants in order to get "independent entrepreneurs" to achieve these objectives. Their job is, it seems, to manage both businessmen and the economy.

by doctors (Price et al 1971), by scientists (Taylor & Barron 1963), by managers (Klemp, Munger, & Spencer 1977), and by politicians (Raven 1984/1997). They are also required to use leisure in a satisfying way (Raven, 1984/1997; Flanagan & Russ-Eft 1975) if economic and social development (rather than, for example conflict) is to occur (Benedict 1976; Raven 1977, 1984/1997; McClelland 1961; Graham, Raven, & Smith 1987).

THESE GOALS ARE NEGLECTED BY SCHOOLS

Despite the demonstrated importance of fostering these competencies, values, and understandings, most schools – at least in the UK, France, Belgium, the US, and Australia – do not even attempt to foster them (Raven 1977; HMI 1980; Raven, Johnstone, & Varley 1985; MacBeath et al 1981; Johnston 1973; Bachman, Green, & Wirtanen 1971; Flanagan 1978; Goodlad 1983). As a result, schools are among the least developmental institutions in our society (Flanagan 1978; Grannis 1983; CES 1977; Raven 1977, 1980; Goodlad 1983). More than two thirds of 20-year-olds say they have been better able to identify and develop their talents at work compared with school. Not only do schools generally fail to foster these qualities, many actually stifle them and foster inappropriate beliefs, understandings, and values (Raven 1977; Raven et al 1985; Goodman 1962). The conclusion is that some two thirds of the money spent on secondary and third-level "education" is wasted. Nowhere in the world has efficient full-time secondary education for all been provided. Yet more than 12% of GNP is spent on this "education".

USELESS ACTIVITY IN ITSELF IS NO BAD THING

The fact that we spend so much on a useless activity is not, in itself, a bad thing: the great engines of economic development – the myths which make it possible to organise labour in productive activity – have always involved useless activities. These have included building pyramids and churches, trading in opium or gold, building nuclear "defence" systems, and developing a warehouse, transportation, banking, and accounting system which makes up two thirds of the "cost" of every article (Ekins 1986).

BARRIERS TO CONTINUING TO PROVIDE "USELESS" EDUCATION

There are, however, serious barriers in the way of continuing to offer a costly but useless educational system.[3]

3 This may not be true in America, where there seems to be a greater willingness ignore what is going on, both in the educational system and elsewhere. Indeed it can be argued that American schools may foster the ability to engage in the rhetoric required to justify immoral activity and in this way teach more people to "labour", in Willis's (1977) sense, more effectively than did the British schools he studied.

People now know that the emperor has no clothes

The first of these is that the general population is now well aware that the educational system has been unable to deliver the promised benefits: economic and social development, jobs for all, equality, and the opportunity for each pupil to identify, develop, and get recognition for, his or her talents.

The second is a corollary of the first: more and more people now appreciate that when most educationists speak of developing human potential they are either creating jobs for their colleagues or are engaging in a form of double talk which enables them to legitimise an extremely expensive system which does little more than allocate occupational position and status. (It is more accurately, but less acceptably, described by Jencks (Jencks et al 1973) as a means of legitimating the rationing of privilege"). The public knows both that emperor has no clothes and that he is not to be trusted.

The people can see the emperor's horns

The third reason why it will in future be more difficult to use "education" as a Keynesian hole-digging-and-filling operation is that many people now understand the horns of the certification dilemma. It has, on the one hand, become obvious both that examination courses do not foster many useful competencies and that examination passes do not testify to the possession of important competencies (Raven 1980; CES 1977). This has fuelled the vast, multi-billion dollar, international "competency-oriented education" movement which finds expression in the phrase "people should learn to do things which will be useful to them in their later lives". On the other hand, it has become clear that educational "qualifications" are used to control competition for jobs and thus create protected occupations whose members are able to command high salaries because of the "shortage" of "qualified" personnel (Berg 1973; Collins 1979; Broadfoot 1979, 1983). As a result, certificates which afford entry to protected occupations have great economic value. People are therefore prepared to pay heavily for an opportunity to compete for them – especially when teachers claim to be able to help them to compete successfully. As the public has become aware of this dilemma they have demanded a more cost-effective, "no frills", educational system and emphasised the need for a single, clear, and unarguable criterion of merit for allocating position and status.[4] This has resulted in the *British National Curriculum* and common system of examinations, and in the past the closure of schools having alternative objectives.

BUT THE PEOPLE STILL "WANT" "REAL" EDUCATION

Despite these problems, many people still recognise that educational environments both could and should develop the skills and talents of those being educated. This is why many people still insist that schools should embrace more of the wider goals of general education. In our surveys[5] more than 50% of pupils wanted schools to do more to achieve 90% of the objectives we asked about.

4 The latter is particularly clear from the conclusions of the Waddell Committee (1978). See Raven (1979, 1995) and Raven et al (1985).
5 See Raven (1977).

BARRIERS TO REDEPLOYING EXISTING RESOURCES

The problem facing educational policy makers, then, is to redeploy existing resources. But they have to do so in a situation in which there is considerable resentment at what is going on, hostility toward those responsible for administering the system and those who are likely to do well out of it, and widespread recognition that what is happening at present, while educationally unjustifiable, is nevertheless extremely important from the point of view of gaining relative social advantage. This means that teachers who are able to work the system for the benefit of their pupils will strenuously resist change. So will those pupils and parents who are doing well out of it.

If these were the only barriers to introducing a more developmental and cost-effective educational system, those interested in promoting it would have a hard enough task. But these are not the only barriers.[6]

It is difficult to implement competency-oriented education in schools

One of the other barriers is that the kinds of educational programme which are required to foster qualities like the ability to make one's own observations, the ability to identify and solve problems, the ability to take initiative, and the ability to get other people to work together effectively demand educational processes which are most easily provided in homes, communities and workplaces.

The research conducted by ourselves and others in homes (Raven 1980; Sigel 1985), schools,[7] colleges,[8] and workplaces[9] shows that, if one is to foster such qualities, one must create situations in which people can practice doing these things and thus learn how to do them more effectively. Yet these are all difficult, demanding and frustrating activities. No one is going to make the effort required to practice them unless what they are doing is important to them. This not only points to the need for individualised educational programmes – individualised, that is, in relation to each pupil's values, priorities and talents – it also suggests that the tasks undertaken must be important to society.

But practise is not the only way in which qualities like initiative, adventurousness, and leadership can be developed. People can also learn from the example of others. Unfortunately, many of the role models from whom people learn – and especially teachers – portray downtrodden, ineffectual, styles of behaviour (Raven & Varley 1984; Raven 1994). But people learn best from role models when those to whom they are exposed are gaining satisfactions which they themselves want – that is to say, when they are undertaking activities which the learner is strongly motivated to carry out. But it is not only their observable behaviour – the *results* of their thinking and planning – which it is important to see and to copy. The mental, emotional and striving processes which lie behind that behaviour are also important. If people are to develop the competencies which make for adventurousness,

6 A full discussion of these barriers, the way in which they interact to form a mutually reinforcing *system* and the, often surprising, developments that are required to overcome them will be found in Raven (1994).
7 See Raven (1980, 1994) for summaries. But see also Jackson (1986), McClelland (1965, 1982); Raven et al (1985); Winter, McClelland, & Stewart (1981); Klemp et al (1977); Jackson (1986).
8 See especially Winter et al (1981).
9 See Raven (1984/1997); Jaques (1989); Spencer & Spencer (1993).

enterprise, leadership, and the willingness and the ability to understand and influence the direction in which society moves, those who are to learn to do these things must be exposed to people who already do them – and exposed to them in such a way that they can share in their thought processes, their feelings, their anticipations, and their reflection on things which have gone wrong. In this way they can learn to be sensitive to the cues which beckon and point toward an activity which is likely to pay off, which tell one when corrective action is necessary, or which tell one that things are getting out of hand and one had better either get help or stop doing whatever one is doing. They can learn how to turn a chance observation to advantage.[10]

It is because experiences gained in the course of working on tasks which are personally important and when working with other people who share one's concerns are so important that the Youth Training Scheme branch of the Manpower Services Commission (MSC) in the UK was correct when it asserted – to the annoyance of many educators (Benn & Fairley 1986) – that such qualities are best fostered and developed on the job. Their statement did, however, pose a fundamental problem: few British supervisors and managers think it is part of their job to think about trainees' talents and interests, to create developmental environments in which the trainee can practice and develop these qualities, or to share with their trainees their own thoughts and feelings as they carry out important tasks. Confronted with this observation, most British people exclaim "Of course not!" However, not only have researchers like Klemp, Munger, and Spencer (Klemp et al 1977, but see also Spencer & Spencer 1993) and Jaques (Jaques 1989) shown that the tendency to think about, place and develop the talents of subordinates is one of the competencies which distinguishes more from less effective supervisors and managers (Klemp et al 1977; Spencer 1983), our own work shows that managers in Japan and Singapore do it as a matter of course (Graham et al 1987). Since there is no way anyone other than supervisors and managers can provide such assistance throughout life, it follows that the target of the MSC's intervention should have been supervisors and managers, not trainees, and that educators have a crucial – if non-conventional – role to play in the process of developing the talents of supervisors and managers.

Fortunately for educators, work is not the only setting in which such qualities can be fostered. If teachers adopt such processes as interdisciplinary, competency-oriented, enquiry-based, project work grounded in the environment around the school and explicitly set out to embody the important features of work in that activity – a *real* task to do, variety, the ability to tap a wide range of alternative talents – then educational environments *can* be made more developmental (Smith 1964, 1969; James 1968; Mason 1970; Raven 1977; Raven et al 1985; See Raven 1994 for a summary). In this context it is of great interest to note that more effective teachers, like more effective managers, are the ones who show a greater tendency to think about, harness, build upon, and develop the talents of their pupils (Raven et al 1985; Winter et al 1981; Schneider, Klemp, & Kastendiek 1981; Klemp et al 1980; Huff, Lake, & Schaalman 1982). They are also more likely to share their own thoughts, their own strivings, and their own feelings with them (Raven et al 1985; Jackson

10 Raven (1977, 1980, 1984/1997, 1986). This is why, as Jackson (1986), Alschuler (1973), and McClelland (1982) have shown it is so important to use literature and case study materials which portray these normally private components of competence in schools and why it is so important, as Klemp et al (1977) have shown, for superiors in the workplace to likewise make their normally private thoughts, feelings, and strivings visible to their subordinates.

1986). And they are the ones who demonstrate greater ability to get control over the wider social constraints *outside* the school – constraints from parents, directors of education, tests – which prevent them pursuing the educational objectives that are most widely thought to lie at the heart of education (Raven et al 1985; Raven 1994).

Teachers need tools to help them to foster the components of competence

A second major barrier in the way of introducing competency-oriented education into schools is that, if teachers are to foster such qualities, they need to be able to assess each students' concerns, interests, and talents, invent an individualised developmental programme for each student, monitor his or her reactions to those experiences, intervene to take corrective action when necessary and, at the end of this difficult and demanding process, identify the particular competencies which each student has developed in such a way that they will stand to the students' credit when the time comes to scramble for a job.

This is an extraordinarily demanding set of activities and helps to explain why it is that only about 5% of teachers undertake "project work" effectively (HMI 1980).

To implement competency-oriented education effectively it is not only necessary, as Burgess and Adams (Broadfoot 1986) almost alone emphasise, to devote a great deal of time to guidance, counselling and appraisal. It is also necessary for the teachers concerned to have both a good theoretical framework to enable them to think about the talents which might be developed and the ways in which they are to be developed, and tools to help them to implement such individualised educational programmes.

Such demands may seem unrealistic. But the reality is that such diagnostic and prescriptive tools are required if teachers are to foster effectively even such fundamental competencies as the ability to read. This may strike the reader as an absurd statement – until it is acknowledged that very few children – particularly those who have learning difficulties – learn to read at school. As Tizard (Tizard 1974; Tizard & Hughes 1984) has shown, it is parents who, in general, provide the sensitive help and encouragement which is required to enable children to find material which interests them and who provide the individualised help which is required to identify the child's specific difficulties so that remedial action can be taken. Once again, it is those teachers who have, personally, privately, and painstakingly – over perhaps 20 years – developed strategies for providing such individualised reading programmes who are the apparent exceptions to this rule.[11]

Important competencies are value laden

A third barrier to wider introduction of multiple-competency-oriented educational programmes into schools is that the qualities we have been discussing are value-laden (Raven 1977, 1981). Not only will people only practice and develop these competencies in the course of pursuing goals they value, competent behaviour is dependent on having a view of society and one's role in it which leads one to feel that one has a right to ask questions, a right to expect people in authority to answer those questions, and a right to seek to influence the wider social constraints on one's behaviour (Inkeles 1969; Inkeles & Smith 1974; Raven

11 One such teacher is portrayed as "Mrs McCullen" in Raven et al (1985). Another is the author of the *Hickey Dyslexia Kit*, Better Books, Bath, 1980.

1984). Many parents, teachers, managers and politicians find this notion threatening – not least because they lack the competencies which are required to manage independent, thoughtful, people who identify and tackle their own problems.

One corollary of this observation is that much "education" is directed toward the wrong people. The most important targets for educational programmes emerge as being teachers, not pupils; managers not employees; the leaders of our society, not "the disadvantaged"; and adults not children. We can no longer lay the blame for our social and economic ills at the door of the poor and those who are least advantaged in the educational system.

A second corollary of this observation, taken together with the fact that such qualities can only be practised and developed whilst people are working toward goals they care about, is that any attempt to introduce genuinely educational programmes into schools will be met by opposition at all levels from Parent Associations (PA) upward. PA committees which aspire to influence the curriculum repeatedly dissolve in internal strife. All their members want change. But as soon as some parents start talking about encouraging question-asking, independence, initiative, or adventurousness chaos ensues. Some parents, worried that they will no longer be able to control ("manage") their children, start to raise doubts. It is then suggested that their children need not join the programmes. This in itself creates problems because it challenges deep-rooted beliefs about equality and uniformity in public provision. It is feared that the children of the best managers will, yet again, get the best deal. But, before long, a more serious objection emerges. What is being said is, not that these qualities are unimportant, but that they are *too* important. If schools helped some pupils (and not others) to develop them, those children would do better in life than the others. That would be unfair. This is one example of one of the most important dilemmas facing educators: many people want their children to obtain benefits which are more likely to be attained if they possess competencies like those we have discussed. But they often do not want their children to possess those competencies (e.g. independence), still less others (e.g. abrasiveness) which are psychologically bonded to them. They do not want their children to devote their time to their careers – or even to improving society – if this means reducing the time they spend in affiliative behaviour with their families. They do not want their children to become socially and geographically mobile – particularly if this means that they are likely to neglect them in their old age (Jackson & Marsden 1962; Raven 1987). Finally, as it becomes clear that competent behaviour involves tackling some of the wider social constraints on what one can do and that encouraging pupils to tackle these constraints means influencing their beliefs about society, how it is structured, and how it should work, some parents articulate their (justifiable) fear of political brainwashing. The MSC found itself in precisely the same trap as a result of advocating that schools (through the Technical and Vocational Education Initiative) and employers (through the Youth Training Scheme) foster those qualities which make for enterprise and personal effectiveness. Finding that this led schools, colleges, and employers to encourage their trainees to consider political processes the MSC reacted by banning political education!

Neither the members of PA committees nor teachers in general are equipped to handle the tensions which stem from the value-laden nature of any education worth the name. As a result, attempts to introduce educational programmes which would foster these qualities simply die. Schools end up working toward the lowest common denominator in education i.e. "working-class values" ("sit still, do as you are told, learn what is put in front of you") and examination achievement.

Ironically, the strength of private schools is that they can avoid this dilemma, foster these more important competencies, and inculcate both values and political beliefs. Their very effectiveness in these overwhelmingly important "non-academic" areas is precisely why they are so unpopular with parents who would refuse to send their children to them even if they could.

The point is that state schools will continue to be unable to foster the qualities that it is most urgent for them to foster without radical changes in beliefs about the way public institutions should function and without better opportunities for adults to consider and resolve some of the dilemmas which have been mentioned. It follows that, if education is to be introduced into schools, adult civic education – in the sense of nurturing the competencies required to *evolve* new ways of running society (and *not* in the sense of teaching the received views of Adam Smith or Karl Marx) – is a top priority.

The need to address the problems which stem from the *transformational* nature of the educational activities which are required to foster high-level competencies

To promote the development of high-level competencies one starts by studying pupils' motives and incipient talents. One then tries to invent individualised developmental experiences which will test one's initial hypotheses about incipient interests and talents and the processes which will lead them to flower (Raven 1980; Raven et al 1985). One cannot know the outcome of this process in advance. One may end up doing things which are quite different to those one initially envisaged. Unexpected talents surface and develop. In this way pupils are *transformed* (Bachman, O'Malley, & Johnston 1978; Jackson 1986). All of this is fine from an educational point of view. But it is in sharp conflict with widely held beliefs about the ways in which it is appropriate to spend public money. It is generally believed that one should not take risks with such money and that contractors (teachers or researchers) should be able to specify in advance what the results of the expenditure will be. Funding an *adventure* which may (or may not) transform people or existing understandings is viewed as not merely risky: it is illegitimate. The solution to this problem has not only to do with legitimising venturesome activity in the public sector. It also involves finding ways of identifying the sorts of teachers who are able to capitalise on what they stumble across in the course of an adventure – i.e. teachers who are able to recognise the value of something they have come upon "by chance" and turn it to advantage. To do this it will be necessary to develop staff-appraisal tools which will make it possible to identify, recognise, reward, and encourage among teachers the very competencies that we are concerned with in this article.

It is necessary to certificate value-laden competencies

Another set of barriers to wider dissemination of competency-oriented educational programmes in schools stem from the fact that what happens in schools is determined, not by the wishes or priorities of ministers of education, government committees, employers, parents, teachers or pupils, or by objective employment needs, but by what is *assessed* at the point of interface between schools and society. It follows that, if schools are to foster the qualities we have been concerned with here, and, equally importantly, if employees are to be able to get credit for qualities they have developed "on the job" (or in the course of "training schemes") – and thus become able to compete for promotion with those who enter

their occupations with higher "educational" "qualifications", some way of assessing these other qualities must be found.

The thought of assessing these value-laden qualities makes most people – including myself – extremely uncomfortable. Yet I can see no other way of preventing social vandals like some of the people who currently occupy a number of the most senior positions in our public and private sector organisations from getting into those positions (cf. Hope 1985). Nor can I see any way of avoiding the problem that, at present, evaluation research, and, as a result, all subsequent discussion of its implications, tends to focus on the goals which are easily assessed and neglects the more important goals of general education. The costs of *not* developing such measures are enormous: These include inability to create developmental climates in schools, inability to develop, utilise and reward people's talents, inability to undertake useful evaluations, and inability to keep social vandals out of influential positions. Instead of resisting the development of means of assessing these qualities, therefore, we must think about how to guard against their misuse. This means ensuring that their use is publicly supervised.

The need to find ways of handling the dilemmas associated with catering for diversity

We have seen that high-level competencies can only be nurtured when people are doing things they care about and that this means tailoring developmental tasks to pupils' personal values, priorities, and motives. It is sometimes impossible for pupils to pursue goals which they care about in the same room in which other pupils undertake tasks which *they* care about. For example, one cannot, in the same classroom, meet the needs of those pupils who want to develop toughness and strength and those who wish to develop the sensitivities required to learn how to set their minds to the "dreamy" state required to notice the fleeting feelings on the fringe of consciousness which form the germ of nearly all creative insights and slowly bring them to the centre of attention so that they become articulate and communicable.

This need for variety and choice conflicts with the widely accepted emphasis on equality and uniformity in public provision – uniformity which is stressed in such developments as the English National Curriculum. It is therefore essential to make explicit, and possibly challenge, the reasons for this distaste for variety in the public domain. One of its causes is the experience-based belief that such variety leads to a *hierarchy* of options – running from those which are of high quality to those which are poor – rather than to alternatives which are very different from each other, but all of which are of high quality. When the quality of provision varies only from good to bad, the more informed, articulate, and powerful tend to get the best deal. It was, indeed, to counteract just this tendency that education was brought into the public domain in the first place. If the stultifying effects of the emphasis on equality in public provision are to be reduced, it will therefore be necessary to introduce much more effective quality control mechanisms to both (I) document the personal and social, short and long term, consequences of each of a number of demonstrably different options, and (ii) assure the public that each option is of high quality. ("Personal and social" because what is good for the individual may be bad for society, and "short and long term" because what is good in the short term may be bad in the long term.)

If the public is to be offered a variety of options which have very different consequences and be invited to choose between them, we will need to run our society very dif-

ferently. Among other things, the public service will have to: (i) invent, and provide in each community, a variety of options, and (ii) collect, and provide people with, the information they need to choose between those options.

What this means is that the public service will need to feed information *outwards* to the public, rather than upwards through bureaucratic hierarchy to elected representatives who take decisions *for* the public. This will in effect mean that the main decision makers will be the public, not elected representatives.

The task of supervising the information collected and disseminated at each level will require much greater public and media involvement. If this is to happen we will need a much more transparent public bureaucracy, changed roles for elected representatives, and changed citizenship activities. Put another way, we will need to develop new, network-based, participative (rather than representative) forms of democracy to monitor and influence the public service (The main objective of the author's *New Wealth of Nations* (Raven 1995) is to discuss the nature of the new forms of bureaucracy and democracy that are required.)

It appears, therefore, that (i) fundamental research directed toward the solution of these practical problems, (ii) a wide range of development activities, and (iii) programs of adult civic education to promote the evolution of new means of managing society are unexpected pre-requisites to effective schooling. It follows that one of the first steps to be undertaken by schools is, somewhat surprisingly, to change the beliefs they lead their pupils to adopt about the procedures which are required to promote social development.

The need to come to terms with the barriers posed by the latent (sociological) functions of the educational system

Research brought together in Chapter 5 of *Managing the Educational System for Effective Schooling* (Raven 1994) demonstrates that the educational system: (i) nurtures the tendency to work out which behaviour one's superiors will favour, and do whatever is necessary to secure one's preferment regardless of the consequences for one's organisation or society,[12] (ii) breeds that kind of facility with words that enables people to create a good impression by using fashionable phrases, (iii) advances those who are best able to do these things, (iv) squeezes out those who are most anxious to act in the long-term interests of society and those who are best able to invent new ways of thinking about and doing things, (v) selects those who are, because of personal ambition or naively, most willing and able to undertake the fraudulent "work" of modern society, and (vi) operates to perpetuate an inequitable society by legitimising the way in which privilege is rationed instead of fostering and promoting those best able to identify and introduce changes in the way society is organised.

It is therefore imperative, if change is to be introduced into the educational system, to find ways of handling these and other social forces discussed in *Managing Education.* But there is no need to despair: The problem is analogous to asking how the wind can be

12 Hogan (Hogan 1990) has noted that the available evidence suggests that about half of those managers who appear to be competent, confident, intelligent, poised, and skilled in human relations, either: i. destroy the careers of competent subordinates in order to minimise challenge and competition, ii. destroy the developmental potential of their sections (i.e. get rid of the time and the personnel required for the "parallel organisation activity" which is required for innovation and to provide for the future) in order to seem able to reduce costs and appear "efficient", or iii. refuse to take important decisions which affect the future of the organisation because these would result in their becoming unpopular and thus jeopardise their future.

harnessed to drive sailing boats where we wish them to go instead of driving us against the rocks.

The need for new expectations of teachers, new structures to promote innovation, and new criteria for staff appraisal

One more, and perhaps the last, set of barriers to the dissemination of competency oriented educational programmes stems from the forms and procedures of accountability employed in the public service. At present, teachers are not really expected to pay attention to their pupils' needs and concerns and then invent better ways of meeting their needs. Rather, they are viewed as mere hired hands whose job it is to do the bidding of distant elected representatives – to whom they are accountable for little more than the petty cash.

To overcome this problem we need to develop new expectations of teachers, new criteria of accountability, new tools to help us to find out whether those criteria are being met, and new structures to promote and encourage innovation.

Expectations of Teachers

We should expect teachers to invent ways of tapping individual pupils' motives and meeting their needs. We should expect them to stimulate, and thereafter contribute to, the debates which are required to evolve new ways of thinking about society. We should expect them to contribute to the evolution of the structures which are needed to enable adults to develop the competencies which are required to manage society effectively and to enable them to help each other to develop their talents. We should expect teachers to try to influence the wider social forces (such as the expectations of parents and directors of education, and the narrow range of competencies tested by examination boards) which otherwise so much limit the competencies they are able to help their pupils to develop. We must expect them to insist on the collection of relevant information about how well their pupils are developing and how well their schools and the educational system as a whole are performing, and to take the steps which are needed to ensure that good decisions are taken on the basis of that information.

Obviously no one teacher can do all of these things. But the teaching profession does need to encompass and support a significant number of people who do each of them.

Criteria of Accountability

If teachers are to do the things just mentioned they must be able to get credit for having done so. That is, the criteria against which their performance is judged must include them. The obvious difficulty of doing this leads one to tend to recoil ... until one encounters one of those elegant rare strokes of genius. Burgess and Adams have suggested that the procedures which they – together with such people as Stansbury (Stansbury 1980) and Spencer (Spencer 1983) – have developed for making statements about pupils' competence be applied to teachers. Teachers would be asked to keep records of events which went well and poorly for them, what led up to them, what they did, and what the outcome was. In this way they would be able to get recognition for their concerns, talents, and accomplishments.

Structures to Promote Innovation

We have seen that the attempt to deal with the conspicuous problems of the educational system by trying to prescribe what children will learn and then find out whether they have learnt it using centrally prescribed tests of the traditional type is misguided. We have seen that the barriers to effective education are deep-seated and non obvious, that what children need to learn to do varies markedly from pupil to pupil, that the available tests are unable to reflect the high-level competencies which students need to develop, and that our hierarchical management-system has been unable even to eliminate grossly incompetent teachers, never mind to create a ferment of innovation. Pervasive innovation in every area of the educational system is required. There is no way in which any central authority can lay down what teachers will do, never mind prescribe what individual children should learn. Instead, the task of a central authority is to create a structure and set of expectations which will: (a) lead to increasing clarity about the goals which are to be achieved and the procedures which are to be used to reach them; (b) encourage all concerned to assess whether they are achieving their goals effectively; (c) encourage them to identify the barriers to success; and (d) lead them to vigorously set about trying to do something about those barriers.

A great deal of research dealing with the arrangements that are required if we are to have both a more effective and innovative educational system and a more effective and innovative society has been brought together in *Managing Education* and *The New Wealth of Nations*. Here it is sufficient to note that the structures which are required, if a more innovative and more effective educational system is to evolve, must promote more contact between innovative teachers and enable them to initiate more concerted attempts to advance basic understanding of fundamental educational processes so that chronic problems can be tackled. The network of monitoring and validating groups supported by a measurement and educational research service proposed by the Irish Minister for Education's Committee on the Intermediate Certificate Examination (Andrews 1974) (which is in many ways similar to the framework of validating and accrediting agencies later advocated by Burgess and Adams (Burgess & Adams 1986)) would meet this need. It cannot be too strongly emphasised that considerable time needs to be allotted to what Kanter (Kanter 1985) has termed "parallel organisation" activity concerned with innovation. But this does not mean that *more* teachers are required. The data briefly summarised earlier show that, if teachers spent less time in front of their blackboards and more time managing the educational process, the benefits for pupil development would be substantial.

Monitoring Structures

To initiate an effective programme of school improvement it is not only necessary to create an innovative climate, to provide tools to enable teachers to find out on an individual and on a collective basis how they are progressing, and to implement alternative monitoring and accounting structure, it is necessary to give teeth to information. We are all too familiar with evaluations which simply gather dust. If this problem is to be tackled it will be necessary to make the work of individual administrators, teachers, schools, clusters of schools and administrative departments much more public. A network of public monitoring groups is required to examine the information collected and monitor action taken.[13] Significantly, such a network of monitoring groups would also help the public to discuss and resolve some of the dilemmas mentioned above and thus promote the evolution of new ideas about how

public institutions should work. Unfortunately, one does not know many people who would voluntarily devote the necessary time to such activities. It is therefore necessary to recognise that, just as such activities are essential to the success of commercial enterprises,[14] so they are necessary for the effective operation and development of society. The implication of this is that they are truly wealth-creating activities and, as such, merit remuneration.

It is clear from these observations that one of the barriers to the evolution and diffusion of educational innovations has to do with the fact that the educational system operates in the context of a set of beliefs to the effect that it is the job of publicly elected representatives and senior management both to establish the goals of the educational system and the procedures to be used to reach them – with its corollary that the teacher's job is to carry out the activities prescribed by such authorities. These beliefs and expectations discourage teachers from studying the needs of their pupils and trying to invent better ways of meeting them. Unfortunately, these beliefs are only part of a much wider problem: In Britain and the US, since innovation is thought to be the prerogative of management, the educational systems do not have management structures which stimulate and facilitate innovation. We have already seen that the stimulation of innovation involves creating within the educational system what Kanter[15] has called "parallel organization" activity which would focus on innovation. What we are now saying is that we also need to replace our hierarchical management structures – our structures of bureaucracy and democracy – by network based management structures of the kind advocated by Toffler (Toffler 1980), Schon (Schon 1973), and Ferguson (Ferguson 1980). These are fully discussed in *Managing Education* and *The New Wealth of Nations.* All that can be noted here is, first, that the failure to create an innovative educational system is not only dysfunctional in itself but also has the gravest knock-on effect on society as a whole because teachers powerfully communicate to their pupils their own beliefs about what it is important to attend to and how things should be done.[16] And, second, that what has been said implies that the areas in which research and innovation are *most* badly needed in our society do *not* have to do with finding better ways of producing goods of one kind or another but with finding better ways of running society itself. The way in which such research is to be organised is discussed in both *Managing Education* and *The New Wealth of Nations.*

SUMMARY

We may draw together some of the observations made in this article in the form of soundbytes. The way forward in education involves:

- Moving from *content*-oriented education to *competency*-oriented education.
- Moving from a concept of education as *telling* to a concept of education as *facilitating growth.*

13 See Raven (1984/1997, 1987).
14 Schon (1983), but see also Pratt's chapter in Burgess (1986) and Fores & Pratt (1980).
15 See Kanter (1985).
16 The downtrodden and rather ineffectual images which teachers have of themselves are documented in Raven (1977) and the fact that these are communicated to pupils is documented in Raven et al (1984).

- Re-focusing the concept of *"learning"* away from learning-content to learning-to-lead, to invent, to put people at ease, to understand and influence organisational and societal processes.
- Recognising that nurturing generic, high-level competencies is a difficult and demanding process (and radically different from both traditional forms of education and "progressive" education).
- Recognising (and finding ways of handling) the fact that what happens in education is determined by a mutually reinforcing network of *systems* forces and processes which negate well intentioned attempts to change one of the parts (e.g. curriculum) without considering the whole.
- Recognising (and finding ways of handling) the fact that what happens in education is *mainly* determined by *sociological* forces and (mutually reinforcing) *inappropriate beliefs about how society should be run.*
- Initiating pervasive small-scale *systems-oriented* experimentation, not centrally mandated system-wide change.
- Creating a *pervasive* climate of innovation in every area of the system – facilitated by re-deploying teacher-time in "parallel organisation" activity and supporting it by problem-oriented, but fundamental, research.
- Recognising that the causes of the problems are far removed from the symptoms and that "common sense" solutions will not work.
- Recognising that the most important developments are, in fact, in the research-based evolution of new arrangements for public management and, more specifically, in understandings of bureaucracy and democracy.
- Recognising that the most important *research* agenda is to contribute the concepts and tools required to evolve and run new public management organisational arrangements, job descriptions, staff-appraisal systems and so on.[17]

CONCLUDING COMMENT

I have chosen to devote this article to describing some of the causes of the chronic crisis which has persisted in education for the past 40 years and to discussing the many non-obvious steps which need to be taken if that crisis is to be tackled. The suggestions which have been made in many ways contradict conventional wisdom. The philosophy of most Departments (Ministries) of Education world-wide over the past 40 years has been that if teachers were told to do things they would do them. If they did not, that demonstrated a lack of ability or goodwill. Such incompetence or insubordination, when discovered, was thought to indicate a need for more training or a harsher staff-appraisal system. Our work shows that this view is naive. The problems in education have multiple and deep-rooted causes. To overcome them we need new ways of thinking about the issues and new ways of doing things. In most cases a great deal of fundamental research is required. However, the research which is needed must be carried out in an action context and must address issues which at first sight seem far removed from the problem. It is a symptom of the deficiencies in the sys-

17 The author would welcome expressions of interest in collaborative, experimental, work in this area.

tem we have created that neither developing better ways of thinking about things nor the execution of fundamental research in an action context (and tackling problems not immediately obvious to civil service administrators) attract funds. What Schon (Schon 1987) has termed the Technical-Rational as contrasted with the Reflection-in-Action model of the professions – including education – has become deeply embedded in our thinking. Research is not seen as a route to the solution of pressing problems. Rather, in line with the educational system in general, it is seen as a route to the personal advancement of the individual concerned – and this advancement is most easily achieved by doing *pure* "academic" work which tackles problems identified in the "disciplinary" literature. The question now is: Given that taxpayers have seen through both the educational and the research rhetoric, how can a more appropriate set of expectations and structures be created? If there is a single key issue which educators need to address, this is it.

POVZETEK

V tem članku sem najprej pokazal, da imajo prav tisti, ki mislijo, da bi šolski sistem moral spodbujati sposobnosti za podjetnost. Potem sem razpravljal o presenetljivih mejah, ki se pogosto pojavljajo in jih je treba premagati, če naj bi izobraževalne programe, ki spodbujajo take kvalitete, uvajali širše.

KLJUČNE BESEDE: ***kriza izobraževanja, izobraževalni sistem, sposobnosti, šolski cilji, učitelji, znanje.***

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A NEW PARADIGM OF TEACHER EDUCATION IN THE NEW MILLENNIUM

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ABSTRACT

Parallel to the paradigm shift in education in the new century, the paper proposes a paradigm shift in teacher education. It suggests that the aims, content, process, methodology, context as well as the culture of teacher education should be changed towards a new paradigm of total lifelong teacher education driven by globalization, localization, and individualization with the support of information technology and networking. The paper will elaborate how this paradigm of teacher education can be closely linked with total teacher performance in effectiveness, quality, and relevance in such a rapidly changing environment.

KEY WORDS: **new paradigm in teacher education, teacher education in new millenium, life long teacher education, effectiveness, quality and relevance in teacher education.**

INTRODUCTION

The drastic impacts of information technology application, economic globalization, international market competition, worldwide concerns for pollution and peace, as well as increasing local social-political demands have induced rapid changes and developments in nearly every society in the Asia-Pacific region and other parts of the world (Cheng & Townsend, 2000). In such a fast changing era, schools and teachers have to face numerous new problems, uncertainties, and challenges rising from their internal and external environments. They are often expected to perform a wide range of new functions to support the rapid developments in individuals, local communities, societies, and international relations (Cheng, 1996b; Tsui & Cheng, 2000). Teachers are often required to take up expanded roles and responsibilities including curriculum developer, new teacher mentor, staff development facilitator, action researcher, pre-service teacher educator, team leader involving teacher, parents, public agencies, decision maker, member of management board, etc. (Boles & Troven, 1996; Murphy, 1995; Fessler & Ungaretti, 1994).

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In the last two decades, policy-makers, teacher education institutions and schools have implemented numerous initiatives in teacher education and development with aims to improve teacher performance. Although a lot of efforts have been made in this respect, people, if not disappointed, still doubt very much whether the competence and performance of teachers can meet the challenges and needs of the new century. They begin to be aware of the limitations of the traditional paradigms and efforts on improving teacher performance and educational quality in schools (Cheng, 1998). In order to understand the changing and complex nature of teacher performance and develop the effective approaches to teacher education and development in a new era of globalization and information technology, a new paradigm is urgently needed for reconceptualization and reform.

To meet this need, my paper aims to propose that teacher education as a field of inquiry, practice and development in the new millennium should include at least three key guiding elements: *effectiveness, quality*, and *relevance*. How are the framework and practice of teacher education effectively to enhance teacher competence for achieving the planned goals and objectives in education generally and the teaching process in particular? How can the quality of teachers be ensured and how can one improve the quality of existing practices and services in teacher education to completely satisfy the stakeholders' (e. g. teachers themselves, schools, students, policy-makers) expectations and needs? How are the aims, content, practices, and outcomes of teacher education relevant to the challenges from the changing and competitive environment in which a society is to survive and develop in a new era of information and globalization? These questions inevitably become critical issues to review and develop teacher education in current educational reforms. They should all be considered from a new perspective if we want to have any breakthroughs in existing and coming practices of teacher education and development.

With aims at maximizing the effectiveness, quality, and relevance of teacher performance, the paper will further propose a paradigm shift in teacher education. It will suggest that the aims, content, process, methodology, context as well as the culture of teacher education should be changed towards a new paradigm of *total lifelong teacher education driven by triplization* including globalization, localization, and individualization with the support of information technology and networking.

TEACHER EDUCATION FOR EFFECTIVENESS IN THE CLASSROOM

Structure of Teacher Effectiveness in the Classroom

The discussion of teacher education should be linked with the conception and enhancement of teacher effectiveness if the aims of teacher education are to enable teachers to be effective in teaching and school functioning. The structure of teacher effectiveness in teaching can provide some important insights and strategies to conceptualize and organize initiatives for developing teachers' competence and improving their performance (Cheng, 1995a; Cheng & Tsui, 1996). As shown in Figure 1, the structure of teacher effectiveness in classroom is a comprehensive conception that integrates the teacher trait perspective, the teacher behavior perspective and the process-product of teaching perspective to explain the relationship between teacher competence, teacher performance, student learning experience and educational outcomes. Teacher effectiveness is regarded not as a stable characteristic of the

teacher as an individual but as a product of the interaction between certain teacher characteristics and other factors that vary according to the situation in which the teacher works.

The structure assumes the following procedural inter-relationships among the components of teacher effectiveness: (1) Student learning outcomes are the product of the interaction between curriculum characteristics, student learning experience and individual characteristics; (2) Student learning experience is affected by teacher performance, curriculum characteristics, and classroom environment; (3)Teacher performance is determined by the interaction between teacher competence, curriculum characteristics and school organizational environment; (4) External teacher education, school-based teacher education, and pre-existing teacher characteristics can contribute to teacher competence; and (5) Teaching evaluation based on the information from teacher performance, student learning experience and learning outcomes can be used to facilitate development of teacher competence through staff development activities. Basically, it is assumed that the components of the structure potentially relate to teacher effectiveness in a direct or indirect way in the classroom (Cheng, 1998).

Strategies for Teacher Education and Development

From this structure, there may be three different strategies that can be used to develop teachers and enhance their effectiveness: the short-term strategy, the long-term strategy and the dynamic strategy (Cheng & Tsui, 1997).

The Short-term Strategy. The short-term strategy is the traditional and most commonly used strategy for developing or improving teachers. It focuses on changing overt teacher performance (mainly in terms of teaching behaviors) to adapt to the teaching context. Short-term training or piecemeal practical advice is used to correct teachers' weaknesses and undesirable behaviors. The strategy is based on three assumptions. First, teaching context is something "given" and not alterable. In order to achieve good quality of student learning outcome, teachers must accommodate or adjust their behaviors to the internal teaching context. Second, teacher behavior in classrooms must be corrected or changed if unsatisfactory student learning experience and outcome are identified. Third, some straightforward prescriptions such as standard teaching behaviors and methods could be readily used by all teachers. Teacher trainers often develop and introduce a great number of standard teaching behaviors to school teachers. School inspectors and administrators give practical advice on teaching behaviors to teachers during school inspection and teacher assessment. This strategy assumes that the teacher is an implementer subject to be improved for better educational outcome and inevitably the role of teacher is very passive and externally managed. To a certain extent, some fragmentary, superficial, and tangible effects may be achieved by correcting certain teacher behaviors in classroom. But the effects often cannot be internalized and the usefulness of this traditional strategy of teacher training and improvement is quite limited. It may not induce successfully any long-term and systematic improvement in teacher effectiveness because it ignores the importance of teacher competence to teacher performance in classroom. Without development in teacher competence, the persistent and effective change in teaching behavior is nearly impossible.

The Long-term Strategy. The long-term strategy focuses on developing and strengthening teacher competence so that teachers can have sufficient professional knowledge, techniques, and confidence to develop their own teaching styles, adapt to the external and internal teaching contexts, and perform effectively in the classroom. Strengthening

teacher competence is a continuous long-term process involving systematic learning and reflection no matter for pre-service or in-service teacher education. As shown in Figure 1, establishment of the teacher evaluation system and the professional development system is necessary for developing teacher competence and building up long-term teacher effectiveness. Through summative, formative and diagnostic teacher evaluation, teachers may learn continuously and develop their repertoires of professional competence that can be used to adapt to different teaching contexts and carry out teaching tasks effectively. Through systematic professional development teachers can grow and develop to acquire new knowledge, skills and attitudes which in turn promote or improve their teaching performance at different stages of career. Obviously, this strategy is much better than the short-term strategy because it may have long-term, systematic, and internalized effects on teachers' competence and performance. But the strategy still has limitations. In a similar way to the short-term strategy, it assumes that the external and internal contexts of teaching are 'givens' and static. Teachers are considered as developing implementers and they need to adapt their teaching behaviors to teaching contexts. To some extent, the role of teacher is passive and moderately externally managed. Therefore, this strategy does not expect the active role of teacher in changing the internal and external contexts of teaching and creating a more preferable environment for teaching and learning. In other words, teacher effectiveness may not be so maximized.

The Dynamic Strategy. Regarding the limitations of short-term and long-term strategies, a dynamic strategy can be proposed for teacher education and development. It assumes that most of the components associated in the structure of teacher effectiveness (Figure 1) are alterable. In order to maximize teacher effectiveness, both teachers' competence and performance and teaching contexts should be changed. Also, teachers should not only adapt to the teaching contexts but also demonstrate the role of change agent. Therefore, this strategy aims at empowering teachers as change agent, educational leader, and professional implementer such that they can play an active role in improving both external and internal teaching contexts and maximizing their effectiveness at both organizational level and classroom level. The activities of school-based teacher education and teacher evaluation should be further developed and strengthened to help teachers to develop not only knowledge, skills and attitudes but also critical mind, self-reflection and self-management. Following this line of thinking, the concept of teacher effectiveness should not be confined to teacher behavior or performance in classroom. It should be extended to incorporate organizational aspects such as teacher involvement and leadership in curriculum changes and education reforms. In other words, improving teacher effectiveness should be a long-term and dynamic process involving not only the teachers' professional growth but also the school's continuous change and development. The effects of this strategy for teacher education on teachers and school are long-term and systematic and can be internalized and institutionalized. Comparatively, the dynamic strategy should be preferable, which emphasizes teacher education and development as a continuous, dynamic and long-term process if teachers are to be effective in a changing education environment.

The above strategies - even the long-term or dynamic strategies - have limitations because their focus is mainly on individual teachers particularly in a classroom context. Traditionally, the teaching process is often assumed to happen only at the individual level. That is, individual teachers perform teaching and individual students receive teacher's instruction and learn. This simplistic approach is reflected in most studies on teacher effectiveness which examine teacher effectiveness mainly at the individual level. However, the narrow

conception of teacher effectiveness is changing owing to the induction of broader concepts of educational process (Cheng, 1996b; Cheng & Tsui, 1996). School education is usually planned and implemented at the program level or the whole school level. Currently school management reforms and effective school movements emphasize the whole school approach to improvement of school performance and student learning outcomes. Students are often taught not only by individual teachers but also by groups of teachers or by whole school teachers. In order to maximize school effectiveness, more attention should be given to the overall teacher effectiveness at the group level and school level. Therefore, teacher education and development should not focus solely on the individual level but also on the group, program and school levels.

In other words, an organizational perspective is necessary when considering teacher education and development in a school context.

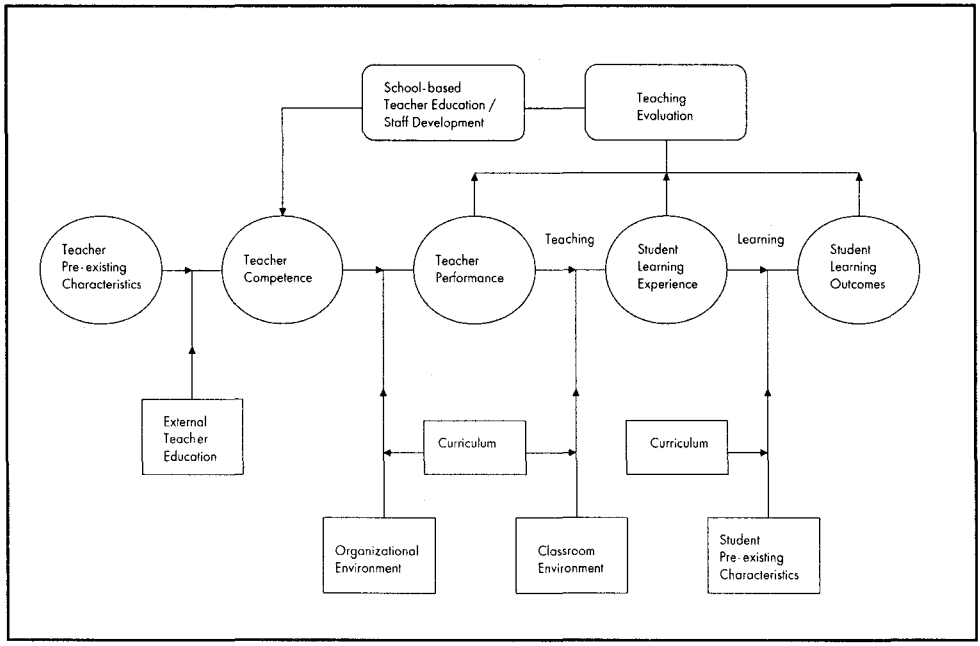

Figure 1: Structure of Teacher Effectiveness in the Classroom (from Cheng, 1998)

TEACHER EDUCATION FOR MULTI-MODELS OF EDUCATION QUALITY

There is an urgent need to understand the complex nature of teacher performance and education quality from a broader perspective and develop appropriate teacher education programs to help teachers become effective professionals in school organizations (Cheng, 1996 a, b). Responding to the world wide movements of quality assurance in education, the discussion of teacher education and performance would be in terms of education quality.

According to Cheng & Tam (1997), there are seven models of education quality which researchers and practitioners often use in understanding the quality of school education. Table 1 summarizes the meanings, conditions of usefulness, and key areas of identification of these models. Each of the seven models of education quality has its own characteristics, and yet they are inherently linked to each other. School goals can reflect the expectations, needs, and specifications of school constituencies. Ensuring a smooth and healthy internal school process and fruitful learning experiences (i.e. the process model) is critical to achieve the school goals and produce high quality educational outcomes. The achievement of stated school goals and conformance to given specifications (i.e. the goals and specifications model) can bring satisfaction to the school constituencies (i.e. the satisfaction model). Also, by establishing relationship with the community, building up the school image, and showing accountability, the school can achieve its legitimate position (i.e. the legitimacy model) for school survival and quality reputation. Then, by carefully monitoring its programs and checking signs of ineffectiveness, the school can ensure that no endemic problem is threatening the quality of the school program (i. e. the absence of problems model). Finally, the school continues to improve and develop itself in all important aspects through learning from its errors and its environment (i.e. the organizational learning model). Then it can achieve all around education quality for students, parents and the community.

Each model of education quality demands teachers as well as administrators to have a specific set of knowledge, skills, behaviors, attitudes, values, and beliefs to enhance and ensure education quality. Some of these are related to the school context, some pertain to group functioning, and some have relevancy to the individual performance. In other words, the functions of teacher education and development should serve the needs of the models of school education quality (Tam & Cheng, 1996).

The goal and specification model assumes that school education quality is determined by the extent to which the stated school goals have been achieved and the given specifications have been conformed to. Therefore, teacher education and staff development should help teachers as well as education leaders to understand and develop school goals and standards and have the competence and commitment to achieve them.

The resource-input model emphasizes the importance of procuring resource-input to school education quality. It assumes that the higher the quality of the resource-input, the higher the quality of the school education. Therefore, teacher education aims at helping teachers to recognize the importance of resources to school education quality and have the competence to procure, manage, and use scarce resource inputs effectively and efficiently.

MODELS OF EDUCATION QUALITY	CONCEPTION OF SCHOOL EDUCATION QUALITY	CONDITIONS FOR MODEL USEFULNESS	INDICATORS / KEY AREAS FOR QUALITY EVALUATION (EXAMPLE)
GOAL AND SPECIFICATION MODEL	Achievement of stated school goals and conformance to given specifications	When school goals and specifications are clear, consensual, time-bound, and measurable; When resources are sufficient to achieve the goals and conform to the specifications	School objectives, standards, and specifications listed in the school/program plans, e.g. academic achievements, attendance rate, dropout rate, etc.
RESOURCE-INPUT MODEL	Achievement of needed quality resources & inputs for school	When there is a clear relationship between school inputs and outputs; When quality resources for school are scarce.	Resources procured for school functioning, e.g. quality of student intake, facilities, financial support, etc.
PROCESS MODEL	Smooth internal process and fruitful learning experiences	When there is a clear relationship between school process and educational outcomes	Leadership, participation, social interactions, classroom climate, learning activities and experiences, etc.
SATISFACTION MODEL	Satisfaction of all powerful school constituencies	When the demands of the constituencies are compatible and cannot be ignored	Satisfaction of education authorities, management board, administrators, teachers, parents, students, etc.
LEGITIMACY MODEL	Achievement of School's legitimate position and reputation	When the survival & demise among schools must be assessed When the environment is very competitive and demanding	Public relations, marketing, public image, reputation, status in the community, evidence of accountability, etc.
ABSENCE OF PROBLEMS MODEL	Absence of problems and troubles in school	When there is no consensual criteria of quality but strategies for school improvement are needed	Absence of conflicts, dysfunctions, difficulties, defects, weaknesses, troubles, etc.
ORGANIZATIONAL LEARNING MODEL	Adaptation to environmental changes & internal barriers Continuous improvement	When schools are new or changing; When the environmental change cannot be ignored	Awareness of external needs and changes, internal process monitoring, program evaluation, development planning, staff development, etc.

Table 1. Models of School Education Quality

The process model assumes that smooth and healthy internal processes and fruitful learning experiences are necessary conditions for school education quality. Inevitably, teacher education and development aim at helping teachers to understand the contribution of the school process and learning experience to education quality, have the competence to improve them, and develop a healthy school culture and high quality work life.

The satisfaction model emphasizes the satisfaction of powerful school constituencies as the major criterion of school education quality. Teacher education should help teachers to have competence to perform those school activities that can increase the satisfaction of school constituencies. Particularly, teacher development programs help teachers to respect expectations of important constituencies, have the necessary skills and commitment to identify their needs and satisfy them.

The legitimacy model assumes that achievement of the school' legitimate position and reputation in the community is the critical indicator of school education quality. The assurance of school education quality is closely related to the activities of public relations, community services, marketing, promotion of school image, status, and reputation, and evidence of accountability. Therefore, teacher education should help teachers to recognize the significance of these activities to the perceptions of the public on school education quality and have the professional competence and skills to facilitate or implement the related activities.

The absence of problem model emphasizes the absence of problems as the main criterion of school education quality. It is often assumed that the major role of teacher education and development is to help the teacher to avoid or prevent problems, defects, disfunctions, and weaknesses in process of management, teaching and learning. Specifically, teacher education should help teachers to have ability to identify, avoid, prevent, and redress the potential and emerging problems and weaknesses in teaching, learning, and managing in their schools.

Since the education environment is changing quickly and producing a great impact on school functioning, schools have to adapt to the changes and face up to challenges from the environment. The organizational learning model assumes that the school's adaptation to environmental changes and internal barriers and continuous improvement are critical elements for assurance of school education quality. Therefore, teacher education should develop teachers' professional competence to foresee and analyze environmental changes and internal difficulties and develop appropriate strategies to make continuous improvement and development.

To a great extent, different models of education quality need different teacher quality, competence, and performance and correspondingly different aims and content of teacher education and development. Traditionally, teacher training programs often emphasize subject content knowledge, learning theories, and pedagogical techniques as the most important components for the ensuring quality of school process. Yet, from the perspective of multi-models of education quality, there are so many important and necessary areas in teacher education that have been ignored if education quality has to be pursued and ensured. Of course, it is impossible to prepare a teacher, particularly a new teacher in short time to be ready in providing all aspects of education quality. It seems to be *a life long process for teacher education and development to meet the needs of multi-models on teacher quality and competence* because the education environment is changing so quickly, and schools as well as teachers at different stages of life cycle may have different needs in development. Generally, in order to pursue total education quality in the seven models, the needs and characteristics of multi-models should be taken into consideration in designing teacher education and development.

TEACHER EDUCATION FOR EDUCATION RELEVANCE IN THE FUTURE

How are the aims, content, practices, and outcomes of teacher education relevant to the needs and challenges from the changing environment in which a society is to develop in a new era of globalization" is also a critical issue. We cannot say that teacher education is effective or qualitative if it is not relevant to the future needs of a society or individuals. Therefore, education relevance in the future is one of the critical elements in the discussion of teacher education. There may be two important types of relevance in our discussion: "Relevance to Education Functions" and "Relevance to Paradigm Shift in Education" in the New Century.

Relevance to School Functions in the New Century

In the new century, schools have different functions such as technical-economic, human-social, political, cultural, and educational at individual, institutional, community, society, and international levels as shown in Table 2 (Cheng, 1996a). To a great extent, teacher effectiveness and education quality should be intimately linked with the achievement of these school functions. If teachers can help their schools to perform and achieve these school functions, they can be perceived as effective and their quality as high. Therefore the development of teacher education and development programs should aim at enhancing teacher effectiveness to achieve these school functions (Cheng & Walker, 1997; Cheng, 1998).

Relevant to Technical-economic Functions

Technical-economic functions refer to a school's contribution to the technical or economic developments and needs at each of the five levels. At the individual level, teachers help students acquire the knowledge and skills necessary to survive and compete in a modern society. At the institutional level, schools provide quality service for clients, employers and others connected with the organization. At community and societal levels, schools aid the economic and instrumental needs of their local community and economy, modify or shape economic behaviors and contribute to the development and stability of the broader society. These then feed the international level through teachers and schools providing economically, technologically and environmentally sensitive adults to the constantly shrinking world community. Teacher education programs should be relevant to the development of technical-economic school functions. Through these programs teachers can further understand the economic and technical functions of school education and develop sufficient competence to help perform these functions.

Relevant to Human-social Functions

Human-social functions refer to the contribution of schools to human development and social relationships at different levels of society. At the individual level, teachers help students to develop as fully as possible psychologically, socially and physically. At the institutional level, teachers help invent and reinforce the quality human relationships which frame organizational behavior. From a Functionalist perspective, teachers serve certain social functions in their local community. These functions include social integration of diverse constituencies, facilitation of social mobility within existing class structures and

reinforcement of social equality. From the alternative viewpoint of Conflict Theory, teachers reproduce the existing social class structure and perpetuate social inequality (Cheng, 1995a; Blackledge & Hunt, 1985). Due to the growing global consciousness (Beare & Slaughter, 1993), teachers need to prepare students for international harmony, social cooperation, global human relationships, and work toward the elimination of national, regional, racial, and gender biases at the international level. As a whole, a new set of knowledge about the human-social school functions at multi-levels is needed to develop teacher education programs that can help teachers to understand the nature and significance of human development and how cater for this in schools.

Relevant to Political Functions

Political functions refer to the contribution of schools to the political developments at different levels of society. At the individual level, teachers help students to develop positive civic attitudes and skills and to exercise the rights and responsibilities of citizenship. At the institutional level, teachers support their schools to act as places for encouraging critical discussion of political issues. At the community and societal levels, schools and teachers play an important role in promoting awareness of democracy and facilitating political developments and changes. The growing awareness of international dependence reinforces the need for school education to contribute to international understanding and the elimination of international conflict. In areas such as these, few teachers possess the appropriate knowledge, attitudes or competence to help their schools to perform the political functions. This appears particularly true in the rapidly developing political environment of Hong Kong or other Asia-Pacific areas. Teacher education, therefore, may be one important way to empower teachers to face this challenge from the political developments.

Relevant to Cultural Functions

Cultural functions refer to the contribution of schools to the cultural transmission and development at different levels of society. Teacher education and development programs can provide opportunities for teachers to understand and reflect on these cultural functions and build the skills necessary for their transmission. At the individual level, teachers help students to develop creativity and aesthetic awareness, and to become familiar with the dominant values underpinning their society. At an institutional level, teachers and schools act as agents for systematic cultural transmission, cultural integration among their multiple and diverse constituencies, and cultural re-vitalization. At the community and society levels, schools often serve as a cultural unit carrying the explicit norms and expectations of the local community. Again, Conflict Theory provides an alternative view. It suggests that schools and teachers socialize students from different levels of society with different sets of values and beliefs and, in the process, benefit some groups more than others. At the international level, schools and teachers can encourage appreciation of cultural diversity and acceptance of different norms, traditions, values, and beliefs in different countries and regions.

Relevant to Education Functions

Education functions of schools refer to the contribution of schools to the development and maintenance of education at different levels. Traditionally, education has been perceived as a means for achieving the economic, social, political, and cultural values only. Rapid and widespread change, however, has prompted now an acceptance that education in and of itself is a crucial goal. The content, system, and structure of education, then, need to be

developed and maintained. At the individual level, teachers help students to learn how to learn, and colleagues to learn how to teach. At the institutional level, teachers work together to improve learning and teaching through mutual support and shared innovation. At the community and society levels, teachers provide service for different educational needs within their communities, facilitate developments of education as a profession, disseminate knowledge and information to the next generation, and contribute to the formation of a learning society. In order to encourage mutual understanding among nations, teachers can contribute to the development of global education and international education exchange and co-operation. Teacher education is an important means not only for teachers to learn and develop themselves, but also to understand this increasingly recognized need in school's education functions at multi-levels.

As a whole, knowledge of the above functions and accompanying levels is crucial for teacher education and development on two interrelated fronts. First, they provide a frame for school managers and teachers to understand and operationalize teacher education programs. And, second, the framework is useful for increased theoretical understanding of teacher education and development and may form the basis for research in this important area. Clearly, as the functions of schools become more complex, administrators and teachers need to be better prepared to face their changing roles. At present, it is unlikely that teachers have the appropriate knowledge, attitude, commitment and competence to support the multiple functions in their schools and carry out tasks effectively. Therefore, strengthening the relevance of teacher education and development to the changes in the school's role and of the multiplicity of her functions in the new century should be an important direction for educational reforms.

Relevance to Paradigm Shift in Education

New Paradigm: Triplization in Education

Different parts of the world are now in the process of globalization in technological, economic, social, political, cultural, and learning aspects (Cheng, 1999). The world is moving very fast towards becoming a global village, in which different parts of the world are rapidly networked and globalized through internet and different types of IT, communications, and transportation (Albrow, 1990; Naisbitt, & Aburdence, 1991). Most countries and regions have more and more common concerns and sharing. Also, the interactions between nations and people become boundless, multi-dimensional, multi-level, fast, and frequent. They become more and more mutually dependent with international collaborations, exchanges, and interflows. According to Cheng (1999), the human nature in a social context of the new millennium will be a multiple person, as technological person, economic person, social person, political person, cultural person, and learning person in a global village of information, high technology, and multi-cultures. Both individuals and the society need multiple developments in the technological, economic, social, political, cultural, and learning aspects. Life-long learning and learning society (or knowledge society) are necessary to sustain the continuous multiple developments of individuals and the society in a changing new century (Drucker, 1993, 1995). The society has to become directed towards a multiple intelligence society that can provide the necessary knowledge and intelligence base and driving force to support the multiple developments. And the individuals have to become directed towards a multiple intelligence citizen who can contribute to the development of a multiple intelligence society.

In such a context, there is an emerging paradigm shift in education. According to Cheng (1999, 2000), the paradigm should be shifted from the *Traditional Site-bounded Paradigm* to *a New Triplization Paradigm.* The new paradigm will emphasize the development of students' contextualized multiple intelligences (including technological, economic, social, political, cultural, and learning intelligences) and the processes of triplization (including globalization, localization and individualization) in education.

Globalization:

This refers to the transfer, adaptation, and development of values, knowledge, technology and behavioral norms across countries and societies in different parts of the world from and/or to a society, a community, an institution, or an individual. The typical phenomena and characteristics associated with globalization include growth of global networking (e.g. internet, world wide e-communications, and transportations), global transfer and interflow in technological, economic, social, political, cultural, and learning aspects, international alliances and competitions, international collaboration and exchange, global village, multicultural integration, and use of international standards and benchmarks.

The implications of globalization for education should include maximizing the global relevance, support, intellectual resources, and initiative in schooling, teaching, and learning (Caldwell & Spinks, 1998; Daun, 1997). Some examples of globalization in education are web-site learning; learning from the Internet; international visit/immersion programs; international exchange programs; international partnership in teaching and learning at the group, class, and individual levels; interactions and sharing through video-conferencing across countries, communities, institutions, and individuals; and new curriculum content on technological, economic, social, political, cultural, and learning globalization.

Localization:

This refers to the transfer, adaptation, and development of related values, knowledge, technology, and behavioral norms from/to the local contexts. It has two types of meanings: first, it can mean the adaptation of all related external values, initiatives, and norms to meet the local needs at the society, community, or site levels; second, it can also mean the enhancement of local values, norms, concern, relevance, participation, and involvement in the related initiatives and actions. Some characteristics and examples of localization are as follows: local networking; adaptation of external technological, economic, social, political, cultural, and learning initiatives to local communities; decentralization to the community or site level; development of indigenous culture; meeting community needs and expectations; local involvement, collaboration, and support; local relevance and legitimacy; and concern for school-based needs and characteristics and social norms and ethos (Tam, Cheng, & Cheung, 1997; Kim, 1999; Cheng, 1998).

The implications of localization for education are to maximize the local relevance, community support, and initiative in schooling, teaching, and learning. Some examples for practice of localization include community and parental involvement in school education; home-school collaboration; assurance of school accountability; implementation of school-based management, school-based curriculum, and community-related curriculum; and development of new curriculum content on technological, economic, social, political, cultural, and learning localization.

Table 2. Relevance to Multiple School Functions at Multi-levels (adopted from Cheng (1996a)

	TECHNICAL-ECONOMIC FUNCTIONS	HUMAN-SOCIAL FUNCTIONS	POLITICAL FUNCTIONS	CULTURAL FUNCTIONS	EDUCATIONAL FUNCTIONS
INDIVIDUAL	Knowledge & skills training Career training	Psychological developments Social developments Potential developments	Development of civic attitudes and skills	Acculturation Socialization with values, norms, & beliefs	Learning how to learn & develop Learning how to teach & help Professional development
INSTITUTIONAL	As a life place As a work place As a service organization	As a social entity/system As a human relationship	As a place for political socialization As a political coalition As a place for political discourse or criticism	As a centre for cultural transmission & reproduction As a place for cultural re-vitalization & integration	As a place for learning & teaching As a centre for disseminating knowledge As a centre for educational changes & developments
COMMUNITY	Serving the economic or instrumental needs of the community	Serving the social needs of the community	Serving the political needs of the community	Serving the cultural needs of the community	Serving the educational needs of the community
SOCIETY	Provision of quality labor forces Modification of economic behavior Contribution to the manpower structure	Social integration Social mobility / social class perpetuation Social equality Selection & allocation of human resources Social development & change	Political legitimization Political structure maintenance & continuity Democracy promotion Facilitating political developments & reforms	Cultural integration & continuity Cultural reproduction Production of cultural capital Cultural revitalization	Development of the education professions Development of education structures Dissemination of knowledge & information Learning society
INTERNATIONAL	International competition Economic co-operation International trade Technology exchange Earth protection Sharing information	Global village International friendship Social co-operation International exchanges Elimination of national /regional /racial / gender biases	International coalition International understanding Peace / against war Common interests Elimination of conflicts	Appreciation of cultural diversity Cultural acceptance across countries/regions Development of global culture	Development of global education International education exchanges & co-operation Education for the whole world

Individualization:
This refers to the transfer, adaptation, and development of related external values, knowledge, technology, and behavioral norms to meet the individual needs and characteristics. The importance of individualization to human development and performance is based on the concerns and theories of human motivation and needs (e.g. Maslow, 1970; Manz, 1986; Manz & Sims, 1990; Alderfer, 1972). Some examples of individualization are the provision of individualized services; emphasis of human potentials; promotion of human initiative and creativity; encouragement of self-actualization; self-managing and self-governing; and concern for special needs. The major implication of individualization in education is to maximize motivation, initiative, and creativity of students and teachers in schooling, teaching, and learning through such measures as implementing individualized educational programs; designing and using individualized learning targets, methods, and progress schedules; encouraging students and teachers to be self learning, self actualizing, and self initiating; meeting individual special needs; and developing students' contextualized multiple intelligences.

With the concepts of triplization, students, teachers, and schools can be considered to be ***globalized, localized,*** *and* ***individualized*** *during the process of triplization.* Or, simply, they are ***triplized***. Some key features of the new and traditional paradigms in learning are summarized in Table 3 for illustration. The detail of the new paradigm in learning, teaching and schooling as contrasted with the traditional paradigm can be found in Cheng (1999, 2000).

NEW TRIPLIZATION PARADIGM	TRADITIONAL SITE-BOUNDED PARADIGM
INDIVIDUALIZED STUDENT AND LEARNING:	REPRODUCED STUDENTS AND LEARNING:
Student as the Centre	Student as the Follower
Individualized Programs	Standard Programs
Self-Learning	Absorbing Knowledge
Self-Actualizing Process	Receiving Process
How to Learn	How to Gain
Self Rewarding	External Rewarding
LOCALIZED AND GLOBALIZED STUDENTS AND LEARNING:	SCHOOL-BOUNDED LEARNING:
Multiple Sources of Learning	Teacher-Based Learning
Networked Learning	Separated Learning
Life-long and Everywhere	Fixed Period and Within School
Unlimited Opportunities	Limited Opportunities
World-Class Learning	School - Bounded Learning
Local and International Outlook	Mainly School Experiences

Table 3: Two Paradigms for School Education (Student and Learning)

PARADIGM SHIFT IN TEACHER EDUCATION

The paradigm shift in education implies that the quality and role of a teacher in the new century is completely different from the traditional one. Inevitably, there is also a similar paradigm shift in teacher education and professional development. The paradigm shift of teacher education and professional development can be summarized as follows: (Table 4):

Aims of the New Teacher Education

Traditionally, teacher education often aims to equip teachers with the necessary competence to deliver knowledge and skills to students such that students can survive a local community or meet the manpower needs of a society in the economic and social developments. But with the triplization paradigm, the aims of new teacher education should be to develop teachers as a tripled MI and lifelong learning teacher. They will creatively contribute to students' tripled lifelong self learning and development as a MI citizen of a MI society and a MI global village with multiple developments in technological, economic, social, political, cultural, and learning aspects and to schools' tripled development as a MI school and learning organization.

New Teacher Education Curriculum

MI/Triplization-Focused Curriculum:
In the traditional paradigm, the focus of the design of curriculum is on the content and delivery of subject knowledge. The structure of a curriculum is mainly based on the structure of subject knowledge and the needs for the same standard contents and same arrangements for the same subject teacher group. Therefore, the curriculum is often linear, step by step, and subject dependent. Whether the teacher education curriculum is globalized (or world-class), localized and individualized is not the concern. By contrast, the new paradigm focuses the design of curriculum on developing teachers' multiple intelligences and ability to make triplization for their own teaching and learning, students' learning and development, and school's development. Therefore, the design is based on characteristics of development of contextualized multiple intelligences and maximizing development opportunities for teachers' individualized, localized, and globalized learning and teaching. The curriculum structure is often hybrid, integrative, and interactive with the support of IT, networking, local and global exposure, and field experience and virtual reality.

World-Class and Globalzied Curriculum:
The curriculum content of teacher education should be the world-class and globalized, pooling up of the world-class materials and designs for learning and teaching and maximizing global relevance and exposure in different development areas. The content is also related to technological, economic, social, political, cultural, and learning globalization. Whether it is subject-based is not the major concern.

Localized Curriculum:
The curriculum of teacher education also includes local resources, materials and concerns to ensure the local relevance and community involvement to maximize opportunities for teachers' localized learning and teaching. School-based/Community-based teacher education is one typical practice to increase the local relevance and support in the field. Technological, economic, social, political, cultural, and learning localization is also an important area of the new teacher education curriculum.

Individualized Curriculum:
The curriculum of teacher education and professional development is flexible and adaptable and can be indivdualized - in terms of learning targets, content, methods, and schedules - to

NEW TRIPLIZATION PARADIGM FOR TEACHER EDUCATION	**TRADITIONAL SITE-BOUNDED PARADIGM FOR TEACHER EDUCATION**
AIMS OF THE NEW TEACHER EDUCATION To develop teachers as triplized MI and lifelong learning teachers who will creatively contribute to students' triplized lifelong self learning and development as a MI citizen of a MI society and a MI global village with multiple developments in technological, economic, social, political, cultural, and learning aspects, and to schools' triplized development as a MI school and learnig organization.	AIMS OF THE TRADITIONAL TEACHER EDUCATION To equip teachers with the necessary competence to deliver knowledge and skills to students such that students can survive in a local community or meet the manpower needs of a society in the economic and social developments
NEW TEACHER EDUCATION CURRICULUM MI/Triplization-Focused Curriculum Triplized Curriculum Structure World-Class and Globalzied Curriculum Localized Curriculum Individualized Curriculum	TRADITIONAL TEACHER EDUCATION CURRICULUM Subject Focused Curriculum Standard Subject Curriculum Structure Subject-Bounded Curriculum
NEW TEACHER EDUCATION PEDAGOGY Facilitating Teachers' Life Long Self Learning Multiple Sources of Teacher Learning Globally and Locally Networked Teacher Learning IT Pedagogical Environment including Boundless and Unlimited Opportunities for Learning Inside and Outside Teacher Education Institution Pedagogy is Based on Pentagon Theory of CMIs Development	TRADITIONAL TEACHER EDUCATION PEDAGOGY Delivering Knowledge and Skills to Teachers Site-bounded nature of Teacher Learning Separated Teacher Learning Absence of IT, Classroom-Bounded Pedagogical Environment Limited Opportunities for Learning, Fixed Period, Within Teacher Education Institution Pedagogy lacks a clear linkage with CMIs development and it is often driven by the delivery of subject knowledge and external standards in examinations
NEW QUALITY ASSURANCE OF TEACHER EDUCATION RELIES ON: 1. How well learning is triplized 2. How well teachers' learning opportunities are maximized through the IT environment, networking, MI teacher educators, and MI teacher education institution and schools 3. How well teachers' self learning is facilitated and sustained as potentially lifelong 4. How well teachers' MI and ability to facilitate students' triplized learning are developed	TRADITIONAL QUALITY ASSUARANCE OF TEACHER EDUCATION RELIES ON: 1. How well learning and teaching are organized to deliver knowledge and skills to teachers 2. How well the delivery of knowledge and skills to teachers can be ensured through the improvement of teaching and learning 3. How well teacher educators' teaching can be improved and developed in a given time period 4. How well teachers can arrive at a given standard in teaching examinations

Table 4: Two Paradigms for Teacher Education

meet the developmental needs of individual teachers, facilitate their self learning and actualization, and optimize their potentials as a triplized multiple intelligence teacher.

New Teacher Education Pedagogy

The traditional teacher education emphasizes delivering subject knowledge and professional skills to teachers. Inevitably, the pedagogy is mainly to ensure teachers' learning as a disciplinary, receiving, and socializing process and assumes that close supervision is necessary during the training process. The opportunities for traditional teacher learning are often very limited in a fixed period within an institutional bounded or site-bounded but IT-absent environment. Also, the pedagogy has no clear linkage with CMIs development of teachers, and it is often driven by the delivery of subject knowledge and external standards in examinations. Contrastingly different from the traditional paradigm, the new pedagogy has the following characteristics (see Table 4):

Facilitating Teachers' Lifelong Self Learning:
As with students' self learning, the new pedagogy is to ensure teachers' learning as a self-actualizing, discovering, experiencing, enjoyable, and reflecting process. Teacher educators' inspiring, and teachers' own motivation and self rewarding are crucial to this self learning process.

Multiple Sources of Teacher Learning:
In addition to the teacher education institution itself, there are multiple sources of teacher learning - for example, self learning programs and packages, interactive multi-media materials, web-site learning, outside experts, community experiental programs, etc. - inside and outside the institution, locally and globally. Through different types of partnership and collaboration, schools, local, and overseas organizations, institutions and communities, including social services, business, and industry, are actively involved in in-service and pre-service teacher education and professional development programs.

Globally and Locally Networked Teacher Learning:
Teacher learning is locally and globally networked through, for example, the Internet, e-communications, visiting programs, local and global exchange programs, and sharing by video-conferencing. The networked learning can provide a wide spectrum of learning experiences and maximize opportunities for teachers to benefit from various settings and cultures. With the help of globalized learning, teachers can learn the world-class experiences from different parts of the world and various cultural settings. Therefore, the opportunities for teachers can be maximized to enhance the quality of their learning and teaching from local and global networking and exposure. In the new triplization paradigm, teacher education institutions are conceptualized as world-class and networked learning organizations.

World-wide IT Pedagogical Environment:
In order to make triplizing teacher education possible, it is necessary to build up a world-wide IT pedagogical environment for teacher learning. It should include some typical and important components such as world-wide networking through the Internet, web-site learning, interactive self learning, multi-media facilities and learning materials, and video-conferencing for local and international sharing and exposure. Through the help of this envi-

ronment, boundless and unlimited opportunities can be provided to teachers' learning and professional development inside and outside teacher education institutions and schools.

Based on the Pentagon Theory of CMIs Development:

As for students' development, the pedagogy for teacher education should be also based on the Pentagon Theory of contextualized multiple intelligences (CMIs) development (Cheng, 1999). The pedagogy should encourage teachers' CMI interactions and facilitate intelligence transfer among learning, economic, political, social, cultural, and technological intelligences. Also, developing teachers' learning intelligence should be at the core part of teacher education. Teachers should be facilitated to learn how to learn, think, and create particularly in the triplized local and global contexts. Teacher educators themselves should set a multiple intelligence model for facilitating and stimulating teachers' self learning. Teacher education institutions and schools should become a CMI pedagogical environment, in which teachers are immersed and inspired to be self actualizing and developing in CMIs. Team/group learning, open-end learning projects, problem-based learning, and integrative and thematic learning are typical examples of pedagogic approaches in the new teacher education.

New Quality Assurance of Teacher Education:

Since the traditional paradigm emphasizes the delivery of knowledge and skill, the quality assurance of teacher education is often focused on how well learning and teaching are organized to deliver the necessary knowledge and skills to teachers; how well the delivery of knowledge and skills to teachers can be ensured through the improvement of teaching and learning; how well teacher educators' teaching can be improved in a given time period; and how well teachers can arrive at a given standard in teaching examinations. Clearly, the paradigm shift in teacher education towards triplization induces a new conception of quality assurance of teacher education. The new quality assurance can be based on the following major questions:

1. How well is teachers' learning triplized? (This question aims to ensure that teacher learning can be well placed in a globalized, localized, and individualized context.)

2. How well are teachers' learning opportunities maximized through the IT environment, networking, MI teacher educators, and MI teacher education institution and schools? (This question intends to ensure maximizing opportunities for teachers' learning and development in a triplized MI environment.)

3. How well is teachers' self learning facilitated and sustained as potentially lifelong? (This question tries to ensure that maximized opportunities and teachers' self learning are sustainable to lifelong.)

4. How well developed are teachers' MIs and ability to facilitate students' triplized learning? (This question focuses on ensuring the relevance and outcome of teacher learning in terms of multiple intelligences and students' triplized learning.)

From the above discussion, the implications for new teacher education are substantial and completely different from the traditional paradigm. They can provide a new paradigm for reforming teacher education in Hong Kong or other parts of the world if globalization, localization, individualization and contextualized multiple intelligences are all considered to be necessary in education for the new millennium.

CONCLUSION: TOTAL LIFE-LONG TEACHER EDUCATION THROUGH TRIPLIZATION

Total Teacher Performance

The three key elements, "effectiveness, quality and relevance" and their related expectations and requirements in education and teacher education provide us a fairly complete framework to consider teacher performance in the new century. If teachers can perform these three elements successfully, we may consider they have *Total Teacher Performance.* In other words, teachers are effective in classroom teaching and provide total education quality and their contribution are relevant to multiple school functions and the ongoing or future paradigm shift in education. We may describe this concept briefly by the following expression:

Total Teacher Performance = Effectiveness + Quality + Relevance in Teacher Performance

Even though effectiveness, quality and relevance in teacher performance are different concepts and elements, they may have some common areas. Effectiveness in classroom may contribute to multiple models of education quality. Education quality and teacher effectiveness may contribute to the educational relevance to the future development of individuals, communities, and the whole world. Of course, there may be also reverse contributions among them. But it should be pointed out that these contributions are not necessary, even though we would like to see they are. This means that in some cases teacher effectiveness in classroom may not contribute to the multiple models of education quality or multiple school functions, if these three key elements are not congruent or are unrelated to each other.

Clearly, within the constraints of time framework and resources no matter, whether at the individual teacher level or the institutional level, it would be unrealistic to expect teachers to have good performance in all dimensions of effectiveness, quality and relevance even though they have received certain pre-service or in-service training. Particularly we may not expect teachers to have good performance in all these three dimensions (1) at the same time or in a short time; and (2) all the time in such a rapidly changing education environment. But, according to the dynamic concept proposed in Cheng (1996), teachers can struggle and learn to become totally performing in a dynamic way in a life-long span, as shown in Figure 2. During the early stage between t1 and t2, teachers may not be total performers, good in all effectiveness, quality and relevance in a short time or at the same time. But, if they can continuously learn and develop to pursue and perform in all these three dimensions, they can become better and better towards total performance all along the life-long time span.

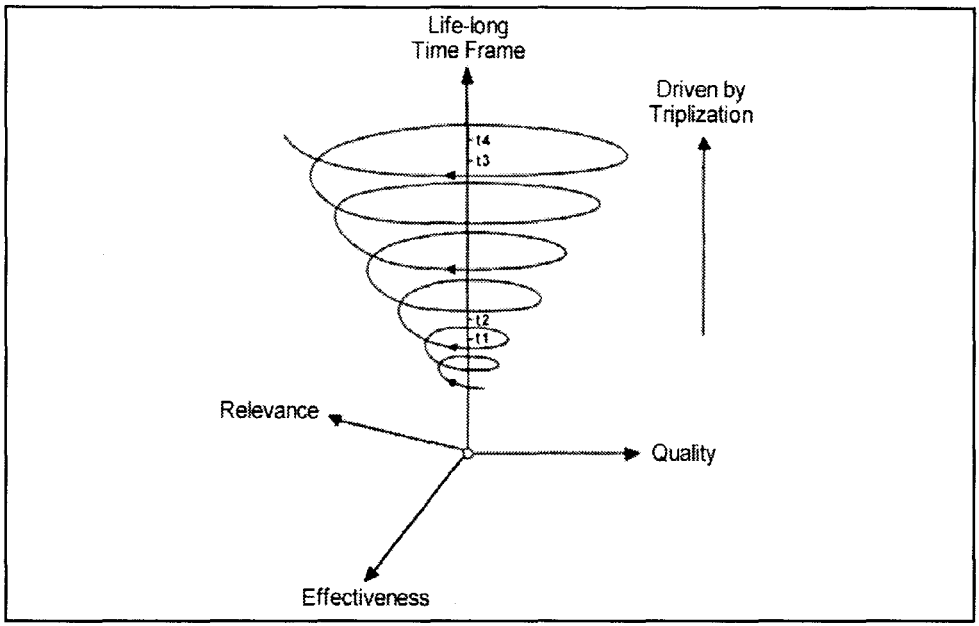

Figure 2. Total Life-long Teacher Education driven by Triplization: Towards Total Teacher Performance

Total Lifelong Teacher Education driven by Triplization

The above discussion indicates that effectiveness, quality, relevance, total teacher performance, and triplization are key concepts and elements in considering a new paradigm for teacher education and development in the third millennium. As summarized from the previous discussion and analysis, the new paradigm should be a type of **Total Lifelong Teacher Education through Triplization** with the following characteristics:

For Teacher Effectiveness in Classroom.
Long-term teaching effectiveness in classroom is a major concern in education. Therefore, as discussed, the dynamic strategy should be used to provide continuous teacher education and development in order to equip the teacher as a lifelong learning professional, as well as an effective change agent in a context of changing education environment.

For Multiple Education Quality.
The multi-models of education quality require teachers to have different sets of professional qualities and competence. The pursuit of total education quality in the new millenium demands continuous teacher education and development in different stages of the life cycle of teachers as well as the school, to meet the diverse expectations and requirements of education quality.

For Relevance to Multiple School Functions and Paradigm Shift in Education.
In the new century, schools should have multiple functions, such as the structural-economic, human-social, political, cultural, and educational functions. The education relevance to the multiple school functions at the individual, institutional, community, society and international levels expects teachers to have a very comprehensive spectrum of professional knowledge and competence that cannot be achieved just through one - off pre-service or in-service teacher training. Particularly the relevance to paradigm shift in school education in an era of transformation and high technology requires a similar paradigm shift in teacher performance and teacher education.

For Total Teacher Performance in a Lifelong Span.
As discussed, teacher education should support teachers to continuously learn and develop in order to pursue and perform in effectiveness, quality and relevance such that they can become better and better towards total performance along the lifelong time span. Therefore teacher education should be lifelong and cover the three key elements.

Driven by Triplization.
As analyzed above, there should be a corresponding paradigm shift towards the new triplization paradigm in teacher education. The process of triplization including globalization, localization and individualization in the aims, curriculum, and pedagogy of teacher education should be necessary to maximize the global resources, local relevance and support, and human initiative and creativity in teacher learning and development. Through triplization, teachers have optimal opportunities and support in lifelong learning, and pursue total performance in effectiveness, quality, and relevance in a dynamic way.

It is hoped that the above paradigm of total life-long teacher education driven by triplization can provide a completely new perspective for teachers, educators, policy-makers and researchers to reconceptualize and re-engineer teacher education for total teacher performance in the different parts of the world in the third millennium.

Note: This paper was mainly adapted from the author's article entitled "Total Life-Long Teacher Education driven by Triplization" for a book ("Education Revisited and New Facilitators of Learning" edited by Shin'ichi Suzuki) be published by Longman International, Delhi in 2001.

POVZETEK

V tem stoletju ni prišlo samo do premika v paradigmi izobraževanja, zato vzporedno s tem predlagamo paradigmatski premik v izobraževanju učiteljev. V skladu s tem premikom bi se cilji, vsebina, proces, metodologija, kontekst in kultura izobraževanja učiteljev morali približati novi paradigmi celostnega, vseživljenjskega izobraževanja učiteljev, ki ga motivirajo globalizacija, lokalizacija in individualizacija s pomočjo informacijske tehnologije in povezovanja v omrežja. V prispevku odgovarjamo na vprašanje, kako se da to paradigmo izobraževanja učiteljev tesno povezati s celovitim učiteljevim delom, njegovo učinkovitostjo, kakovostjo in pomenom v tako hitro se spreminjajočem okolju.

KLJUČNE BESEDE: ***nova paradigma izobraževanja učiteljev, izobraževanje učiteljev v novem tisočletju, vseživljenjsko izobraževanje, učinkovitost, kakovost in pomen izobraževanja učiteljev.***

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DIGITAL TECHNOLOGIES, PRODUCTIVE VARIABILITY AND THE DIALOGICAL SCHOOL

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Zavod za rehabilitacijo invalidov,
Kamnik

ABSTRACT

The main thesis of this article is: we are slowly becoming the citizens of hyper worlds. These worlds are saturated because they have been made in advance, artificially. The core of the human being is a subject who is empty and therefore is not something that can be made, produced or digitised. The subject is, of course, the subject of unconscious desire as Freud put it. In digitised worlds, which are made only for the new cosmopolitans and the wired elite, there is no escape and no freedom. Hence, we need a new concept of productive variability which is briefly sketched in the article. With this concept we are able to construe another concept: dialogical school. Our conclusion is that we need dialogical school in order to understand hypercapitalism and the nature and function of power relations in modern digitised worlds.

KEY WORDS: Digital technologies, digitised worlds, hypercapitalism, productive variability, dialogical school

DIGITAL WORLDS AND THE NEW COSMOPOLITANS

Let us start our speculation with two simple but rather productive questions: Do we really need nature and the natural environment to be creative? Is it possible to be creative in digitised cyberworlds? These questions are basic co-ordinates of our recent conceptual and theoretical work. In this article we will try to sketch some relationships between digital technologies, productive variability and the dialogical school. Our main thesis is that we need dialogical school much more than we need nature and the natural environment.[1] A school, a dialogical school in particular, is more important than nature is.

There can be no rational doubt any more and we cannot be naive any more: for the few last decades, new digital technologies have been radically transforming our existences, whether we have been aware of that that or not, whether we have liked that or not. Today, the whole situation is even worse than it was twenty or thirty years ago because totalitarianism is not something that comes from "outside" and is now obsolete, but it is latent and

1 The stimulus to write this article came from an extensive article by John Wolseley where he quoted John Carter: *Communications, technology and the power of media representations has made the investment in an organic past, however understandable, an act of nostalgia.* (Cf. **Wolseley, John (1994).** Landscape-Inscape. *[http://hsc.csu.edu.au/visarts/courses/3unit/sectionD/written/135/wolseley.htm]*)

inherent in the technologies we are so fascinated by, as Paul Virilio used to say.[2] Totalitarianism is thus an integral and "natural" part of spreading technologies and that is the main reason why in these days the whole situation regarding our cultural existences is continuously becoming worse.[3]

Unfortunately, only in the near future will the majority of people will fully understand what it really means to live and work in hyperworlds of digital culture of hypercapitalism. Hence, we must not be naive and we must not believe that digital worlds are only »out there«, in the computers, and that they have been made for fun or to help us in our struggle for survival. On the contrary, we already live in entirely saturated and digitised worlds. And what does that mean, precisely?

On the first level we can say that digital technologies (today even more than twenty years ago) are offering us one and a very big promise: all people will soon live in one nicely integrated global world. And further: all people will have better opportunities for living, which includes education, jobs, relationships etc. But only one thing in the whole story is really certain: digital technologies are very new and very powerful tools of seduction.[4]

On the second level, that promised »good life« from the future has one very important feature: international competitiveness in the global world which is really »good« only for very few people.[5] And those few people have constituted **the new cosmopolitans** – a concept by Jeremy Rifkin.[6] Once we believed that to be cosmopolitan meant to be highly educated and cultivated, but today this belief is obsolete because different cultures have already been radically transformed into cultural capitalism. But the most important and even paradoxical truth is that the new cosmopolitans also represents the new highly educated people. They try to convince us that they are also autonomous people who know how to lead the world.

The truth is that digital technologies help us to construe artificially saturated worlds, and that means that we are not dependent on the "natural" world any more. We are free to make whatever artificial world we want to. Hence, there are many such already prepared cyberworlds on the global cyber market place, and every one of them has been made to be bought, exchanged and instantly consumed. The profit they bring to the new cosmopolitans is really enormous but, on the other side, it is also a strange "basis" of some new and very modern theoretical projects and practices.

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2 Cf. **Virilio, Paul and Oliveira, Carlos (1996)**. The Silence of the Lambs: Paul Virilio in Conversation. *CTHEORY*, Vol. 19, No. 1-2, p. 3.

3 Paul Virilio is one among very few theoretical analysts today who is really aware what is going on in the world. In his last interview about the Kosovo war, he says there is a totally new relationship between politics and every day life emerging. This new relationship reposes on the so-called "information bomb", says Virilio. The information bomb is a very strong weapon being used in a very peculiar modern war against culture and differences. And Virilio goes further: *in the very near future, and I stress this important point, it will no longer be war that is the continuation of politics by other means, it will be what I have dubbed 'the integral accident" – that is the continuation of politics by other means.* (Cf. CTHEORY Interview with Paul Virilio: The Kosovo War Took Place in Orbital Space. Paulo Virilio in Conversation with John Armitage. Translated by Patrice Riemens. Article 89. 18. 10. 2000.)

4 But they can seduce only those people who are already seduced, and that means 20% of the world population. ***The suggestive power*** *of virtual technologies is without parallel*, said Virilio. (Cf. **Virilio, Paul (1995)**. Speed and Information: Cyberspace Alarm! *[http://www.ctheory.com/a30-cyberspace_alarm.html]*)

5 *Promises of the »good life« via the computer revolution have not been realised for most people* (cf. Travers, Ann & Decker, Elaine (1999). New Technology and Critical Pedagogy. *[http://radicalpedagogy.icaap.org/content/vol1.1999/issue2/01travers1_2.html]*).

6 Ibid.

At this point of our analysis, we would like to emphasise that our main thesis in this article is the idea that only so called critical or rather **radical pedagogy** is able to teach students what is the nature of the artificial worlds they live in and the knowledge they use and transmit in everyday life. We also strongly believe that they have a natural right to recognise and understand their identities and the identity of the world which is certainly not a neutral, kind and beautiful place full of harmony and mutual understanding between different people.[7] To be educated thus means to be able to recognise and understand the structure of the power relations that are the most robust co-ordinates of our artificial existences.

One question seems to be pertinent at this level of our analysis: Are our existences really spontaneous, kind and full of justice? Some people believe they are. We believe they are not. Right now we are witnessing a new and radical shift from the concrete production of objects to the virtual production of ideas, images and concepts and from culture as one of the last and relatively autonomous spaces to the virtual digital culture of capitalism; to technoscience and cyberculture, including the culture of cyborgs, cyberfeminism, cyberspace, cyberwarfare, and cyberart.[8] Our existences are becoming dematerialised and we are becoming personalities without material bodies. This is very important.

Students are therefore mostly young people who must learn how to understand the role and function of new digital technologies and the nature of digital worlds constructed and supported by them. They must get an opportunity to learn that knowledge is nothing neutral and »objective«; they must understand that every piece of knowledge has been constructed under very special and sometimes also very complicated political and ideological conditions and that technologies and the media have a very important role in the processes of construction of those conditions. They must get an opportunity to recognise the structures of power relations or they will remain naive and helpless to the end of their existences.

Modern digital worlds are really very strange and tremendous: everything in them is artificially made for a very particular kind of human beings and everything is payable. Nothing else is new. Human beings are customers and the products mostly images, ideas and experiences they buy are made to please and satisfy them in a very peculiar way. But when we say everything is artificial, we mean it literally: even the most intimate human experiences have been digitised and prepared in advance to be exchanged in the hypermarket.[9] There is no free time and space: everything is made and everything is made to be paid.

In modern saturated worlds, men and women are becoming more and more dependent on a few multinational corporations which are able to steal the most precious and most important co-ordinate of our rather short life: time. Our time is therefore not our own any more. The essential point of our modern life in digitised worlds is how much time we spend on living in them. And we naively believe that we are free to choose whether we like to live in artificially constructed worlds or not. We still believe that there is an independent

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7 *The naive view of technology as value neutral has been challenged by scholars who have demonstrated that technology is conceived and constructed within specific social circumstances and has implications for social relations.* (Cf. ibid.)

8 Cf. **Armitage (1999)**. Resisting the Neoliberal Discourse of Technology: The Politics of Cyberculture in the Age of the Virtual Class. *[http://www.nettime.org/nettime.w3archive/199902/msg00005.html]* On the nature and function of cyber culture in the age of access see also **Aronowitz, Stanley; Martinson, Barbara and Menser, Michael (Eds.) (1996)**. Technoscience and Cyberculture. London: Routledge; **Hables Gray, Chris (Ed.) (1995)**.The Cyborg Handbook. London: Routledge.

9 *Jeremy Rifkin believes one day soon you will wake up and find that virtually every activity outside your immediate family has become a paid-for experience* (cf. **Straus, Tamara (2000)**. Commodifying the human experience: an interview with author Jeremy Rifkin. *[http://www.metroactive.com/papers/sonoma/08.10.00/rifkin-0032.html]*).

"nature" outside our digital culture and that "nature" is an important value for us, like freedom, free spirit, independence, autonomy etc. We do not want to accept the common and rather sad truth: we are all customers and our life values are payable products.

In his last book, Jeremy Rifkin said that we already live in a hypercapitalism.[10] We also live in dematerialised hyper worlds and our existences are slowly suffering very important transformation: the real world has gone because it has been murdered,[11] the digitised worlds are "our" ultimate reality. And that reality is "telematic".[12] If it is our interest to understand what a nightmare really is, we can learn a lesson from our immediate life: we should read books by Jeremy Rifkin. He can teach us how the cyber networks, electronic commerce, and lifestyle marketing are unconditionally resulting in a final, nightmarish stage of capitalism.[13]

In a way, we are not cultural beings any more. We must admit that we live inside digital cultures and that fact is also a reason why the sphere of culture is not an independent sphere as it once was. The culture is overdeterminated by hypercapitalism or, be more precise, by modern digital technologies, the media and advertising.

The lesson is thus obvious: we must learn how it is possible that capitalism again and again restructures itself, and what are the consequences of that process. If we still want to be teachers in the near future, we must be aware that we are becoming a sort of free floating token in digitised worlds.[14]

As a token inside digital networks, I am not a missing link, because digitised worlds are already saturated, although they are open and even indeterminate. I am not a missing link, I am just a being who is able and prepared to sign a contract by which I become even more dependent because with the contract I agree that my body and my soul need services.[15] We want services and we desperately need them. And even more they need us. The circle is closed: we are important once again and our life has got a meaning.

The networks we live in are not free, because hyper markets produce and reproduce them. With virtual markets and cybernetworks, our existences are producing and reproducing as well.

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10 *And a customer's "lifetime value" becomes the ultimate market commodity* (cf. **Straus (2000)**). By the way: Virilio calls the modern form of capitalism **narco-capitalism** (cf. **Virilio (1995)**). Wired people are therefore totally addicted and dependent.

11 *The world is only a simulacrum.* (Cf. Baudrillard, Jean (1995). Radical Thought. *[http://www.ctheory.com/a25-radical_thought.html]*)

12 *Contemporary neoliberalism is the pan-capitalist theory and practice of explicitly technologized, or "telematic", societies* (cf. **Armitage, John (1999)**).

13 Cf. **Rifkin, Jeremy (2000)**. The Age of Access: The New Culture of Hypercapitalism, Where All of Life Is a Paid-for Experience. New York: Jeremy P. Tarcher/Putnam. See also: **Rifkin, Jeremy (1995)**. The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era. New York: G. P. Putnam's Sons.

14 Rifkin warns us: *What people don't understand is that we are entering a totally different form of capitalism* (cf. **Rifkin (2000)**).

15 Rifkin: *Power is no longer based on property but on access to services* (cf. **Straus (2000)**). Rutar: *this is the true form of modern pastoral or bio-power in cyberculture. The people who represent bio-power do not directly control you, they don't oppress you by raw power. On the contrary: they hold you in the clamp of power by services. They serve you, they are kind and they always just try to "help" you. And you are clients who desperately need all those services. Just think for a moment: when people can't watch television due to some physical deterioration or damage in the net they seek help from psychologists, psychiatrists etc. What can we learn from their behaviour? We can learn that they can't live without digital networks, spectacles, images, advertising etc. They are totally powerless.*

PRODUCTIVE VARIABILITY

At the outset of a new way of thinking about cyber worlds, we would like to emphasise that the concept of productive variability, which was created by Deleuze and Guattari, is not in opposition with various other concepts which try to elaborate the thesis that human labour is no longer central to market-driven conceptions of business and political activities.[16] It is very far from that: the concept of productive variability stresses the "objective fact" that we have one and only one good reason to think about the human being as a subject of desire. The reason is that in hypercapitalism only 20% of the human population have an access to the products of this new kind of human labour which does not produce articles to be exchanged on the market, but information, concepts, ideas, images. In digitised hyper-worlds, of course. Those with no access to these worlds are outside, they are strangers and outsiders, and it seems they are lost forever.

Let us continue. The concept of productive variability is itself a product of extensive and very sophisticated reading of Freud's concept of unconscious desire.[17] Only with productive variability can we fight against globalisation and exclusion. Productive variability is a tool of creation and only as desiring human beings can we create differences, heterogeneity and can protest against assimilation, integration, reduction of differences.

Freud was still living and working in the age of hysteric division between free spirit and docile bodies. Nowadays, our schizoid personalities are divided between cyberworlds and the real flesh of obsolete bodies. Our selves have become electronic, digitised selves, closed in saturated worlds and pursuing the advertised interests, wishes and desires.[18] We do not even try to fulfil our desires and wishes because they are all already fulfilled and satisfied. We are now only pathetic clients whom the services need in order to provide profit to the owners of the capital.

But unconscious desire, as Freud put it, is not something to be fulfilled at all. On the contrary: desire is infinitely productive, and because of that productivity Deleuze and Guattari created a concept of **productive variability**. The human being is thus a subject of productive unconscious desire, that means, he is the subject of productive variability that asserts itself in its radical otherness.[19] The subject of productive desire is hence always already able to create something new. And we must emphasise that this really means always: the subject of unconscious desire cannot be saturated or digitised.

Through a discussion of the political and ideological nature of the social field, and particularly the school field, we can make a far reaching and productive conclusion which is rather unexpected: the goal of political actors is the creation of formal conditions in the field of the social that will release human desire and set free human beings as desirable crea-

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16 Cf. Armitage (1999).

17 By the same token we must accept the recognition that cyber culture is not a peculiar gift from Mars; it is a result of our own raw desire. This is really very important: the vehicle and the essence of cyber worlds is unconscious human desire. If we believe that the machines that surround us behave in a strange way and if we are convinced that they look at us, control us and dictate us how to live, what to say, how to behave etc, we are certainly right. (Cf. **De Landa, Manuel (1991)**. War in the Age of Intelligent Machines. New York: Zone Books.)

18 ***The electronic self*** *is in a bind. Seeking to immunise itself against the worst effects of public life, it bunkers in. It becomes a pure will-for-itself: self-dwelling, closed down, ready to sacrifice all other interests for the sake of its own immunity.* (Cf. **Kroker, Arthur and Marilouise (1996)**. Code Warriors. *[http://www.ctheory.com/a36-code_warriors.html]*)

19 Cf. Short, Jon (2000). Outside of Power? or The Power of the Outside. *[http://www.yorku.ca/jspot/2/jshort.htm]*

tures.[20] The goal therefore is not the creation of one global, integrated and synthetic world, the goal is proliferation and variability, that is, the creation of something really new.

Jeremy Rifkin writes[21] that a world structured around access relationships in likely to produce a very different kind of human being, but we firmly believe that this new human being will still be the subject of unconscious desire. Without desire there is no human being at all. Human beings are desirable or they are not human. In this perspective, cyborgs are not human.[22] They live in cyberworlds and, logically, we are afraid that in the near future there will be no human beings because there will be no real worlds. But, it is not possible to digitise human desire and it is not possible to digitise human being as a subject. Unfortunately, it is possible to reduce human beings to the level of artificial beings, that is, humans beings are able to totally disclaim their very own nature. Human beings are thus already prepared to be transformed into integrated tokens of cyber networks.

But outside cyberworlds there will always exist human desirable subjects.[23] Inside cyberworlds the desire is not even possible because the cyberworlds are saturated, whereas the desire is possible only in an open, unsaturated and incomplete world. When we speak about desire and the subject of desire we do not think there was any original or "natural" totality. Every idea of totality whether it is originally or artificially produces, is false and authoritarian, as Adorno used to say.

It is evident that the way the subject as desirable creature creates new ideas, worlds, relationships etc. has nothing in common with modern cynical hypercapitalism.[24] There are some key ideas and basic differences between the so-called modern and post-modern way of life that can illustrate our thesis that the subject of desire is neither modern neither post-modern.[25] The subject of desire is what Freud called unsupportable (germ. *unverträglich).* This may be even a decisive gesture in hypercapitalism because its cynicism is also paradoxical: the integrated digital world has been constructed on the ruins of a deconstructed real world. Hypercapitalism is evidently post-modern and paradoxical, while the subject of desire escapes both: construction and deconstruction.

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20 *According to Deleuze, the aim of politics for Foucault is always and inevitably the creation of the new and different by proliferation and excess, rather than by exclusion and synthesis* (cf. **Short, Jon (2000)**).

21 Cf. Rifkin (2000), p. 7.

22 On the question of who or what is cyborg cf. **Donna Haraway (1983)**. The Ironic Dream of a Common Language for Women in the Integrated Circuit: Science, Technology, and Socialist Feminism in the 1980s or A Socialist Feminist Manifesto for Cyborgs. *[http://www.rochester.edu/College/FS/Publications/HarawayCyborg.html]*

23 This is also the basic point of the film *The Matrix* where we can see what happened after the war between human beings and the computers. The computers won and human beings were completely satisfied with their existences inside the matrix, that is inside the hyperworlds that the giant Computer produces for each one of them. Only few of them were outsiders: they were literally unwired or uncoupled.

24 Rifkin said that this cynicism of hypercapitalism is evidently disintegrating and transforming each one's personal and even intimate life into a commercial market (cf. Rifkin (2000), p. 7). The market is therefore not "outside there", it is literally already everywhere and we are only a small and replaceable part of it.

25 **Modern ideas:** equilibrium, homeostasis, tension reduction, order, homogeneity, consensus, stasis, normativity, foundationalism, logocentricism, totality, closure, transcendental signifiers, structural functionalism. **Post-modern ideas:** far-from-equilibrium conditions, flux, change, chance, spontaneity, irony, orderly disorder, heterogeneity, diversity, intensity, paralogism, toleration for the incommensurable, dissipative structures, antifoundationalism, fragmentation, coupling, impossibility of formal closure, structural dislocations/undecidability, constitutive theory. (Cf. **Milovanovic, Dragan (1997)**. Dueling Paradigms: Modernist vs. Postmodernist Thought. *[http://www.soci.niu.edu/~critcrim/papers/drag-pomo.html]*

DIALOGICAL SCHOOL

is, of course, a logical consequence and at the same time, an effect of the so called critical or radical pedagogy which is a product of Marxism and critical social theory. Of course, it is not only a product, it is also a carrier of a particular heritage.

It is, of course, very important to be able to transform theoretical concepts into concrete praxis, and to know how to do that. Some critical readers would argue with this statement, saying that the theory is never made to be transformed into praxis, but on the other hand, we must do something when we are faced with the concrete and real problems of everyday life.

The dialogical school is therefore a concrete answer to the question of what to do and how to do our job as teachers, if we accept what we have said at the beginning of this article. If we already live in an artificial world of networks, we need new knowledge of it, we need new understanding, we need new concepts, ideas. We need creation and we need desirable subjects. We don't need artificial beings, we need real human desirable beings who are able to create new worlds. And, last but not least, we need dialogical schools. Let us then sketch some basic co-ordinates of the dialogical school.

Peter McLaren in his article about critical pedagogy once said that critical pedagogy first of all attempts to analyse and unsettle extant power configurations of the world.[26] This idea we recognise to be the most important task of the dialogical school. Learning, therefore, is no more an idiotic process of transmission of data into students' empty heads but it is bound to the process of productive variability. The dialogical school is therefore a place of invention or, more precisely, creation. It is a place for creation. Deleuze and Guattari have understood philosophy precisely in this way, and that is why we try to advocate the dialogical school against the traditional school.

A second task of the dialogical school is to defamiliarize and make remarkable what is often passed off as the ordinary, the mundane, the routine, the banal. In other words, critical pedagogy makes ambiguous the complacency of teaching under the sign of modernity, that is, under a sign in which knowledge is approached as ahistorical, neutral, separated from value and power.[27]

In the dialogical schools teachers and students do not grasp reality as it has been understood since the 17th century when modern science was born. Hence, modern science is no more the ultimate authority in the dialogical school because nowadays it is unable to understand the structure of scientific revolutions and, more important, it is not able to produce new concepts.[28] Modern science is obsolete in hypercapitalism.

And we really need new concepts, new ideas and new ways of thinking if we want to fight against the politics and ideologies of global hypercapitalism. The fight is unavoidable because on the other side there is the information war already going on. The dialogical

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26 Cf. McLaren, Peter (1994).Critical Pedagogy, Political Agency, and the Pragmatics of Justice: The Case of Lyotard. *[http://www.ed.uiuc.edu/EPS/Educational-Theory/Contents/44_3_McLaren.html]*

27 Cf. ibid.

28 Teaching and learning are therefore not a matter of different contents of thought, as it would be for those for whom criticism is governed by some form of opposition between adequate and inadequate representations of an external reality (science and ideology). It is rather a matter of different styles or modes of conceptual functioning. (Cf. **Patton, Paul**. Conceptual Politics and the War-Machine in Mille Plateaux. *[http://www.substance.org/44/05patt44_R.html]*)

school is perhaps one of the last sanctuaries of independent ideas, strong concepts and autonomous behaviour in the age of access.

The overall project of the dialogical school is as follows: we really need to invite students and teachers to create independent fields where they will be able to analyse their own experiences, school field and its structure, the knowledge that is obviously not given in advance, and the social arrangements of modern digital and capitalistic orders. The goal of the dialogical school should be a creation of new **strategic knowledge.**[29]

CONCLUSION

In this rather short article, we have tried to understand what is meant by the fact that a new great polarisation of the world is going on. It is a notorious fact that only a few privileged people have access to new global digital networks, cybermarkets, information, data, media etc. Obviously, only the new elite and cosmopolitans have benefits from new digital technologies. All other people have no access and no benefits. Our question was thus meaningful: Would it be reasonable if we were to accept these facts and feel happy? We do not think so, we believe that it is in human nature to fight for good things, and knowledge is doubtless one of them.

If knowledge is not given and ready-made, we have a very special duty to accomplish. We need the dialogical school as an independent place where students and teachers will be able to create knowledge, new ideas, new concepts and even new worlds with no pretension to globalise, digitise or integrate them. The dialogical school is definitely not a traditional school; we need new traditions ...[30]

... and we need a new pedagogy of human rights education.[31] We hope that this new pedagogy will be finally powerful enough, because it will be extremely difficult in the world of saturated hypercapitalism and so called R-technologies, to empower both - students and teachers - to find new ways of working and new tools for thinking and creating concepts that will contribute to an understanding of the logic of capitalism, power relations and ideological practices. There can be no success, of course, without critical thinking and creativity in the Deleuzean sense of the concept, no success without reflexivity and radical auto-reflexivity.

POVZETEK

Glavna teza tega prispevka je, da počasi postajamo državljani hipersvetov. Ti svetovi so nasičeni, ker so bili umetno ustvarjeni vnaprej. V središču človeka je subjekt, ki je prazen in ni nekaj, kar bi se dalo narediti, proizvesti ali digitalizirati. Subjekt je seveda subjekt nezavednih želja, kot se je izrazil Freud. V digitaliziranih svetovih, ki so ustvarjeni

29 Cf. Epstein, Barbara (1997). Postmodernism and the Left. *[http://www.geocities.com/Athens/Parthenon/4942/pomo.html]*

30 *Traditional pedagogical approaches emphasised the teacher as knowledge broker and the student as receiver of knowledge. The work was about content mastery* (cf. Travers, Ann & Decker, Elaine (1999)). In dialogical school both, teacher and student, make a team, they are co-workers and they try to produce new knowledge in a classroom which has been transformed in a community of inquiry.

31 Cf. Towards A Pedagogy Of Human Rights Education (International Consultation on the Pedagogical Foundations of Human Rights Education, CEDAL La Catalina, Costa Rica, 22-26 July, 1996). *[http://www.pdhre.org/dialogue/costarica.html]*

samo za nove svetovljane in modernizirano elito, ni možnosti pobega in ni svobode. Zato potrebujemo nov koncept produktivne variabilnosti, ki je na kratko opisana v tem članku. S tem konceptom lahko razložimo drugi model: dialoško šolo. Zaključimo, da potrebujemo dialoško šolo za razumevanje hiperkapitalizma in narave ter funkcije povezav oblasti v modernem digitaliziranem svetu.

KLJUČNE BESEDE: ***digitalne tehnologije, digitalizirani svetovi, hiperkapitalizem, produktivna variabilnost, dialoška šola***

WHAT MAKES A "GOOD TEACHER" GOOD?

REFLECTION ON PROFESSIONAL KNOWLEDGE AND IDENTITY

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ABSTRACT

As the title suggests we are trying to discover what types of knowledge, attitudes and competencies, underlie and found the practices of professionals socially recognised as N. Entwistle 'good teachers'. The empirical study which supports these training and research objectives was developed in the University of Aveiro, Portugal in 1999 by a team made up of four post-graduate students. The research refers to two groups of teachers; one made up of American teachers and the other of Brazilian teachers, proposed by various social actors- pupils, school principals/heads of department, relatives, colleagues etc. - from their respective countries.

The documents referred to were collected from the daily press in the case of the United States of America when the respective winners were known and divulged, and through the Internet in the case of Brazil. The system of analysis used was developed from the work of Shulman, L. (1986) and of Elbaz, F. (1983) which had previously been validated through prior studies carried out by the principal researcher. It is particularly clear from the analysis of the information collected from each situation and context that there are basic cognitive and affective concepts which combine in the construction and differentiation of a curricular strategy. Some specifics appear to characterise the two groups studied.

The conclusions suggest the systematic occurrence of curricular practice of a metapractical nature supported by integrated metacognitive concepts in a reflective and critical way on the dimensions of professional knowledge put forward by the authors mentioned above. The contents of these were analysed searching for inferences of the underlying concepts and organised into the different dimensions of professional knowledge of teachers and the ways that each teacher reflectively organises these for practice in cases which are all recognised socially as successful.

KEY WORDS: **teacher education, teacher's professional knowledge, non-standard thinking, knowledge in action, reflective practice, epistemological understanding, holistic knowledge approach.**

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INTRODUCTION

The importance that many researchers give to knowledge of the cognitive processes underlying the practice of good professionals is an important contribution to the deepening of concepts and strategies for training. This reflection is continued through this communication on the professional knowledge of teachers, namely in its epistemological structure, which we have been investigating for the last few years. It is intended that in this way greater understanding will be achieved of the reflective and integral competencies that these professionals develop and present when causing the multiple dimensions of knowledge in action to interact amongst themselves when these are organised in a reflective and critical way in order to achieve success, taking into account the particular dynamic of the learners and the situations faced.

In the case of teachers, the fundamental question will then be to try to contribute to the debate that has been going on for the last few decades, attempting to find out what the characteristics are that define and inform the actions of a good teacher.

Some way along from the contributions started in the 60's and 70's when perspectives focused on the technical process and were classroom based, which was seen as a promoter of greater levels of success in learning, what is sought nowadays is a better understanding of the complex thought processes which interconnect the different types of knowledge to which each teacher resorts to produce pedagogical intervention answers to the actual problems in which their work contexts place them.

Such complexity is caused by the interaction of the different ecological levels (micro, meso, exo and macro context) proposed by Bronfenbrenner (1979), within which professional activity takes place and also by the inter-betweeness of the multiple professional knowledge dimensions. This complexity is characterised, as is widely recognised today, by its dynamic nature which creates continual instability and therefore unpredictability (Schön, 1983, 1987). This, in turn, makes it impossible to think through the problems using standard solutions established beforehand.

To think about the **educational act**, not as a technical problem but as an ecologically determined context, probably in a continual state of change, leads to a professional paradigm which presupposes the exercise of the profession as *praxis*, that is to say, whose practical and involved nature, far from representing the casual or technically routine, presents itself as intelligent, reflective and critical action. As a social and cultural act, pedagogical intervention is a conscious and intentional effort regulated by knowledge and **values** which legitimise it within the framework of transforming action which, after all, is its essence and ultimate aim.

In this way, good teachers will not be the ones who only demonstrate a technical performance which facilitates the relationship between teaching and learning on a closed and fragmented perspective, but probably the ones who, without pre-prepared solutions, show they are able to identify, characterise and deal with problems in their global complexity and also find possible solutions by themselves in the light of their multiple types and levels of knowledge and of the values that, as social beings, govern and brand their intervention in the world.

That is to say, teaching how to learn is an occupation that always goes well beyond the specificity of the materials which (re)act in order to project themselves onto the training and educational process and the personal and professional development of the interlocutors

in that process. In this way, it is involved in an ethical compromise in order to create learning, which will be the condition for and factor of, continuous development whether personal, individual or social.

From this point of view, it seems to be of great importance that research is continued into the training of professionals who are ever more prepared to act and intervene in a deliberate and strategic manner when faced with the contingencies of the particular circumstances of each context and moment.

Therefore, this study is situated in the area of a paradigm of critical reflection proposing that questions be explored not only of the need and the importance for professionals to reflect but, above all, to try to discover **what** about and **how** reflective professionals think.

It is concerned with considering and highlighting the centrality of the reflective question both in its specific aspects and in contexts of collegiate reflection in order to find out how teachers use the borders of curricular autonomy in a singular and creative way to provide themselves with a unique way of behaving and being, a style of action and of life that together confer an identity upon them. Thus, this study attempts to uncover the epistemological dimensions that cause the emergence of **knowledge in action**, as a personal pratical knowledge and also the methods and factors which influence their strategic organisation in order for non-standard solutions to the problems inherent in particular contexts of professional practice to be constructed.

As a starting point towards this objective, the work that many researchers have produced since the 80's which immediately identify some of these dimensions as integral parts of the thought processes subjacent to educational practice, is taken into account highlighting, amongst many, the names of Elbaz (1983), Schön (1983, 1987), Shulman (1986), and Zeichner (1990). At a national level we continue on from work which Sá-Chaves and Alarcão (1998) have developed in the area of professional knowledge trying to reflect about the professional's knowledge structure that underlies the practical reasoning of teachers when they deal with unpredictable conditions.

CONTEXT OF THE STUDY

The work that is presented here refers to a study developed in Portugal in the academic year 1999-2000 in the University of Aveiro on a Master's course in Curricular Management by a group of four masters students, supervised by the professor responsible for the *Curriculum Theory and Development* discipline.

Besides the more general objectives mentioned earlier, the study was carried out as a training strategy through research in a more specific attempt to discover the epistemological concepts of the Professional Knowledge of Teachers which are judged to be the foundations for professional practice of a group of American and Brazilian teachers recognised in their respective countries as "good" professionals. This professional recognition is shown by the fact that they were the winners of a competition which takes place every year in each of these countries that attempts to elect the best of the best using certain criteria. The nominations are put forward by various social actors. In the 1999 competition proposals (599 nominees for the American group and 1890 for the Brazilian group) were presented by pupils, school principals, institutions and /or departments, professional colleagues and/or family members, and are about teachers at all levels of education.

The *data*, on which the empirical study was based, are made up of narratives, taken from the nomination proposals of each teacher put forward to the respective national jury of the competition. These describe some aspects of the practice of each teacher, nominated individually and in teams, as well as the reasons why they have been proposed, the attitudes and competence shown by the teachers in the resolution of practical problems arising in their professional lives always taking place in diverse contexts and under unique circumstances.

Access to these narratives was through the daily press in the case of The United states of America (U.S.A. Today)[2] and via the Internet in the case of Brazil.[3] These are documents that ensure ample public disclosure both of the results of the competitions, the most significant excerpts in the proposals and also of the opinion polls about many aspects of the initiative.

The study was composed of an analysis of the documents referring to the twenty winners of the prize in the U.S.A. (sixteen of which were awarded to individuals and four attributed to teachers organised into teams) together with the ten winners in the case of Brazil, and it was developed by two different groups of master's students. The results presented in this paper refer to a sample constituted by ten American and five Brazilian teachers and were confirmed by the other study group.

METHODOLOGY

In this study, a methodology was used of analysing the content of the documents mentioned above in order to identify the dimensions of professional knowledge of these teachers, which are believed to be the foundation for the reflection subjacent to the practices described. As a tool for analysis, a system of categories was used developed from the proposals put forward by Shulman (1986) and Elbaz (1983) on the practical knowledge of teachers, which have already been worked on and refined by other research on professional knowledge developed by Sá-Chaves and Alarcão as mentioned before.

It deals with a conceptual system which endeavours to represent the epistemological structure underlying the practice of teaching and action, and which organises the multiple and differentiated dimensions of knowledge in and for action into a coherent whole.

It is this coherent whole that is taken as the substance of intentional and strategic reflective activity, creating an always singular way of organising the different pieces of knowledge as deliberate reactions to contexts and circumstances inherent in the processes of development in constant interaction and change.

The dimensions considered show, by the rationale which interconnects them, that it is through *dialogue with the situation* that the teachers interact with each one of their pupils, seeing them as unique individuals whose learning, training and development are strongly influenced by their own cultural contexts and lives. That is, the dimension of *knowledge of the learners* is only understood in the framework of relationships which the *context knowledge* establishes and presupposes. The importance that the different forms of culture and of language present in the possible relationships and of interpersonal communication constitutes a decisive factor in the success of these same relationships, above all

2 Published on 14th October 1999
3 http://www.uol.com.br/novaescola/cd/12-nov.99

where sharing and jointly constructing knowledge are concerned. Moreover, it is in the light of the knowledge coming from the situation that, at the same time, reflective teachers call up those that are the most appropriate and coherent for the situation from their ample framework of knowledge. It is a process of selection as far as specific *content knowledge* is concerned that naturally is part of a type of vaster knowledge – that of *curriculum knowledge* in its widest generic use.

The reflective processes which tend to make this content understandable to the pupils through possible strategies such as (de)construction of meanings, use of metaphorical analogies, images or other figures aiding comprehension, constitute the *pedagogical content knowledge* which, being **exclusive to the teacher**, epitomises their competence for the successful practice of educational functions. In this possibility finally rests that which today can be understood as a good teacher.

However, this quality is not understood only as a closed didactic exercise about a certain content of a certain discipline but as a global exercise, personal interaction, able to include the teaching-learning relationship of the disciplinary material in a type of also personally significant relationship. In this way, two dimensions of great importance underpin the pedagogical content knowledge. One of these is *general pedagogical knowledge* which presupposes mastery of cross-disciplinary conceptual strategies (planning, evaluating, etc.) and the *knowledge of educational aims, purposes and values*, as a final guarantee of all of the educational objectives as factors of change and of personal, cultural and social progress.

Only under these conditions will action of a technical nature give place to a kind of *praxis* action, that is, regulated by good values which support the democratisation of living relations and found principles - guarantee of the universal rights of each participant in the action.

It is a kind of action that, as engagement between ethics and duty, appears to justify the relevance of reflecting again on the questions and characteristics which from a new point of view can distinguish the good teacher.

This point of view as Elbaz (1983) and Schön (1983;1987) say, also presupposes that this reflective competence in and for action provides another systematic and continuous opportunity to reflect upon the action and upon oneself – *knowledge of oneself* – which clearly permits reformulation of the conceptual framework and practices, that is, permanent development and training.

In short, and despite taking into account each of the epistemological dimensions, it is important to emphasise the structural, integrated and dynamic character of *knowledge in action* as a personal practical one which permits the complex and composite nature of the pedagogical act to be understood. This is, nevertheless, always presented as a global and single whole, integrator of the multidimensionality of the knowledge being shown.

In the study presented here, what was sought therefore was to find out about the nature of the reflective processes of the winning teachers, shown above all within the framework of their professional knowledge, in the light of the theoretical contributions mentioned earlier. Through the interpretation of the excerpts and narratives, it became possible through an exercise of reflection, discovery and training to identify which of those epistemological dimensions made up the fundamental factors of the practice and also with what degree of incidence and of significance they occurred in the practice of the teachers of the different school levels. In a certain way, it was trying to get to know through epistemological criteria why these professionals were put forward as, and recognised as, the best amongst so many.

The dimensions that inform the holistic structure of analysis can be described as follows in order to gain a better understanding of the global meaning that integrates them (table 1).

System of analysis

DIMENSIONS	**DESCRIPTION**
Content Knowledge	Refers to the content, structure and topics of the **material** to be taught.
Curriculum Knowledge	Refers to the specific **programmes** and materials that are used as "*working tools*" of the teachers.[a]
General Pedagogical Knowledge	Refers to the **general principles** of the organisation and management of the class,but which are not specific to one subject matter and transcend the content dimension (planning, evaluation, etc.).
Knowledge of the Educational Aims, Purposes and Values	Refers to the philosophical and historical **foundations** in Education.
Knowledge of Learners and their Characteristics	Refers to the factors connected with the **individuality** of each learner in their multiple dimensions and the instability arising from their dynamic nature.
Pedagogical Content Knowledge	Refers to **reflective competence** which combines science and pedagogy to make each content comprehensible either through its (de)construction or through knowledge and control of all the other variable dimensions in the teaching-learning relationship. **It is exclusively the teachers.**
Context Knowledge	Refers to the ecological dimensions which go from the specificity of the **classroom** to the particular nature of the **community** and **culture** (micro, meso, exo and macrocontext).
Knowledge of Oneself	Refers to the capacity of each teacher to identify, know and consciously control the multiple variables inherent in the pedagogic act, mainly to reflect **about himself** as one of the most important variables (**metacognitive** dimension).

TABLE 1: Teacher's Professional Knowledge. Sá-Chaves e Alarcão (1998). Adaptation from Shulman, L. (1986) and from Elbaz, F. (1983)

a) in the present study the concept used conforms most closely with the *study plan* concept.

PRESENTATION AND DISCUSSION OF THE RESULTS

Analysing each case by case, it could be seen that, despite the singularity and the individual style of each teacher shown by particular arguments and language, there were regularities which traversed the practices of all the teachers, independently of the school level where they practised. One of these is the presence of all of the dimensions, used as the analytical tool, in all the cases analysed both in the American teachers and the Brazilian teachers. In the table presented, representing the frequency of occurrences, case by case, it can be seen that not only is there this same occurrence but also the frequency for each of the dimensions which allows reflection on the dominant reflective concerns of each teacher (Table 2).

SCHOOLING	ELEMENTARY SCHOOL							BASIC SCHOOL			MIDLE SCHOOL		HIGH SCHOOL		
TEACHERS / PROFESSIONAL KNOWLEDGE DIMENSION	A	B	C	D	E	F	G	H	I	J	L	M	N	O	P
CONTENT KNOWLEDGE		...	.	.	..	.	.	.	.	..	...	..	....	.	....
CURRICULUM KNOWLEDGE	.	....	..	...	..	..	.	.	..	.	...	.	.	...	..
PEDAGOGICAL CONTENT KNOWLEDGE	....	...	.....	....	....	.....	.....	....	...	....	.....	.....	...	.....	.....
GENERAL PEDAGOGICAL KNOWLEDGE	.....	...	...	...	..	..	....	...	.	..	..	...	.	.	....
KNOWLEDGE OF THE EDUCATIONAL AIMS, PURPOSES AND VALUES	.....	..	...	....	...	..	....	..	..	..	.....	..	.....	...	....
KNOWLEDGE OF LEARNERS AND THEIR CHARACTERISTIC	.....	....	.....	....	....	....	.....	....	..	....	.....	....	....	....	.....
CONTEXT KNOWLEDGE	..	....	...	....	...	....	..	..	..	.	....	....	..	..	...
KNOWLEDGE OF ONESELF															

Table 2: Teacher's Professional Knowledge Dimensions

Despite the significance that the presence of all the professional knowledge dimensions represents in terms of integrating reflective competence, it is important to analyse which of these same dimensions occur in a more consistent and systematic way. These, as can be seen, are the dimensions *pedagogical content knowledge* and *knowledge of the educational aims, purposes and values* which show the highest levels of occurrence.

This fact appears to show that these teachers systematically used the practice of (de)construction of the most complex scientific content through non-standard teaching-learning strategies in order to facilitate and promote understanding of them by the pupils. As to the second dimension - *knowledge of the educational aims, purposes and values* – the importance given to educational questions which permeate curricular practices and which lead to personal and social development stands out. There are constant references to respect for culture, protection and conservation of the environment and the defence of values such as fraternity, solidarity, equality, tolerance, justice, liberty, responsibility, and self-esteem.

As to the dimensions *context knowledge* and *curriculum knowledge,* the narratives show curricular and cross- disciplinary practices which cover the scientific content of the specialist disciplines in an integrated, interconnected and comprehensive way leading to careful attention to *curriculum knowledge* for the respective level of schooling. In the same way, preoccupation of an ecological nature is also evident, represented by cross-contextual practices, that is, those which relate to and interact with the micro, meso, exo and macro systemic levels (Bronfenbrenner, 1979). From this point of view, there are constant references to practices within which classroom activities are presented, organised in such a way that they involve the whole school and/or multiple actors from the surrounding community, such as scouts, parents, grandparents or other institutions, indicating a profound *context and cultural knowledge.*

The dimensions *knowledge of the learners* and *general pedagogical knowledge* also occur in a systematic way in the practices analysed. Both in the case of the American teachers and in the case of the Brazilian teachers, the preoccupation with the need to adapt the contents to the personal, interpersonal and socio-cultural characteristics of the pupils strategically occurs in all the teachers mentioned. Descriptions also occur which indicate strategies common to the multiple disciplines, and there are meticulous, shared planning methods, monitoring and evaluation of processes and results.

It must be pointed out that it appears to be the level of involvement of the learners in the collaborative construction of knowledge, which allied to the innovative, creative and up-to-date character of curricular practices, makes pupils want to participate actively in the conceptualisation, development and evaluation of the learning projects, accepting the challenges and intervening in the effective transformation of the contexts of action and life. This aspect is particularly noticeable in the references to the work of the teachers who take part in the four winning teams and who are presented as true communities of collaborative learning. Generally, and in the epistemological dimensions underlying the construction of knowledge in action, no significant differences are observed between the two cases studied; only small differences are seen between the degree of occurrence in each of them as is also seen from teacher to teacher, independently of their origin and context.

It seems that it concerns **marks of reflective style** coming both from personal characteristics and the circumstances which differentiate between the contexts of work and educational involvement.

It is thought, for example, that the fact already referred to that several of the five Brazilian teachers work in two different schools every day may help to understand the more moderate occurrence of *knowledge of the learners and their characteristics.*

FINAL CONSIDERATIONS

This study, besides the fascinating nature of the discourses of the proponents and the practices described, really made it possible to get closer to the reflective processes of these professionals. Perhaps this was also the reason why it was possible to establish such a close relationship with these teachers who are after all in the same line of work, so much so, that from the middle of the work, the group referred to them by their names and included comments which showed them to be not only dedicated and competent professionals but also people who were a reason for the professional class to feel pride and admiration.

To sum up and to answer the initial questions of how and about what these teach-

ers think, it is undeniable that they are reflective professionals whose practices allow the conclusion of **complex non-standard ways of thinking** that is, they are always able to establish dialogue between the information which they collect from the actual context and which they master in an exemplary manner, and the source of scientific, organisational, technical and relation knowledge which shapes them as **singular beings**.

They are professionals who take strategic decisions in accordance with their own judgement about the specific needs of their pupils and of the actual context of action. They show a diverse lexicon full of teaching skills, communication and social relations which work together with *data* from research in their areas of specialisation with their experience, personal intuition and, above all, the framework of values with which they temper their actions in the constant search for better educational solutions. This constant ethical-social preoccupation naturally indicates compromise which goes far beyond the technical dimension of teaching, placing these professionals on an interesting road of personal, social, cultural and contextual development.

Travellers without *a star to* show them the *right* road, they define the routes through sharing, the search for solidarity, the common commitment to improve the world. And, if in the end we wish to have a map for this journey, the newspaper U.S.A. Today itself summarises the knowledge essential for success in learning that these professionals instigate: *connection to real life*. The social acknowledgement this strategy gives them is obviously based upon the fact that all of them present as a compass the universal rights of man and the constant exercise of a full citizenship.

LIMITATIONS

The limitations of this study were the fact that the complete proposals were not available (through the means used), nor in some situations their shortened and summarised versions.

Besides this, our limitation was of time, given the multiple analyses carried out and the unavoidable, unforeseeable circumstances of the Portuguese teachers and of the individual members who made up the group who were seen to have difficulties in the production of more and/ or better understanding.

Finally, in this study it was found that the nature of the *corpus* on which the analysis of the content took place did not allow any inference whatever relative to the dimension *knowledge of oneself*. This fact appears to be because of the authorship of the proposals. The arguments were always from the proponents and about the teachers proposed never allowing an analysis of the meta-reflective competence that is to say, there was no opportunity with the information available of gaining access to the thoughts of each teacher about themselves. In fact the whole study took place in the framework of the representations that others have and refer to about their frames of competence, knowledge and action.

This being so, this contribution must be understood as one more of these representations having, nevertheless and not in spite of these factors, been a gratifying and useful training and reflection strategy about these professionals and about each one of us in particular.

POVZETEK

Kot nakazuje naslov, poskušamo odkriti, kateri tipi znanja, odnosov in sposobnosti so osnova za prakso strokovnjakov, ki jih družba priznava kot "dobre učitelje", kakor jih imenuje N. Entwistle. Na Univerzi Aveiro na Portugalskem je skupina štirih študentov-postdiplomcev, katere delo je usklajeval glavni raziskovalec, leta 1999 izvedla empirično raziskavo, ki se nanaša na ameriško in brazilsko skupino učiteljev. Ti so bili izbrani na predlog učencev, ravnateljev, vodij oddelkov, sorodnikov, kolegov iz ZDA in Brazilije.

Viri informacij za raziskavo izhajajo iz dnevnega tiska v ZDA in interneta za brazilski študijski primer. Sistem analize je razvit v delih L. Shulmana (1986) in F. Elbaza (1983), ki jih je predhodno validiral glavni raziskovalec. Njihove analize so pokazale, da integrirani metakognitivni koncepti na premišljene in kritične načine vplivajo na razsežnosti strokovnega (profesionalnega) znanja učiteljev. Iz analize informacij iz obeh držav izhaja, da so temeljni kognitivni in afektivni koncepti vključeni v konstrukciji in diferenciaciji kurikularnih strategij. Zaključki raziskave kažejo na sistematično pojavljanje kurikularne prakse metapraktične narave, ki jo podpirajo omenjeni koncepti in na specifične vidike, v katerih se obe skupini razlikujeta.

KLJUČNE BESEDE: *izobraževanje učiteljev, učiteljevo profesionalno znanje, nestandardno mišljenje, uporabno znanje, premišljena praksa, epistemološko razumevanje, celostni pristop k znanju*

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THE NATURE AND POSSIBLE ORIGINS OF CONCEPTIONS OF 'GOOD TEACHING' AMONG STUDENT TEACHERS

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ABSTRACT

The investigations reported here have drawn on earlier research findings to distinguish between beliefs and conceptions about 'good teaching', and to explore their possible origins. Recent research into teachers' conceptions of teaching in higher education have suggested a developmental trend from beliefs towards increasingly sophisticated conceptions, which has provided a theoretical underpinning for the study. A series of small-scale questionnaire and interview studies with three cohorts of students taking the Primary PGCE course has explored influences on students' conceptions of 'good teaching'. A quantitative analysis of students' ratings of perceived influences indicated the strength of personal experience as opposed to knowledge. Drawing on techniques and ideas from educational anthropology, individual case studies are currently being used to explore cultural and family influences on students' beliefs about 'good teaching'. In some instances, these beliefs seem to derive from specific experiences at school, while others come from general ideological beliefs rooted in the family. There was little indication, however, that students entered the course with well-developed conceptions of teaching. These were more likely to develop during the course through opportunities for reading and reflection, and through discussion with teachers and other students. The course did not seem to change firmly held views about teaching, rather it showed how those beliefs could be justified from evidence, and 'operationalised' within teaching practice.

KEY WORDS: **conceptions of teaching, teachers' beliefs, students teachers, teacher education.**

INTRODUCTION

This paper outlines three phases of a continuing investigation into the beliefs, images and conceptions which student teachers have expressed through essays, questionnaires and interviews. The data were obtained about half-way through a one-year postgraduate initial teacher education course for primary school in the Faculty of Education at the University of Edinburgh. The first two phases have already been reported and are briefly summarised here. This paper concentrates on recent interviews exploring the possible origins of students' beliefs about the nature of 'good teaching', and the ways in which consciously accessible conceptions develop. It also how the knowledge obtained on the course is used to 'firm up' existing beliefs and conceptions.

BELIEFS, IMAGES AND CONCEPTIONS OF SCHOOL TEACHING

Previous research into school teachers' and student teachers' ideas about teaching has produced a confusing plethora of terms, with 'beliefs', 'implicit theories', and 'conceptions' all being commonly used, apparently interchangeably (Pajares, 1992). In this school-based literature, the term 'conception' has been adopted, mainly in North America, to describe researchers' ways of describing different aspects of teaching (see, for example, Shuell, 1996). European studies have looked more closely at teachers' own ways of thinking and their beliefs about teaching.

In his extensive review of the literature, Calderhead, (1996) found that many different kinds of knowledge have been described as underpinning effective teaching. The main forms are those related to the subject, to teaching methods, and to the ways in which students develop and learn. The extent to which teachers have conscious access to this knowledge is, however, far from clear. Some researchers argue that much of this knowledge is implicit or tacit, derived from experience rather than from any conceptual framework. The review also suggested that teachers are influenced by beliefs and by guiding metaphors or images. Beliefs often reflect strongly felt ideals (Nespor, 1987), while metaphors and images offer a visual expression of more abstract conceptions. Calderhead quotes Johnston (1992) in suggesting that

> an 'image' refers to the ways in which teachers appear to have organised their knowledge. Images encapsulate a perspective taken by the teacher and permeate several aspects of teachers' experience. Images are a metaphorical and partly visual way for teachers to conceptualise their work ... and can have far-reaching effects on how (their) practice develops ... (p. 718-719)

These images, metaphors and beliefs often seem to be established before students begin training as teachers, and can be quite resistant to change (Korthagen, 1993). After interviewing student teachers, Pendry (1997) found that students had

> such powerful preconceptions, that ... (their learning was) significantly shaped by the histories they brought with them ... (However, their) preconceptions were far from simplistic; (they) often included thinking about pupils as learners, ... the complexities of classrooms and ways of learning - conceptions which may derive from the range of experiences which they bring with them to initial teacher education. (p. 93)

In another recent investigation, Sugrue (1997) found that student teachers' perceptions of 'good teaching', their lay theories of teaching, and their emerging identities as teachers, had all been substantially influenced by their prior beliefs. Similarly, a paper symposium edited by Tillema (1997) reached the conclusion that teachers, generally, "hold on to certain beliefs as being central to their thinking, reasoning and action" (p. 211). In these studies, as in educational anthropology more generally, there is a rejection of simple cognitive descriptions of students' ideas about teaching. Instead, the origins of these ideas are seen to derive from the personal history of the individual and from the ways in which the culture is mediated through family and school, before the student enters higher education.

Sugrue (1997, pp. 214-215), in particular, emphasises the need to adopt a post-modern view of the experiences of students, commenting that

> the personal experiences of student teachers, their apprenticeship of observation and the embedded cultural archetypes of teaching collectively yield both the *form* (socio-historical situatedness) and the *content* (beliefs, attitudes, dispositions, and behaviours) of their teaching identities. By deconstructing student teachers' lay theories, therefore, insights are gained into the most formative personal and social influences on their professional identities.

This perspective on students' beliefs emphasises both their cultural origins and their affective components. The idea of a 'conception', on the other hand, conveys an impression of a 'cool' cognitive way of thinking about teaching, compared with the emotional loading within beliefs. Shulman (1987) focused on the more rational aspects of teaching in describing a whole series of knowledge bases which underpin effective teaching. He concluded that perhaps the most important for the teacher was a combination of content knowledge and pedagogical knowledge - *pedagogical content knowledge.* Good teaching stems from the teacher's own deep understanding of the subject, but goes beyond that. It requires an act of imagination through which the teacher envisages the subject from the students' perspective. Then, it is possible to devise ways of helping pupils across the initial gulf of incomprehension to a dawning understanding. As Marton and Booth (1997) argue:

> (Pedagogy depends on) meetings of awarenesses, which we see as achieved through the experiences that teachers and learners undertake jointly... Teachers mould experiences for their students with the aim of bringing about learning, and the essential feature is that the teacher takes the part of the learner ... The teacher focuses on the learner's experience of the object of learning. Here we have (what we call) 'thought contact', (with) the teacher moulding an object of study (for the students). (p.179)

DEVELOPMENTAL TRENDS IN BELIEFS AND CONCEPTIONS

In parallel with the research on school teachers' ideas about teaching, there has been quite separate research investigating developmental trends in both students' and teachers' thinking within higher education. For example, interviews with adults who had different educational backgrounds enabled Säljö (1979) to identify a hierarchy of distinct conceptions of learning. Within the simplest conception, learning was seen as the accretion of discrete pieces of information into knowledge. In contrast, the most complete conception was described in terms of learning as the development of personal understanding, and recognising the contrasting types of learning that are effective for different purposes. There was some evidence that the sophisticated conceptions were more likely to develop during students' time in higher education (Marton, Dall'Alba & Beaty, 1993; Marton & Säljö, 1997).

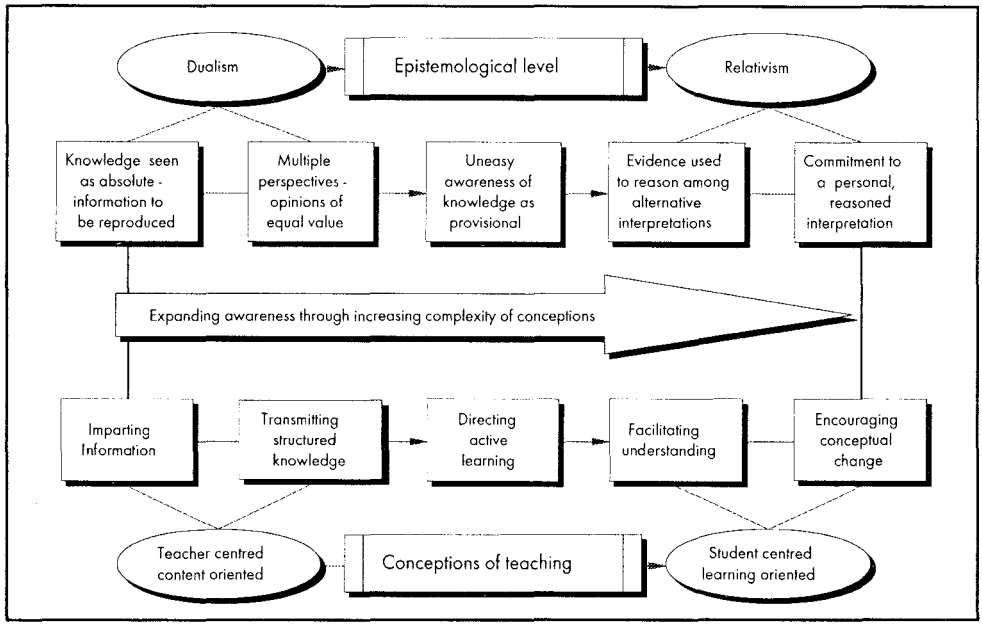

Figure 1: Developmental trends in thinking and conceptions of teaching

An earlier investigation (Perry, 1970) had investigated the development of students' thinking through a series of epistemological levels. Some students entering higher education were found to exhibit *dualistic thinking*: they expected 'right' answers to be provided by their teachers which they could learn and reproduce. Gradually, students began to understand how knowledge is constructed and tested in academic work and to develop *relativistic reasoning,* as more advanced ways of thinking emerged out of the more limited ones. Relativism allows aspects of experience to be re-examined, producing new insights, and bringing an expanded awareness of the nature of knowledge itself (see Entwistle, 2000; Entwistle, McCune & Walker, in press). This progression can be seen as a nested hierarchy of categories (see Figure 1), indicating that the more sophisticated conceptions emerge out of the earlier ones, while retaining certain elements of them.

Recent studies of teaching in higher education have used parallels with conceptions of learning to interpret lecturers' views about teaching. A contrast has been drawn between teaching as teacher-centred and content-oriented (presenting syllabus content to be remembered), and teaching as student-centred and learning-oriented (stimulating students to think about the subject) (Samuelowicz & Bain, 1992; Prosser, Trigwell & Taylor, 1994; Kember, 1997; Prosser & Trigwell, 1999; Samuelowicz, 1999). Again, intermediate categories can be described between these extremes, forming a nested hierarchy that maps closely onto the earlier ways of describing thinking (see Figure 1). The most sophisticated conceptions seem to imply a 'multiply inclusive' approach, designed to accommodate students with differing levels of interest in the subject. The syllabus is explicitly 'covered' to cater for the less com-

mitted students, yet with an overriding concern about student engagement with the 'big ideas' of the discipline (Entwistle and Walker, 2000).

DISTINCTIONS BETWEEN BELIEFS, IMAGES AND CONCEPTIONS

In an earlier report of our research, we suggested that there was evidence of a developmental trend. This progression began with strong, but unexamined, beliefs about 'good teaching', developing through a guiding, but intuitive, image to consciously constructed conceptions (Entwistle *et al.,* 2000). These instances draw attention to the emotional and cultural connotations affecting beliefs, while another example shows how early experiences and feelings can, to some extent, be examined and integrated into a more analytic framework to interpret experience.

These differences can be illustrated through the following example of emotional rejection of aspects of the extracts which contradicted strong beliefs about the education of children.

> As I read, I highlighted things I agreed or disagreed with,... but I felt the articles were just giving you contrasting views: there was no middle ground... When I read the thing about the student-centred school, I was just going, "Pooh - in your dreams!"... And in the final article where it said that the teacher had the task of "transforming a growing youth into experienced maturity", I just went mad. I was going, "That is so much rubbish!" - it sounds as if we are so much superior to children, and I just hate that ... because I have a strong opinion that we should not treat children as idiots.

The idea of a guiding image or metaphor comes from a student who described how she came to use a philosophical theory of art she had appreciated during her undergraduate study.

> During my degree I read a book on art by Kandinsky, who saw the artist as a prophet leading people's ideas from the front, with society taking up those ideas later. I was reinterpreting that idea as the teacher and the child - the teacher being like a prophet (which showed me) what was required of me as a teacher... I was using this image ... to keep me going. It's sort of fostering a feeling... - a feeling of growth, starting off with ethos. It became a sort of leit motif... (for) the principles I would be using as a teacher in the classroom, in that to foster a particular ethos is going to help as you are teaching.

Finally, Figure 2 presents a mind-map representing a student's elaborate and integrated conception of good teaching. She had tried to make sense of apparently contradictory ideas about good teaching in primary school from her reading and experience, concluding that there was a false dichotomy between 'formal' and 'informal' teaching. She could see the importance and value of elements within each of these approaches. From the formal approach, she noted the need for structure, organisation and well-designed assessment procedures, while from the informal methods she highlighted the emotional aspects in relationships between the teacher and the class, and within the process of learning itself.

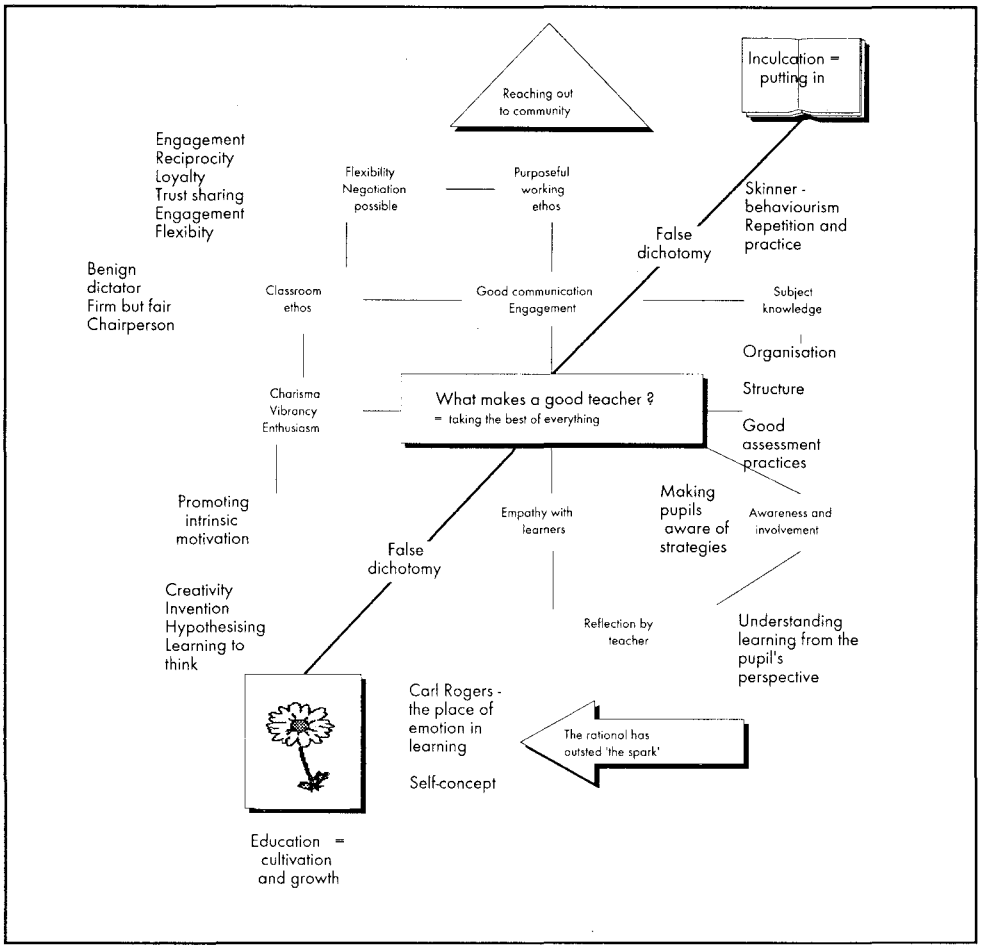

Figure 2: Mind map bringing together contrasting aspects of good teaching

The interview made clear how much intellectual effort had been required to wrestle with her previous ideas, and to reorganise them into a personally satisfying framework. The mind map went through several iterations in the process of developing this understanding, although the conception arrived at was not fundamentally different from her original intuitive belief about 'good teaching'.

Findings from the first phase of the current research (Entwistle *et al.*, 2000) were combined with Shulman's (1987) ideas about the range of different knowledge bases on which teachers draw to produce Figure 3. The diagram also incorporates suggestions about the nature of sophisticated conceptions of teaching in higher education (Entwistle & Walker, 2000), linked to the three main knowledge bases identified by Shulman.

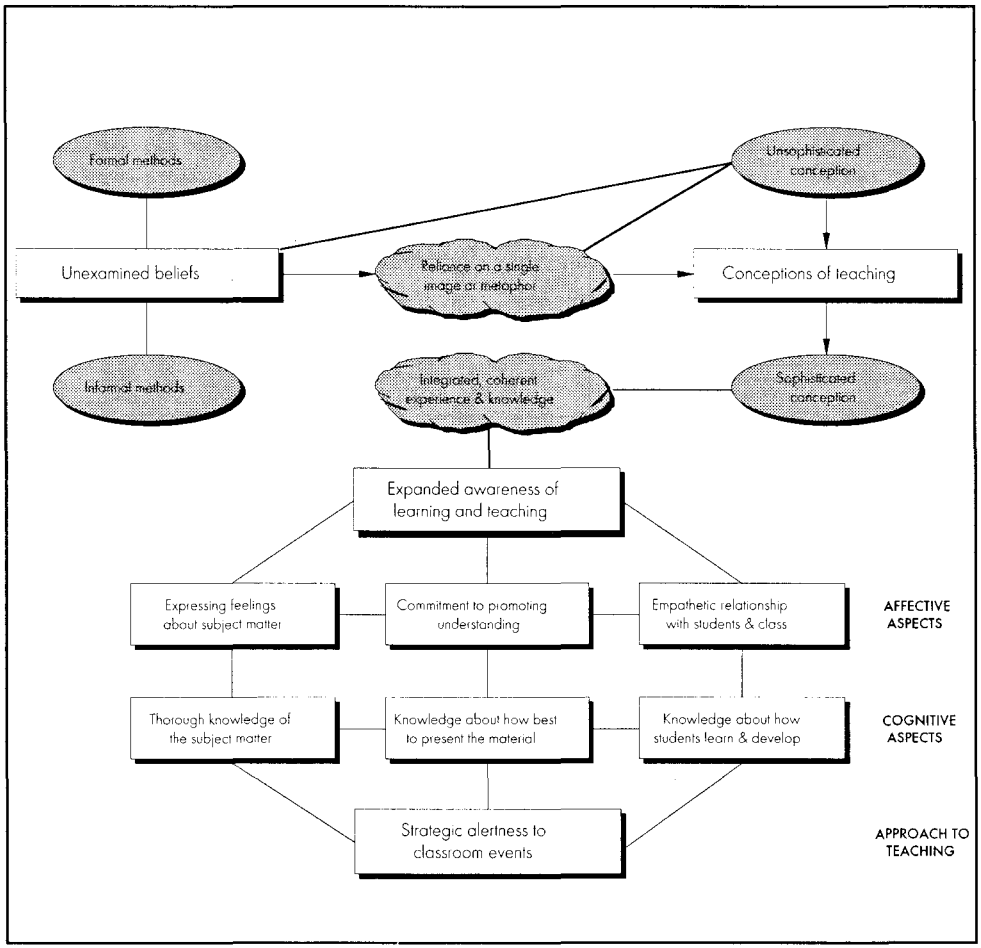

Figure 3: Beliefs, images, conceptions, and an expanded awareness of teaching

Investigations of conceptions with three cohorts of students

The research design and data collection methods, summarised in Table 1, have been described in detail elsewhere (Entwistle *et al.*, 2000). The three phases of the investigation have varied the focus of data collection while retaining the same general approach. In each phase, students wrote a short essay on "What makes good teaching?" as a required assignment. They based the essay partly on their reading of a series of extracts designed to highlight the dichotomy between 'formal' and 'informal' methods of teaching in primary schools. After handing in the essay, students were asked to fill in a questionnaire describing how they

had tackled the assignment. In it, they also outlined their idea of 'good teaching' and indicated what had been the main influences on them in forming that view. They also had open-ended questions and were asked to rate a series of possible influences which had been mentioned in previous interviews. Finally the essays and questionnaires were used to select a subgroup of students for interview. In this way, topics in the questionnaire were explored more fully, and a holistic view of the student's prior experiences in relation to their view of teaching could be obtained. In the final phase, in particular, the interviews explored personal and cultural influences on students' beliefs, and the way in which experience and knowledge obtained during the course were integrated with those beliefs to form conceptions.

ASSIGNMENT
Read ten extracts describing contrasting approaches to teaching, then write an essay on "What makes good teaching?" in 3-4 pages.

Notes and any mind maps made in preparing for the essays (Optional)

Questionnaire on tackling the assignment, the conception, and influences on it

Interview (Samples selected on basis of essays and questionnaire responses)
- Background and previous experiences of teaching
- Good and bad experiences of teaching at school
- Reading the articles and reactions to them
- Preparing for and writing the essay
- Ideas about good teaching
- Possible origins of that conception
- Main influences on that conception

Three cohorts of ~ 60 students with differing emphases in data collection

Analyses Quantitative analysis of questionnaire ratings and qualitative analysis of interview transcripts, leading to illustrative case studies

Table 1: Research design and methods of data collection

INFLUENCES ON IDEAS ABOUT 'GOOD TEACHING'

In the second phase of our study, the influences on ideas of 'good teaching' were explored through ratings in the questionnaire. The six response categories, together with the frequencies of response from the 55 students in this cohort, are shown in Table 2. With the exception of the first one, the items are shown in rank order based on the sum of frequencies on the highest two categories. The first item only applied to students who had children, but this item showed the highest (proportional) level of agreement.

The responses show that relevant experience, in whatever form, was seen as a stronger influence on views about 'good teaching' than either the theoretical or the governmental inputs presented during the course. The strongest influence was teaching practice (the most recent), followed by previous experience of working with children and young people (fairly recent) and as a pupil (more distant). The influence of the extracts they had read was relatively strong, presumably because these were directly related to the essay topic, while the more general content of the course was reported to have less effect. The effect of the course was still rated as strong by over half the students, although its extent had not been apparent in the interviews with the previous cohort. Perhaps this influence had been rather taken for granted in those discussions. The list of competencies, identified by Scottish Office as the hallmark of effective teaching, and repeatedly emphasised during the course, came bottom of the list of influences on students' own ideas about 'good teaching'.

vv = very strongly; **v** = strongly; **??** = moderately; **x** = weakly; **xx** = very weakly; **z** = not at all or doesn't apply.

	vv	v	??	x	xx	z
1. Experiences with your own children.	8	4	3	0	1	39
2. Experiences on teaching practice.	27	21	6	1	0	0
3. Previous experience as a teacher or in a similar role.	18	20	12	2	1	2
4. Your own experiences as a pupil.	15	18	7	9	4	2
5. The extracts provided	12	21	18	2	1	1
6. The lectures and discussion sessions on the course.	3	27	14	8	2	1
7. General philosophical, moral or religious beliefs.	7	17	13	7	6	5
8. Books read before you came on the course.	2	11	15	13	2	12
9. The list of competences required by the government.	2	8	17	11	5	12

Table 2: Influences on your idea of 'good teaching'

As already indicated, the present phase of our investigation has concentrated on the possible origins of ideas about 'good teaching'. It has also looked at how knowledge obtained on the course comes to be integrated with pre-existing beliefs and memories of classroom experiences.

INFLUENCES OF EXPERIENCES IN THE HOME AND AT SCHOOL

In the ratings shown in Table 1 there was a clear, logical progression in the perceived influences, from the more distant to the most recent. As students weighed up their responses to the questionnaire, however, the strength of the earlier experiences may have been under-estimated. In the first phase of interviews, there was already an indication of how experience during childhood may affect students' feelings about teaching. A student brought up in India illustrated how this early experience seemed to have had a continuing influence on her views about teaching. Her overall conception of teaching was integrated

and multifaceted, but she retained a strong belief that children need time quietly to think about their experiences, rather than being constantly bombarded by sensations. She said:

> The whole purpose of education, for me, is very much to create an individual, or let the individuality of the child shine through... Creativity is often judged by what's on the walls... (Yet I've been) into classrooms where you could hardly walk round for the amount of children's work on the walls and hanging from the ceiling... Everything was designed to stimulate or excite the children - to be attracted to external things, never towards making a connection with themselves... - their inner nature – never ... really soaking in the content of the lesson.
>
> My feeling about this inner dimension maybe comes from an Indian background... (and) I tell a lot of stories. Fairy tales, for example, have ... an incredible point to make about the inner morality of the child - the inner kind of structure.

The probable influence of her cultural background emerged only through careful questioning during the interview. She believed that the inner life had to be given sustenance and she saw this as the essence of her early religious education. In talking about her teaching, she also stressed the value of story-telling, stemming perhaps from the strong oral tradition that exists in parts of India. Of course, interviews can shape responses as well as report them; yet, without encouraging sustained introspection within the interview, important influences may be misjudged.

It was with this instance in mind that the current round of interviewing explored early experiences in more detail. The intention is to create a series of case studies based on the whole set of data collected, but these analyses are still ongoing. Here we present initial impressions from the early stages of data analysis to indicate the strength of early experiences and the models of good and bad teaching experienced by the student, together with indicative case studies. In this way, the analysis follows the paradigm of educational anthropology, by exploring personal and cultural influences on students' ideas of 'good teaching'.

Catherine

Catherine was a mature student who had worked for eight years in the south of England before deciding to change her career. She came from a family in which an elder brother was seen, particularly by her mother, as being much brighter than she was herself. She had few memories of her early years in primary school, except for keeping in the background and "not getting on at all well". Her attitude to work was, however, fundamentally changed by a single critical incident. Thereafter, she recalled individual teachers whose encouragement enabled her to become much more successful. Those teachers became models for her and their approaches are clearly reflected in her subsequent views about good teaching.

> It wasn't until middle/senior primary that I seemed to kick in. It was a bit of a reaction to my mother. Someone asked me what I wanted to do ... They asked me 'Would you go to university?' and my mum said "Catherine will never go to university". It is funny that is quite a turning point. So I thought "Stuff it. I am going to kick on here." ... Mum didn't realise the impact of what she was saying. I am a real worker I just thought "Here we go"... That is when I started to remember the

> teachers and the things we did. Before, I think I was the child in the classroom that gives the teacher no trouble. Invisible. Just slips through some times ... (Then, teachers really) encouraged me and were just so pleased that I was showing much more interest and that the change had happened. I am naturally enthusiastic and the enthusiasm came and I think teachers really warmed to that.

Another formative influence came from the experience of working with autistic and dyslexic children who had severe communication problems. In that teaching, she was saw the effects of a secure, encouraging environment.

> These were all children with communication difficulties but they were also all children in some ways that the system had let down. From seeing their backgrounds, I could see the importance of the environment that they set for them. These children, we spent a lot of our time just getting them ready to learn. It made me very aware about creating the environment for learning to begin ... - for children to feel secure, safe ... That they wouldn't feel intimidated.

INTERVIEWER: ***How much of this feeling comes from your own experience?***

> That's interesting. As I get older I realise... I did some tutoring with an S1 boy and I was very worried that he would have a stigma. So I started with him saying "Look I have been here", and I could empathise with him. And he seemed to warm to it. I still needed it (myself) at English Higher- that bit of extra support.

In studying the extracts as she prepared to write the essay, she found herself reacting favourably to those extracts that supported her own view - emphasising the provision of a supportive environment. She also began her reading with a structure for the essay already in mind.

> I felt it was important ... to get in my head what my current stance was, before I started to read... I felt quite strong in my views. I suppose I was looking to the reading to confirm my own personal views. But I am quite open-minded to other points of view. Some of them hit you! Totally against! I am a great believer in structure,... so I felt I needed some structure before I even looked at those articles... What the reading of articles did was support and add. It gave me evidence, not just my own personal, of these things working... I was adding to what I knew already and what I believed in already... It very much comes from my past experience of special needs that we have talked about. That was burning in my head when I came into teaching. I knew that it was what I had spent 18 months doing... If I go into a classroom it is very much the atmosphere I pick up.

The effect of these strong attitudes can be seen in the opening of her essay on "What makes good teaching?" There is also a sense of insecurity at a personal level which perhaps gives rise to these feelings.

> I believe that the most important element and 'backbone' of good teaching is to create the ideal environment for learning. From entering college, through my initial

> teaching placements, and now following theoretical reflections, I continue to strongly believe that without the **correct classroom atmosphere** learning cannot take place.
>
> Initially, my views on this atmosphere focused on the child and an understanding of how they learn and their needs. However, following my teaching placements and reading of the extracts, I have adjusted my views and now believe that an ideal environment is created by
>
> - Offering children **safety** and **security**, built on mutual **trust** and **respect**;
> - Acknowledging children's viewpoints and needs in such a way that they feel **considered** and that their opinions count;
> - Allowing children to freely **express** and **discuss** their **feelings**;
> - Being **responsive and forthcoming when support is needed**;
> - **Motivating** children to learn by showing enthusiasm, interest and a sense of fun in all learning.

Catherine suggested that the effect of the course, together with her own reading, had been to extend her understanding of her beliefs. The work had also shifted her attitudes away from wholly idealistic ideas about teaching, and towards a more realistic recognition of classroom demands. She seems, in this process, to be developing a substantiated, and more consciously considered, conception of 'good teaching'. Her conception, nevertheless, is still strongly coloured by the beliefs originating in earlier personal experience. Catherine drew from the readings suggestions about positive reinforcement that she used to build systematic reward into her ideas. Her emphasis on a structured curriculum came from a specific extract which described an informal classroom achieving high levels of attainment in basic skills. The conclusion to her essay states:

> I believe that there are four inter-related aspects that lead to good teaching. First and most importantly, it is vital to create the correct environment for learning, as without this I believe learning cannot begin. Contributing to this is the second aspect - of taking a child-centred approach to everything that you do. Third, without an organised and structured curriculum, I would argue that much of children's cognitive development would be delayed. Finally,... without continually monitoring children's progress, you could not identify their learning stage and respond accordingly. In addition, it is only by reflecting and analysing your own teaching and curriculum approaches that you are able to ensure individual needs continue to be met and an appropriate curriculum delivered.

The previous case was unusual in that the mother's comment had triggered a fairly immediate change in attitude towards school-work. This attitude seems subsequently to be reflected in a belief about the importance of emotional support in teaching. Other students were more likely to mention specific events in the classroom and individual teachers who they liked or disliked. Take, for example, the following set of extracts from another interview.

Rachel

A Jewish background clearly brings with it a set of beliefs and ideals that affect views about teaching, and Rachel's comments combine these with her early experiences at school, both good and bad.

> Family is very important. My values are very strong... I would describe myself as a socialist... and yes I am Jewish, and I am very proud of that. I had a very idyllic childhood: I was very lucky... The importance of relationships and friendships with people is very important to me. I think the way you achieve that is by communicating. I think communication lies at the centre of so much of teaching. If you can't communicate with the children, they won't be able to communicate to you. It doesn't matter whether you are teaching them multiplication or whether you are talking about morals.
>
> My primary six teacher had a big sign above the board that said use your loaf and she was lovely. She was very kind. She was a very strong character but she would spend time with you... (The move to secondary school) was a very daunting experience. I had gone from this little Jewish primary school into this big secondary school... It was terribly scary to begin with, (but) I enjoyed it. I made good friends there. I loved languages and I loved history. I couldn't do maths. I was hopeless until in second year I got a very good teacher who spent an awful long time working with me and clarified things and helped me a lot... He took time out to explain to me. He never got angry with me. He never seemed to come over as being frustrated, (although) he possibly was. He would revisit things until he knew that I was clear; that I understood it. When I did understand, then I enjoyed maths a lot more. I think that is a very reciprocal thing.
>
> (I also had) a fantastic history teacher who just brought history alive, really loved the subject. He was very emotional. He knew his subject well and he would tell you stories. You could really believe that you were sitting in a cave watching a spider; things like that. He involved us doing projects and things. It wasn't just sitting listening and learning it was very much getting us involved. That was fantastic. They were my favourite subjects.

The emphasis here is on understanding, enjoyment, and relationships, and those themes recurred when Rachel discussed her current beliefs about teaching.

> (The reading for the essay got me) thinking about what good teaching was. I think I have got all sorts of things. I might have an airy fairy idea in my head of it being this understanding patient person who offers their knowledge to enlighten children... I have got an image of me being this person... I am a very curious person, which I think is a really positive thing, and that is something that I have strengthened as I have got older.
>
> (In teaching) it is really important to have a healthy atmosphere, one that the children aren't intimidated in. They want to learn and they can feel fine about bring-

> ing anything in and bringing it to your attention. That is something that I do like about the informal,... (but) there are certain things that (children) have to accept that they have to achieve in a certain time. It is very much give and take. That is the kind of atmosphere I would like to work in.
>
> I really believe in the value of education. It is so rewarding. You might not want to do anything with it, but just think about improving and increasing that knowledge... (and) I think communication is extremely important. It is just important in life really.

Rachel's essay began with a quote which encapsulates her own beliefs about teaching and concludes with a summary, paralleling the experiences she valued as a pupil.

> "Children esteem teachers who can explain things clearly, who are slightly strict rather than overly severe or permissive; scrupulously fair in their use of rewards and punishments; interested in them as individuals and with a sense of humour not based on sarcasm or humiliation." (Wragg, 1993)
>
> I feel that it is our responsibility to teach children, not only the core subjects of the curriculum, but also to open doors for them. We need to show them the importance and rewards that come with honesty, understanding and accepting equality and diversity. We need to offer opportunities and choices which will create questions and enable searches for improvements in life... We need to help and support children to become responsible, independent, curious and caring thinkers.

Transcripts of other students describe similar events and significant teachers. This combination was repeatedly found and suggests the early origins of beliefs about 'good teaching'. There is, of course, no possibility of claiming firm causal links from these interviews. Nevertheless, the transcripts presented repeated variations on a common pattern. Specific events or individual teachers were described with great clarity and immediacy, and were often followed by descriptions of 'good teaching' which paralleled those early experiences. These case studies, treated with caution but bolstered by earlier findings, do seem to contribute useful insights into how beliefs about teaching originate.

INFLUENCES OF KNOWLEDGE FROM THE COURSE: PUTTING THE MODEL INTO PRACTICE

Within the transcripts, the formation of conceptions could be seen most clearly in relation to the content of the course and personal reading. In other words, the conscious elaboration of beliefs into conceptions may depend on conceptual frameworks being offered within the course. But it also depends on the extent to which the students have thought about their experiences, trying to make sense of them in relation to their own beliefs and ideas presented on the course. The following student had thought deeply about her experiences, and during the interview was challenged to reflect on why she treated negative and positive experiences differently.

Karen

Karen, a recent psychology graduate, who initially had no firm ideas about teaching. She described the ways in which her thinking had progressed, and highlighted the rather different influences of the course content and reading, and teaching practice. Within the interview, she was asked to look at her concept map drawn at the beginning of the course and consider how her ideas had changed.

> It's quite strange looking back. (The concept map) seems much less inter-linked than I would see it now. And... I don't know, a bit more sort of as if it is in (separate) camps.

I: ***At what stage do you think you began to see it in a more integrated way?***

I think it's quite difficult to identify that. I think it's an ongoing process really, and I certainly think the essay helped bring it all together and think "Well, I do agree with this" and "This is my point of view too"; sort of arguing the essay through. But I think (it was) a combination of the lectures and the teaching practice, and evaluating other teachers... seeing how different teaching styles are, and the effects that they have on a class... I do think observation has been very powerful for me, just to see the differences and then experience it for myself... You're always encouraged to think about (what you've seen) and to discuss it with each other;... it's something that's been made very clear to us that, you know, being analytic and reflective...

I: ***What do you take from 'being reflective' to mean?***

I think... It's one of those words that everybody uses, but what does it mean?... Maybe it's all to do with being analytic and taking a step back as well, and remembering things that have happened and trying to analyse them afterwards... I think it's easy to be reflective in a negative sense, to think about and reflect on what hasn't worked and why, and to evaluate your performance or the quality of learning in that sense I think it's much more difficult for all of us to be reflective about things that have worked and challenge yourself in that way.

I: ***Why would that be?***

Because somehow it's easier to look over and identify mistakes and think "Oh of course it went wrong because..." or "Next time I should try this or that"... There's a feeling that you wouldn't want that to happen again... But then to walk away from reflecting on positive things is perhaps avoiding that very situation where you are having to look at yourself and think "How much of that was a success because of me and how much of it was a success because of other factors that had nothing to do with me as a teacher with the class?"... (Or it may be) just a case of "Oh that went well - next!" And then going home and thinking about all the negative things, which is bizarre. Because I think positive experience can

> equip us, as teachers, just as well for improving ourselves, if we think about why it worked and how do we bring that into more teaching experiences?

Generally, students appeared to believe that the content of their teacher education course had shaped, modified, but not fundamentally changed, their beliefs about teaching. Rather, the conceptual frameworks presented had allowed them to position their previous ideas within other people's thinking, and so be able to elaborate and justify their own views. The course was additionally described by them as showing how beliefs about 'good teaching' could be 'operationalised' in actual teaching content and methods within their teaching practice.

Mike

This comparatively young postgraduate had recently qualified in geology, had taught outdoor pursuits throughout his university years, and after graduating had worked in a special school. His firm views on good teaching had clearly been reinforced by his own schooling and prior teaching experiences, as well as by his parents' support and involvement in his education. Mike expressed a clear philosophy of teaching and had found that the course helped him to integrate his developing knowledge.

> Sometimes, if you are forced to articulate your ideas, then you get a greater understanding of them, because you are forced to think them through and put them in order. So, I guess it is about rethinking your own ideas, but also adding to them and changing them,... but not necessarily your initial ideas. I probably read (before entry) ... papers which played a major part in formulating my opinions, so I didn't come across anything (in the extracts) that (substantially)changed my opinions. But I came up with lots of things which confirmed what I thought my ideas were...
>
> I don't think that since being on the course my ideas have drastically changed, I think I have just expanded my knowledge, just confirmed my views... If something goes wrong, I think "Oh, I did that wrong", but I tend to hang onto my key principles. I think that my ideology is the same but my knowledge is greater,... (and) the practicalities I have considered a lot more. Understanding how you can be very idealistic, and that can be hard to achieve in a practical situation with thirty odd children in a class.

Mike showed no inclination to look critically at basic assumptions about teaching and learning; rather, he adopted a pragmatic approach while remaining open to ideas that fitted this outlook.

> I guess the approach I have taken is ... self-evaluation. I think maybe an effective approach would be just to evaluate your days, to highlight each day - this was good, this was bad; this worked, this didn't. So I think I tend to do that, very informally but often. I just do it for myself - 'that went well today, that didn't go so well, what can I do next time?'. That sort of thing. regular informal, self-evaluation that is probably the way to learning.

> In my first placement the teacher would sit and take notes and at the end of each day she would say, "You did that, I thought that worked very well", so she can highlight things you might not be able to note yourself. I found that very useful and it was a very constructive thing. She was very positive, (saying) "I think.., that went well, but this wasn't: you could have done this better". Offering ideas of how to do things,... that was important because, when things have gone wrong, it would be very easy to have your morale demolished.

He does appear to have extended his own approach to learning to teach, using reading, observation and self-evaluation, within his established ideas about teaching. That firm commitment to pre-existing beliefs about 'good teaching' is echoed in a high proportion of the transcripts and questionnaires. The following brief extracts are typical of the more general comments.

> The above (list of possible influences in the questionnaire) have not really strongly influenced my ideas about good teaching. I have had for a long while quite strong ideas of what made good teaching. What they have done is made me reflect upon and evaluate these ideas, and in the main have broadened my perspective on teaching.

> I can't think that anything major has changed my view. My opinions (now) pretty much still relate to my opinions back then. It is just that I am far more aware of now of practical issues and things that have to be taken into consideration in the classroom.

DISCUSSION

In this current, and still ongoing, phase of this project, we have changed our focus towards educational anthropology by using individual case studies to explore the apparent origins of the beliefs about 'good teaching' held by student teachers. We have adopted this approach to supplement our earlier analyses, with single-case studies bringing to life the influences that individual students found salient in their experience. This form of analysis has the power to focus on aspects of personal development which otherwise tend to be overlooked.

The earlier phases of the project had confirmed and exemplified findings from previous research, and in particular the importance of prior experience in forming ideas about teaching. In the first phase of our study, we noted that the home, and attitudes within it, would be one formative influence. Our subsequent questionnaire analysis highlighted students' belief that they had been strongly affected by their most recent, relevant experiences. The current interviews have provided examples where specific incidents, even at primary school, appeared to have had a continuing influence on what was seen to be 'good teaching'. The idea of such influences has been frequently emphasised within educational anthropology and in other research within this tradition related to student teachers (e.g. Sugrue, 1997). However, the intensity of the memories of particular incidents we found, and the impact of individual teachers, prompts further reflection about the origins of beliefs about teaching.

Our study draws attention to the complex ways in which beliefs about 'good teaching' originate in early experiences within the family, and from significant teachers who leave a lasting impression. Recent 'situated' theories of learning within psychology stress that learning takes place within a social and cultural context (Bruner, 1996; Greeno, Collins & Resnick, 1996). This way of thinking builds upon much earlier studies in educational anthropology (e.g. Spindler, 1976) which stressed these influences, even at a time when psychologists espoused exclusively cognitive theories of learning. Our research has used a variety of methods which have progressively brought to the fore the single-case, comparative approach from cultural ecology (Ogbu,1981). Where students in our sample came from a distinctive culture (Indian or Jewish), the effects were evident in their ideas about education. Strong ideological values within the family had also left a lasting impression. And the interplay of cultural, family and school influences was repeatedly seen as the students described how their ideas about 'good teaching' had originated.

Our most recent set of interviews also contributes to explanations about the ways in which beliefs evolve into more consciously considered conceptions. The effects of the course, the extracts, and other reading, can be seen more clearly at this stage in students' thinking. But conceptions still seem to retain at their core the earlier beliefs, especially for the mature students. None of the students felt that the course had fundamentally changed their way of thinking about 'good teaching', rather it had enabled them to articulate their beliefs better and had shown them how to 'operationalise' their ideas during teaching practice.

In addition, the interviews pointed up the impact of experiences on teaching practice. Although only one student discussed why negative experiences had a greater impact, there was general agreement with that view. Other students, however, did comment that the positive experiences created a 'glow', and one student suggested that she 'banked' on them to draw on when things were going wrong in the classroom.

The lack of any fundamental change in students' prior beliefs about teaching during the course must cause concern to teacher educators. In our earlier work, we came across an example of how a strong ideological belief about 'good teaching' strongly interfered with classroom effectiveness (Entwistle *et al,* 2000*)*. Only the experience of failure caused the belief to be modified, and allowed a less idiosyncratic teaching approach to be adopted. While that was an extreme case, it does suggest the importance of exploring ways of identifying students' beliefs and conceptions. With a greater understanding of the process by which conceptions develop in teacher education, it should become easier to help students reflect on a range of alternative conceptualisations. This approach should then allow them ability to think more imaginatively and flexibly in their future teaching careers, without being restricted by a fixed and unconsidered belief about 'good teaching'.

POVZETEK

V raziskavah, omenjenih v tem prispevku, se opiramo na rezultate predhodnih raziskav, da bi ločevali med prepričanjem in pojmovanjem o "dobrem poučevanju" in da bi proučili njune možne vzroke. Nedavne raziskave o pojmovanjih učiteljev o poučevanju v višjem šolstvu kažejo na razvojne težnje od prepričanj k vedno bolj zapletenim pojmovanjem – kar je teoretična opora študije. S študijo v majhnem obsegu s serijo vprašalnikov in pogovorov s tremi skupinami študentov, ki so se pripravljali na strokovni izpit za osnovno šolo, smo proucili vplive na pojmovanja študentov o "dobrem poučevanju". Kvantitativna analiza ocen študentov o zaznanih vplivih je pokazala, kako močno je

osebno izkustvo za razliko od znanja. Na osnovi tehnik in idej iz pedagoške antropologije sedaj uporabljamo posamezne študije primerov, da bi proučili vplive kulture in družine na prepričanja študentov o "dobrem poučevanju". Včasih je videti, kot da bi ta prepričanja izvirala iz posameznih izkušenj v šoli, druga pa iz splošnih ideoloških prepričanj, ki so zakoreninjena v družini. Vendar pa je malo znakov, da bi študentje že na začetku priprav imeli dobro razvita pojmovanja o poučevanju. Ta so se verjetneje razvila med pripravami z branjem, razmišljanjem in z razpravami z učitelji in drugimi študenti. Videti je, da priprave niso spremenile trdnih prepričanj o poučevanju, so pa pokazale, kako se da ta prepričanja prilagoditi dokazom in "operacionalizirati" v praksi poučevanja.

KLJUČNE BESEDE: ***pojmovanja poučevanja, prepričanja učiteljev, bodoči učitelji, izobraževanje učiteljev.***

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TO CHANGE THE SLOVENIAN TEACHER EDUCATION MODEL FROM PARTICULATE INTO INTEGRATIVE

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ABSTRACT

In this paper the characteristics, conditions, challenges (encouragements) and goals of pre-service and in-service, lifelong teacher education are analysed. Factors affecting the new teacher education model are external to the processes of European integration, social changes in the countries in transition; they can also be found in the changed values and in the greater educational needs. On the other hand, they are internal to the evaluation of the present educational practice, interaction between school and university and to the acceptance of theories leading to interdisciplinary cooperation among teachers of different disciplines.

The existing Slovenian model of teachers (to-be) education is seen chiefly as particulate, with a divided professional identity of teachers, with school education being predominantly transmission of partial knowledge, with the learning system in a closed classroom and not as team-work. The following measures are still being tried out: introducing tutors and implementing new ways of interactive communication with students in university; in schools, implementing a dialogue between teachers and pupils, team work in teaching, various ways of active learning, teaching aiming at the capacities and interests of pupils, and interdisciplinary approaches. These measures indicate that the integrative model is not an utopia, here or anywhere in the world, but a feasible possibility. To make it a reality there are two more steps to take, namely school based teacher education and a more holistic approach to teaching, learning and thinking.

KEY WORDS: **teacher training, integrative model of teacher education, school paradigm, teacher professionalisation, types of knowledge, curricular reform, particularisation, constant changes, new tasks of teachers, teacher educators.**

INTRODUCTION

This paper[1] will determine the conditions of functioning, characteristics and goals of a fragmented, i.e. particulate model of pre-service and in-service teacher education as well as the

1 The transformation or making the particular model integrative is clear from the development phases of both models; the properties that have proven inappropriate in the separate model have been dropped, and those that have proved to correspond to the complex education situations have been implemented. Furthermore, one of the reasons for "transformation" is the fact that in the long

possibilities of implementing the integrative model. It is associated with some major discussions on teacher education in Slovenia[2] and abroad.

Every curricular reform, implicitly meaning a school reform as well, brings forward also new contents, methods and goals of teacher education. Teachers undergo preparations for attaining new goals of curricula in pre- and in-service education. If teachers do not (inter)actively adapt to the reform tendencies, the reform is doomed to be a failure. As well as if the majority of teachers does not accept the new reform requirements. This problem is known to the world. The question is how to make knowledge stemming from science and other areas of human activity accessible in the form of "learning by doing" to teachers, teachers-to-be and pupils. There are two possibilities: school based teacher education and university based teacher education. In the last decade the latter has prevailed in Slovenia.

The constant changes in teacher education are conditioned by the following factors: development of greater complexity and risk in a society, modification of the paradigm of the quality school, placing the teaching in the function of lifelong learning, ever greater needs of education, asserting the autonomy of school as a subsystem of a society, association of school and parents as partners, education in post-modern values, new pedagogical findings about education and contextual findings pertaining to it just indirectly (not to mention the constant curricular changes). The constant modifications to teacher education involve the constant updating of the syllabi (*Razdevšek – Pučko,* 1997b).

The constant reforms of the school curricula are to be expected. It makes a difference whether these are mainly bottom-up or top-down. Apparently, teachers do not easily accept the latter. The school authorities see the reasons for this kind of lack of teachers' response in the hidden curriculum, the rigidity of school, low self-image of pupils and teachers; however, the authorities do not see the reasons in the often turning of a deaf ear by the school government to the innovativness of teachers. Every curricular or school reform repeatedly places teachers in a role where they have to assert themselves not just as experts but also as educators and as human beings.

THE PREMISES OF THE INTEGRATIVE TEACHER EDUCATION MODEL

The sole university level of teacher education – achieved gradually in Slovenia too – does not automatically entail substantial transformation of the system itself. The teachers beginners are now, after four-year university study – from the point of view of acquired knowledge– better prepared for their teaching than they were after two-year study at the Academy of Education. However, the subsequent quality transformations are seen in the educational practice only when they know how to make the best use of the wider knowledge

run the Slovenian system of education in school will turn from the transmission to transformation model (Marentič-Požarnik, 1998).

2 The desire to improve teacher education is manifested in the numerous discussions about the situation and the development perspective of the teacher education system or model (e.g. in 1988 at the Academy of Education and in 1992 and in 1997 at the Faculty of Education in Ljubljana). The trend of interweaving the education theory and practice is expected to be continued. 1997 saw even two conferences on teacher education: the first was held on June 6 and 7; the second was on December 4 in Ljubljana, at the Faculty of Education to honour its 50th anniversary. These discussions aim at rendering Slovenian teacher education comparable to the European. There are many proceeding's on this topic, e.g. Hytoenen, J., Razdevšek Pučko C. (Ed., et al., 1999): *Izobraževanje učiteljev za prenovljeno šolo. Teacher Education for Changing School*, compiled in cooperation between the Faculty of Education of Ljubljana and some European faculties.

acquired at the university. The integrative model cannot be implemented without changing the way of thinking from rationally analytical to syntactical[3], as could be seen in the association through communication of educational institutions, in particular schools and faculties. It seems as if a fundamental concept and vision were missing; so the integrative model cannot be implemented.

As the society of greater complexity invests more and more in education, parents expect of their school-going children to have higher education. Teachers have greater responsibilities. Different styles of school management, of teaching, learning and thinking have developed. As education gains a central part in society, other educational institutions besides school have been established. Teachers can satisfy the ever greater educational needs if they follow lifelong learning themselves. Consequently, the integrative model can be based on the concept of lifelong learning.

The creation of the integrative model of education could be suggested by past and present integrative processes in society. In socialism from the structural-functional point, the integration in education entailed the uniformity of education, upbringing and work as well as the same knowledge for all pupils. Today integration is understood as a) integration of educational sciences, b) integration of pupils with special needs, c) integration of the personality, d) development of social partnership between school and parents, and e) the integrative model of cooperation between school and university. Today different kinds of integration – like integrative class-work, integrative curriculum, integrative education culture (*Novak, 1994*) and integrative education – are known.

Walker (1999) defines integrative education as reflection on the experience of learning about the interdependent world, including the pupil's body, senses, perceptions and intuition. As pupils are fully integrated in the activities, they better understand the world. The integrative education can be carried out at all levels of education as a continuous process. It is good to defend the integrative education when the particulate (automatic) school paradigm is being surpassed by the holistic. The discussion about the two paradigms was vivid in Slovenia from the mid-eighties to the early nineties. Even today it is most easy to justify the implementation of innovations into school by the holistic approach, especially in the West. The model of integrative education is conditioned by the development of cognitive psychology, systemic theory, linguistics, research into the work of the brain etc. It is important to note that human beings as bio-socio-psychological beings of learning and teaching can fully express themselves in this model. Further, the integrative model is favoured by anthropological differentiation and uniformity of life periods of an integrative individual personality. The changing position and roles of children, youngsters and adults demands an answer to the question of the differentiation and integration of life periods and roles played by an individual according to the essential characteristics of the development phases from life to death.[4]

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3 For the need of syntactical thinking development see Razdevšek-Pucko, Cveta (1997a): Zakaj in kako spremeniti izobraževanje učiteljev. In Destovnik, Karl, Matovič, Irena (ed.) *Izobraževanje učiteljev ob vstopu v tretje tisočletje. Stanje, potrebe, rešitve.* Zbornik prispevkov. Ob 50. obletnici Pedagoške fakultete Univerze v Ljubljani. Ljubljana, 6th and 7th June 1997, pp. 19-29 and Marentič-Požarnik, Barica (1997) *Filozofija, doktrina in praksa izobraževanja učiteljev*. Ibidem, pp. 7-9. For more on different styles of thinking and not just on the analytical and syntactical, see Marentič-Požarnik, Barica et al. (1995:185-200) and Brajša (1995:50-51).

4 Pedičck (1994) divides pedagogical anthropology into science of child education – pedagogy; science of youngster education – youth science; science of adult education – andragogy and science of senior citizens – gerontology. These give rise to new tasks and requirements of anthropological anthropology synthesising the findings of the enumerated disciplines.

As the post-modern school reaffirms the (Socratic) importance of a dialogue, the teacher (to-be or in practice) communicates with the university teacher as a lecturer, tutor or mentor within the context of university or school, on behalf of the one or of the two institutions involved. The interaction between school and university in some western countries favours teacher training from school and towards school rather than the orientation of school to university. Judging from development of informatization and communication, it is to be expected that the interactive model of teacher training shall be interactively communicative in terms of interpersonal, intra- and inter-institutional cooperation. In Slovenia, school adapts to university and not vice versa as could be seen from the fact that the students' text books for primary and secondary schools are written by university teachers who are closer to the newest scientific achievements than to the level of pupils' comprehension. Hence the texts are not adapted to their level of comprehension.

According to the ideological and monopolisitc characteristics of the socialistic schools, the processes of differentiation and of pluralisation of educational interests and of institutions are the most important factors of development of democratic educational culture. From the point of view of educational anthropology, the particulate model is based on the divided learning and teaching human being, while the integrative model is based on the integrated human being. The teachers and their teachers accept different roles[5] making them multicultural personalities. Teachers' educators can help the teachers on the basis of school curricula, evaluation of educational school needs and findings with the view of improving the quality of teaching.

The particulate model of teacher training – still prevalent in Europe – is characterised by the formal (organisation of the studies at the Faculty of Education), institutional (division of work between the faculties and the departments) and conceptual fragmentation (pre-service, in-service and lifelong education, education and research, pre-service education and supervised first year of work) (*Razdevšek-Pučko,* 2000). From the sociological perspective, this model stems from the industrial revolution in education. The consequences are visible as mass school, specialised scientific knowledge transformed to school subjects, mechanical type of learning facts, teacher as an unquestionable authority, and indoctrinated upbringing. The post-modern school strives to surpass it by individualising and differentiating classes, introducing inter-disciplinary work, new roles of teachers in their relation to pupils etc. While the particulate model is the model of the conflicted position of ego against the other, the integrative model on the other hand includes different educational interests, thinking and learning styles, perception types (e.g. visual, audial, kinaesthetic) of pupils, teachers and their teachers.

5 For the educational needs the teacher has to animate pupils' interests, lecture, facilitate comprehension of learning content, encourage pupils to think in a team, question and evaluate their answers, and finally evaluate one's own educational work, plus be a researcher. The general outline of the challenges and requirements of learning is given in Novak (1995). The challenges of teacher training are defined by Longworth, N. and Davies, K. (1996).

THE IMPORTANCE OF THE UNIVERSITY LEVEL EDUCATION OF TEACHERS FOR THEIR EFFICIENCY IN EDUCATIONAL PRACTICE

The challenges for the implementation of the European model of teacher training in Slovenia are to be found in the processes of the European integration, social changes in the transition countries, the value changes that occur due to the adaptation to the western culture and in the growing educational needs. To implement the integrative model the following should be done: evaluate the current educational practice, carry out the interactive communication between school and university as well as develop the inter-disciplinary and theoretical links on which the cooperation among the teachers of different backgrounds is based. Since the example set by a teacher to their students is crucial, the teaching in primary and secondary schools could be improved by bettering the teaching of university teachers. Teachers take the holistic approach in their work if they have experienced it at the university and if they were brought up in that way at home and in school. The Slovenian university is slow to open up to the new didactic approaches even though the new educational trends were discovered in the mid eighties (*Marentič-Požarnik*, 1987).

As the educational needs of the population grow, teachers are required to have higher education everywhere in the world. The history of teacher training shows a continuous development to a unified but ever higher educational standard (*Janša-Zorn*, 1997). What was a utopia in the teacher training yesterday is a reality today and what is still a utopia today, it will be reality tomorrow. Therefore, the integrative model of teacher training – still utopia today – can be a reality tomorrow. Though it is possible to implement it today, there are just few innovations in school pointing to it.

With the university standard of education, teachers have a greater autonomy, good self-image and access to lifelong education (*Zgaga,* 1991) and not just training. However, it is questionable if teachers actually achieve all that because the Faculty (of Education) does not offer enough educational practice for teachers-to-be and does not follow up their subsequent career by offering lifelong education.

Knowledge from the pre-service education sooner or later proves to be partial in the educational practice. It is impossible to expect that the educational practice offered by the faculty (even if the total number of hours in the four grades is increased) would suffice; the Faculty of Education should consider offering the studies as an inter-disciplinary theory of educational practice. However, even in other countries it is difficult to achieve inter-disciplinary and integrated studies of theory and practice. Though it is a well known fact that senior teachers find it harder to accept new theories of teaching and learning as well as the new syllabi and suggestions than their younger counterparts. It is also an established fact that pupils regard as unacceptable the manner of teaching in the same way as it used to be conducted when these teachers were in school. Teachers are not equally prepared to follow further education and do not take the encouragements to do it equally.

The success of the lifelong teacher training depends foremost on their internal motivation. The results of an empirical research (*Novak,* 1989) show that the motivation for the professional courses does not come chiefly from the school where they teach, interesting quality curricula of such courses, information available about the courses, wish to participate at the seminars, participation in political organisations or from the interest of the pupils for their subject but primarily from their own interest. The same goes for the quality change in education which cannot occur if teachers do not change the attitude to their work and

understanding of their role. This can be brought about by the teachers intrinsic desire for continuous professional development. The public opinion polls indicate that the more teachers are educated the further they pursue their education. Teachers do not learn just about the new contents but also about the teaching itself (based on proper experience and on that of the others) and about learning. Learning about teaching itself is particular to teacher training; teachers learn for teaching, and teach for the learning of their pupils.

Teachers insisting on drawing the rigid line between themselves and the class cannot establish personal relation, the basis for transmission of values and thus achievement of the basic goals of moral education. The apostolic authority, stemming from the catholic conception of a human being and formalised in the patriarchic upbringing, is therefore characterised by unconditional submission, irrational and a priori basis of the educator's power, and the surprising worthlessness of the teacher as a person (*Kroflič,* 1997:317). The educational means for supervising used to be intimidation but today, in the post-modern school, it is self-limited authority.

In Europe *the inset*[6] *system* – the system of permanent teacher training - has been long known. Teachers can teach pupils how to learn just if they master various kinds of learning that cannot be mechanical but are bound to be creative and innovative. Teachers still do not teach enough how to learn and are bound to overload their pupils because the additive principle of knowledge acquirement is still prevalent. The accelerated changes force teachers and their pupils to be apt to quickly re-structure their knowledge, otherwise the debate on the new curricula being too tight might be non-perspective. The concept of competitive cooperation is valid in education as well, meaning that the most competitive is the one who can learn fastest to innovate and use new ideas as well as to cooperate in a team.

Teachers determine their needs for further learning/training on the basis of self-evaluation and action research – a form of self-reflection: a possibility to influence the educational practice through personal participation. The reflective practitioners are teachers of primary and secondary education who reflect on their actions taken. However, there are limits to teachers' analysing of and reflection on their own educational practice (*Ermenc,* 2000). Teachers can consider their educational practice from the perspective of the kinds of knowledge they have. So far they have done it less from the point of the analysis of the context of values originating in the pupils' environment. University teachers do not reflect just on school but also on meta-didactics and meta-knowledge as tools for further professionalisation of the teacher´s career at all school levels, which will continue to be developed.

COMPARISON BETWEEN THE PARTICULATE AND THE INTEGRATIVE MODEL OF TEACHER EDUCATION

The State school does not to make use enough of the opportunity to form a practical and theoretical basis suitable to surpass the prevalent analytical thinking, promoted by civilisation. Since the postulate of thinking pluralism[7] as an inner and outer school paradigm (*Pediček,*

6 Inset stands for "in-service training" and means teacher training in State schools during an academic year. The system has origins in the UK. For the Slovenian experience with inset see Bailey (1994) and Razdevšek-Pučko (1991).

7 It is difficult to manage the pluralism of educational interests. The analysis of the management is broader than the scope of this paper. The pluralism is a polysemous word. It can be understood as political pluralism in terms of multiparty system or as multi-

et al., 1990) was put forward, the thinking styles dominating in schools have also learnt on how to implement the more fertile styles (*Marentič-Požarnik, et al.,* 1995). Teachers should know how to carry out different ways of thinking according to the comprehension of pupils. They should also know how to find a third possibility when the behaviouristic and cognitive theories are in contradiction. The first has it that the human being can be manipulated by any stimuli, whereas the latter states that only the novelties that can be integrated into the existent concept map (which should be adapted to the requirements of any context) can be manipulative.

Hence the possible advantages of the integrative model. However, it is possible that in future one model would be proven better in some learning-teaching situations and the other in others. On the inter-institutional level, the essential difference is in whether the university cooperates with school or not. On the intra-institutional level, it is about whether the teachers in the process of education have one-way, i.e. hierarchic, or two-way, i.e. democratic communication with their pupils and whether they accept pupils as personalities or not. The difference between the two models is especially clear in their relation to the exclusive and inclusive educational culture. The particulate model favours teacher being alone in the classroom with their pupils whereas in the integrative model parents and even other teachers are allowed to enter the classroom.

The implementation of the integrative model depends on the flexible school organisation and flexible thinking of participants in the education, team and inter-disciplinary teaching as well as on the shared responsibility of the State as a social partner of (non-) autonomous teachers and teacher educators for implementing any model by the system of sanctions and encouragements. The quick implementation of the processes of European integration and lifelong learning as a consequence of the development of educational needs favour the integrative model. On the other hand, the autocratic culture with the exclusive, one-dimensional thinking, one-disciplinary education and partial knowledge in schools and even in the university keep the particulate model in place. Apparently the USA and the Western European countries would find it easier to implement the integrative model than the Eastern and South European countries – post-socialistic countries in transition – where there are still elements of the pre-professional teacher attitude.

Processes of opening for changes, flexibility of organisation, transformation of learning contents in the curricula, multiculturalism and multidisciplinary approach make the creation of several integrative models possible. It remains to be seen which would be the most suitable in a particular cultural context. Certainly, not every ideally planned integrative model works well. Education aims to be part of sustainable development in the future – an ambivalent and uncertain goal rendering (dis)integration of education ambivalent, too. Thus the particularism of education seems to be persistent and the integration just a process.

The integrative model of teacher education should be part of the integrative educational culture[8] in school, indirectly also in society – becoming a learning society. The integrative model seems to be at the same time both a developmental necessity and a utopia. It

cultural, religious, economic (privatisation) or educational pluralism. Pediček (1990) classified educational pluralism on the several levels from ontological, epistemological, psychological, pedagogical-didactical to the anthropological level.

8 Several definitions of the educational culture are known. The closest to the everyday experience is the educational culture as a source, a process and an effect of the upbringing process among the participants. Pediček (1992, 1994) liberated the elements of the educational culture from the reminders of monopolistic ideology and domination of the politics. For the definition of the educational culture see also Novak, B. (1994), Bruner, J. (1996) and for school culture Prosser (1999).

is a necessity if we are to overcome the school crisis to which the industrial and the social models have given rise. It is a utopia if we look at it as a perfect and final developmental phase of school culture. It is an illusion to expect that everything that has been kept apart in school could be reunited. The integrative model of teacher education can be introduced provided that this trend exists in the process of creation of the European citizen and that the democratic decentralisation of school does not lag behind.

The discussion at the Academy of Education in Otzenhausen, in December 1998[9] revealed that Europe is still looking for a uniform concept of education by analysing the national and regional politically cultural and culturally educational needs. The Academy strives to achieve the mobility, interactive communication and multicultural learning from each other. Thus the accumulation and comparison of the experiences from individual countries contributes to the cooperation in the joint project on European education. The discussions on the new European school reveal it to be ambivalent, non-finite and restrictive due to the globalisation processes outstripping not only the national framework but also that of the new European school.

PROFESSIONAL DIMENSION OF TEACHER TRAINING

There are many Anglo-Saxon authors who see in programmes of teacher education socio-political significance for the development of democracy. However, the integrity of personality – complex, multi-layer organisation of body, rational thinking, emotions, social relationships, and interactive communication – is hardly mentioned. Neither do Diez's (*Diez,* 1996) nor do Jalongo's (*Jalongo,* 1991) future-oriented criteria for teacher training contain this criterion. The criteria for efficient teacher education are in the primary position of learning, dialogue in groups of teachers, and represent a connection between school and university and efficient teaching. The interactive communication is carried out on the intra-personal, interpersonal and inter-institutional level and connects institutions as different as family, school, university, institutions for teacher education and community. It is evident that not all these interactive communication levels are equally developed in a systemic way. The integrative functioning of interactive communication can be shown by the functioning of the system of linked vessels. When a change appears in one vessel, it will sooner or later appear in the others as well. There the developed countries have some advantage as they invest more (human) capital in education. Therefore the communication interactions are more easily carried out on different levels. The integrative character of future-oriented teacher education is purposefully oriented by four educational pillars (*Delors,* 1996). Only when teachers are learning to (1) know, (2) do, (3) be, (4) live together, can they educate students in the multifunctional way. Only in communication with the constantly new knowledge can teachers overcome the partial knowledge obsoleteness and barriers of implicit, subjective theories with a hidden curriculum.

9 The Academy of Education in Otzenhausen, Germany, organised from 4th to 6th of December 1998 a discussion between experts dealing with teacher education on national school of European dimensions and further education of teachers in European dimensions. The Academy presented its programme, adopted the reports of the representatives of each country (including Slovenia) and amended the programme with the new proposals.

So far the pre- and in-service teacher training have not drawn enough attention to the personal development of teachers nor to the ways of liberating oneself from the past patterns of feeling, sentiments, thinking and behaving – which is the most important in the work with youngsters. The positive lesson teachers try to find in the many apparently negative phenomena lies in their capacity (ability, skill) to perceive, integrate, synthesise and balance the contradicting values, standpoints and beliefs of the participants in education (*Kiriakou,* 1997), though they often experience a lack of synthetically psycho-social knowledge and thinking for that kind of invention. Teachers should throughout their career acquire the following kinds of knowledge for their complex professionalisation:

- content, expert and subject knowledge,
- general educational knowledge (being familiar with theories, empirical findings, visions and standpoints on class-work, upbringing, school, evaluation from the point of education, didactics and other disciplines),
- psychological knowledge (being familiar with developmental particularities and differences between individuals and with the process of learning),
- knowledge in special didactics (i.e. content educational knowledge),
- curricular knowledge (being familiar with legislation, curricula, school system),
- practical (action, experience and situation) knowledge (know-how, being familiar with the scope of skills and capabilities) (*Marentič-Požarnik*, 2000, 6-7).

Teacher education should aim at the solving problems in educational practice that arise if:

1. the teacher educator is not school-oriented,
2. there is not enough tutoring,
3. there is no connection between the educational theories and practice,
4. the teacher is a reflective practitioner and autonomous only in some aspects because (s)he has not dealt with the prejudices and indoctrination of upbringing,
5. teachers do not plan or evaluate their work.

As it is important how teachers teach, the education of teachers (to-be) should include as much as possible the analysis of implementing various teaching styles[10] practice, analysis of comprehension and operative learning as well as of empirical, rational and intuitive thinking. Cognitive and communicational metaphors for the subjective theories of teaching are: teacher as a waiter (or a delivery van), as a builder (or a sculptor), mountain guide and a gardener. Every teaching style can bring success provided that the teacher master it. However, it is a poor excuse if teachers use just the first type because they have not trained the other capabilities, especially because the first type develops only intellectual relations whereas the others aim also at the development of socio-psychological relations between a teacher and pupils, in particular at the emotional and moral level. It is important

10 The following are the subjective theories or teaching styles:
- teaching as a process of transmission of knowledge adapted to pupils,
- teaching as formation of pupils' capabilities and skills,
- teaching as travelling or leading pupils to an end. Teacher allows for independence of pupils helping them not to miss the path,
- teaching as encouraging pupils' development by having teacher as a provider of different sources, experiences and stimuli (Fax, 1983; Marentič-Požarnik, 1998: 256).

that the socio-psychological relations be developed in school as well; some researches in the measurement of the emotional intelligence (EQ) prove that it has a greater impact on success in life than does intellectual intelligence (IQ).

We are all exposed to the challenge of accelerated development demanding ever greater creativity, efficiency and quality-management. In Slovenia the thesis on the active role of pupils in the class and life of State school has been promoted for decades, but nothing was said of their contemplative role.[11] With the two roles combined, the primary and secondary school would truly be more relaxed with not too much effect-orientation and unhealthy competitive pressure. Recently some teachers have been trained for the contemplative role as well.

The possible future directions of education stress the development of professionalisation, including specialisation, qualification and competitiveness, in connection with the use of knowledge for the development phases of child and youngster, as well as the phases of teaching. *Russell and Korthagen* (1995) defined the following phases of the development of teacher professionalization: (1) pre-conjectural, when the teacher is adapting the knowledge according to the pupils' ability, (2) dogmatic and (3) final, when teacher is perfectionising their knowledge and tries to come closer to the pupils' ability, (4) inventive or conjectural; when teachers teach for progress and students are seen as the constructors of theories, (5) emancipatory, when teachers are conversational scientists in the equal and friendly conversation with students and other teachers. The last level of the spirit of education can be compared with the scientific community or the upbringing community. Jolongo (1991) also distinguishes several professional phases in teacher vocation: beginning with the foreigner, who manages to survive, coming to the skilled and experienced teacher, and ending with the state of integration just before the retirement. The motto of that teacher is how to make lesson better. The progressive understanding of development of the professionalization presumes clearly the fulfilment of the previously mentioned condition – the selection of the hidden curriculum through an awareness of the unconscious world. Hence the professionalisation means integrative management of all human learning development phases. With the continuous teacher training, the teachers are more professional as the years in the career pass; otherwise they stagnate. In the UK the universities have become partners of schools in order to raise the quality and professionalisation[12] of teaching through the system of mentoring. Mentors study out the needs of the teachers and their teaching styles, and are responsible for their continuous progress. On this basis they produce and carry out the strategy called school-based teacher education. The quality of teaching the next generation will depend on the quality of mentoring (*Furlog, Maynard,* 1995). Similar is the role of tutoring. Tutors[13] are also trained to perform their role professionally. The Faculty of Arts, Ljubljana, has organised a colleagues - for colleagues workshop aimed at teacher educators for decades. It is not possible to improve the conditions, encouragements and qualifications

11 For more see: Novak, B. (2000) Vprašanje aktivnosti učencev pri pouku.

12 See the seven theses on the professionalisation of teacher training in Marentič-Požarnik, B. (2000) Profesionalizacija izobraževanja učiteljev – nujna predpostavka uspešne prenove. In *Vzgoja in izobraževanje*. L. 31, no 4, pp 4-11. These theses refer to 1. changed the broadest perspective on professionalisation, 2. professional autonomy of teachers, 3. teacher as a reflective practitioner, 4. changed relationship between the theoretical and practical experience, 5. analysis of the inconsistencies and of the problematic situations, 6. teacher educators as the example for teachers, 7. guarantee of appropriate circumstances.

13 In Latin *tutor* means guardian. Marentič-Požarnik (1997:29-48) describes the development of the tutoring. It has already gained ground as a factor of successful studying at some faculties. She compares it with the situation at faculties abroad.

for teaching (*Marentič-Požarnik*, 1997:12-13) without improving all that in studying. In this sense Jalongo's (*Jalongo,* 1991) formulation that the best teachers are the active learners in which is included not just their individual and auto-didactic side but also group partnership is confirmed.

The development of the mutual relationship between school and university is to be a long but necessary process for development of competency in order to consider the pluralism of educational interests and strengthen teachers' professional and ethical autonomy. *Vonk* (1991) distinguishes between two models of teacher training that are gaining ground in Europe. The first is professional, oriented at the perfection of the academic knowledge of teachers and their professional capabilities. The second aims at the personal growth, directing teachers towards a better understanding of themselves, of sensitivity, empathy, consideration and self-realisation – that they are all in all better teachers. It is to be expected that the personal growth training would go under the process of teacher professionalisation. Only a teacher as an integrative personality uses both brain lobes in thinking, learns what is important for his/her personality and teaches holistically. Such a teacher can then not only surpass the partial knowledge acquired in pre-service but can also participate in the further integrative teacher training.

CONCLUSION

The following factors of change in teacher training have been dealt with: development of society in terms of greater complexity and risk, modifications of the quality school paradigm and teaching in function of lifelong learning, growing needs of education, old curricular reforms, implementation of autonomous school as a cultural sub-system of society, school and parents cooperating as partners, post-modern values, new educational and education-related contextual findings.

The existent model of teachers (to-be) training is still particulate, with the divided identity of a teacher, education as transmission, partial knowledge, closed classes etc. However, some characteristics of a possibly future integrative model can be seen: introducing tutors for students, new ways of communicating by training the teachers' abilities to sympathise and help pupils, different ways of teaching foreign languages at the Faculty of Education in Ljubljana. The more the teachers (to-be) are accepted as holistic educational beings the more will they accept their pupils as such. Thus the school and the teacher education paradigms will be changed. The model of teacher training was dealt with along the changing teaching, learning and thinking styles in schools because of the implementation of teacher training from school toward school. In primary and secondary schools the transformation model has been added to the current transmission model, the disadvantages of which have not yet been overcome. Despite the curricular reform, the transmission model is more frequent than the transformation model (*Marentič-Požarnik,* 1998) because teacher training is not so intense and does not have enough participants to carry out the reform. The quality of teacher training develops along with the teacher professionalisation. The analysis of British experience indicates that teacher training in Slovenia is not innovative enough.

It is to be expected that the integrative model of teacher training will not be implemented soon in Slovenia. On the one hand its implementation is linked to the long term process of stabilising democracy within the context of internal social changes; on the other, it is linked with the implementation of the transformation system of school education. The

first condition is contextual, the second concerns the essence of the school autonomy. If the system of teaching through learning is gaining ground at the faculties training teachers-to-be, then teachers of primary and secondary schools could do the same, as they are trained enough to do it. On the other hand, if teacher educators do not fully consider the needs, interests and abilities of the teachers (to-be) to learn, then it is probable that teachers will not do it with their pupils to the extent they could, despite their familiarisation with the findings concerning the quality learning or the existence of the didactic guidelines in the new curricula for the quality teaching. Hence, after almost ten years we reaffirm the importance of the teachers' motivation for inset, lifelong learning and education for better interactive communication between teachers and pupils (*Razdevšek-Pučko,* 1991). If teacher educators have not worked with teachers-to-be as individuals then these in turn would find it hard to do it with their pupils.

Clearly, it is more rational to invest into the input factors of teacher's teaching. The more knowledge teachers acquire for themselves and the better education they receive, the more of both can they pass on to their pupils. Therefore, the impossibility of taking a study leave, e.g. in Switzerland and other countries, is a minus for Slovenia. Teachers should enjoy trust and assistance in their vocation. Pupils' parents should have a greater influence on school and on teachers. Only the teacher who was brought up in a partnership relation can optimally create this kind such relations in terms of the quality upbringing of pupils. However, teachers should additionally train themselves to do it as part of their third socialisation – though the results would be better if they have done it as part of their second socialisation.

Every teacher greatly appreciates the goodwill of the school management, parents, and counsel services. As the goodwill contributes to the teacher's successful work, the individual autonomy of a teacher does not suffice. Instead, the collective professionalism should be promoted but not in terms of shared responsibility, rather in terms of cooperation among teachers and all participants concerned in education. To conclude, school improvement together with teacher education is turning out to be of national value.

POVZETEK

V prispevku so razčlenjene značilnosti, pogoji, izzivi (spodbude) in cilji dodiplomskega (pre-service) in podiplomskega, stalnega (in-service) izobraževanja učiteljev (teacher education). Zunanji dejavniki nastajanja novega modela izobraževanja učiteljev so v procesih evropske integracije, družbenih spremembah v deželah tranzicije, vrednotnih spremembah in v rasti edukacijskih potreb, notranji pa evalvaciji dosedanje pedagoške prakse, interakciji med šolo in univerzo in sprejemanjem teorij, ki vodijo k interdisciplinarnemu sodelovanju med učitelji različnih strok.

Obstoječi model izobraževanja (bodočih) učiteljev v Sloveniji spoznavamo kot pretežno partikularni z razcepljeno poklicno identiteto učitelja, prevladovanjem edukacije kot transmisije, parcialnega znanja v šoli, sistema poučevanja v zaprtem razredu (in ne timskega). Ukrepi kot so uvajanje tutorjev in novih načinov interaktivnega komuniciranja s študenti na univerzi, na šolski ravni pa uvajanje dialoga med učitelji in učenci, timskega poučevanja, različnih oblik aktivnega učenja, v sposobnosti in interese učencev usmerjenega poučevanja in interdisciplinarnosti so še v poskusni fazi. Ti ukrepi kažejo, da integrativni model pri nas in v svetu ni le utopija, ampak že realna možnost.

Za realizacijo te manjkata še dejavnika v šolo usmerjene univerze (school based teacher education) in celovitejši pristopi k poučevanju, učenju in mišljenju.

KLJUČNI POJMI: *izobraževanje učiteljev, integrativni model izobraževanja učiteljev, paradigma šole, profesionalizem učiteljev, vrste znanja, kurikularna reforma, partikularizem, stalne spremembe, nove naloge učiteljev, učitelji učiteljev.*

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PALAEOANTHROPOLOGY AND EDUCATION IN SLOVENE SCHOOLS

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ABSTRACT

This article discusses the importance and benefits of providing secondary school students with some knowledge of human evolution and its context. The author surveyed science teaching in secondary and upper secondary schools in Slovenia and concluded that evolution in general, and human evolution in particular, do not feature prominently in the curriculum, and so are not represented by many teaching contact hours. Neither are popular, well–designed and up- to-date books on the subject, whether by Slovene authors or in translation, readily available to interested students. And yet palaeoanthropology – the study of human evolution in its wider context – is a rapidly developing, high profile branch of science with major popular appeal. Recent discoveries - many of them spectacular- have provided a much more detailed picture of human evolutionary history, significantly modifying earlier ideas about our ancestry. The subject not only attracts much public interest but also has major educational benefits: human evolution exemplifies many general evolutionary principles, illustrates the synergy of focussed multidisciplinary approaches in the life sciences, and reinforces teaching of environmental conservation, human relations and social responsibility. Because of the subject's importance, the author provides some suggestions on how the teaching of human evolution might be incorporated into the school curriculum, and considers some of the educational resources available to support its teaching.

KEY WORDS: paleonthology, evolution of man.

THE IMPORTANCE OF PROVIDING STUDENTS WITH SOME KNOWLEDGE OF HUMAN EVOLUTION

Human evolution is a rapidly changing subject of great public appeal, as any survey of the international press, television and radio will reveal. Popular accounts tend to focus on the fossil evidence for human ancestry, and particularly on discoveries of new specimens, but the investigation of human origins has a much broader scope than just the fossil record. Palaeoanthropology – the study of human evolution in its broadest context – includes not only the information provided by fossilised bones and teeth, but also the archaeological, geological, climatic, faunal and chronological evidence relating to our forebears. Palaeoanthropology is thus multidisciplinary, with its aim not just to reveal the past pattern of human evolution, but also the behaviour, social organisation, ecology and adaptation of early humans and their pre-human ancestors.

Because of palaeoanthropology's wide subject range, in this article I will limit my considerations to where, and to what extent, the evolution of man is included in programmes in Slovene schools. In brief, we can summarise the position by noting that we do not pay much attention to this subject in schools, nor even in the Slovenian media. Because school programmes are extensively prescribed in terms of their contents, (in the view of many people, too much so), it is unlikely that my writing will convince those who determine the curriculum of the importance of the subject. Nonetheless I will state some of my views and arguments about why I think that we should pay more attention to the teaching of human evolution in education, in the hope of at least initiating some debate on the subject. Nor is it essential that some treatment of human evolution be included in the compulsory part of educational programmes, because we have other possibilities for educating young people, and providing them with a wide spectrum of appropriate topics.

Each of us has a natural interest in our origins, and it is important to tap into that curiosity, and to use it as a means of imparting information and ideas about human evolution that can be used to exemplify broader concepts in the life sciences, and to encourage an appreciation of biological diversity. So primary and secondary schools could profitably pay more attention to this subject. Primary school children display a spontaneous interest in nature, in their environent, and also in organisms that lived in the past. Typically, they are especially interested in dinosaurs, which they know from books, videos and movies. From this it is a natural extension to have an interest in how humans evolved, how early man behaved, and what our ancestors looked like. Moreover, there can be important additional benefits in incorporating some treatment of human evolution in the primary curriculum.

Its study, at even an elementary level, responds to children's natural interest and curiosity about their origins. It serves to illustrate many important principles and aspects of evolution generally, and has important additional benefits. One important theme in human success has been the crucial importance of social developments (group size and structure, personal relationships, co-operation, language, the development of technology) influencing biological evolution. Another is the increasing control by humans of their environment, so emphasising the interconnections between ourselves and our surroundings. And a final, important benefit is that knowledge of our evolution underlines both the importance of the individual (each of us is unique) AND, since we all share a common origin and important attributes, emphasises the commonality of all human beings. This is important to counter 'us versus them' attitudes, racism, excessive nationalism, chauvinism and xenophobia, all of which contributed much to human misery throughout the twentieth century. A new curriculum for the new millenium, incorporating teaching and learning of human evolution, can have significant social, as well as scientific benefits over those of the last century.

Palaeoanthropology is a relatively young science, developing rapidly since the first human fossils were recognised in the middle of the 19th century. Its origin can be conveniently dated from the discovery of a partial skeleton in the Feldhofer Cave in the Neandertal (Valley) along the River Dussel in 1856. In 1859 the pre-Biblical antiquity of man was confirmed by discoveries in northern France, the same year as Darwin's *The Origin of Species* was published. This revolutionised interpretations of biological diversity, and the notion of evolution through natural selection rapidly became the dominant paradigm in biology. Although the implications were obvious, Darwin himself was cautious about explicitly applying his ideas to man, but some of his followers - notably Thomas Huxley in England and Ernst Haeckel in Germany – argued powerfully that evolution had moulded humans as well as other species. During the same period (roughly the third quarter of the

nineteenth century) increasing archaeological evidence confirmed the reality of 'Ice Age' man as a contemporary of now extinct animals such as the mammoth and woolly rhinoceros. By the last quarter of the nineteenth century both our animal (as opposed to divine) origins, and our antiquity as a species were widely accepted – so much so, that some workers quite explicitly set out to discover the 'missing links' that would document our evolution. By the turn of the twentieth century the evidence was sufficiently comprehensive and persuasive for the notion of human evolution to be the established scientific orthodoxy, and for creationism to be in retreat even within religious circles. However, the actual fossil record of human evolution was still comparatively sparse, with most specimens having been discovered by chance through quarrying, railway construction and building, or geological fieldwork. With the single exception of *Pithecanthropus* from Java, finds were confined to Europe (mainly Germany, Belgium, France and Croatia), but after World War I new discoveries in Palestine and China extended the geographical and temporal range of human evolution. During the same period the first finds from South Africa pointed towards a much earlier, African origin for hominids (the Primate Family to which humans and their immediate ancestors belong) and so for the roots of mankind. Over the last forty years extensive discoveries – many of them spectacular – have augmented that record, extending it to East and Central Africa, and demonstrating that continent to have been the setting for crucial hominid adaptations such as truncal erectness and bipedalism, fine manipulation and tool making, and rotary chewing and hence effective food processing. Crucial though these African discoveries have been for revealing evidence of the earliest phases of human evolution, finds have not been confined to that continent. Over the same period major discoveries in Asia and Europe have similarly expanded our knowledge of early occupation of those regions, and have led to a dramatic lengthening of the time scale since hominids expanded beyond the tropics.

A striking feature of this most recent phase of palaeoanthropological investigation, especially when compared with earlier work, is its complex, multidisciplinary nature. Discoveries are no longer made by heroic isolated figures, but by large teams of anthropologists, palaeontologists, earth scientists, archaeologists, physicists and chemists. The aim is not simply to recover the hominid fossils themselves, but to build up a detailed picture of their habitats and to reconstruct as far as possible their ecology and behaviour. In other words, earlier hominids are viewed not simply as potential human ancestors, but as specific organisms in their own right, interacting with, and responding to, the shifts in their environments.

This shift of emphasis together with the much expanded fossil record has led to a radically different view of hominid evolution. Instead of a single evolutionary tree with one main stem leading inexorably to modern humans, the most generally accepted view is of a radiating bush, with multiple branches, each representing a particular species of hominid. Workers currently recognise at least eight species of *Australopithecus* (erect, part bipedal, part arboreal small-brained and large-faced early hominids) and six or more species of early *Homo* (bigger brained, fully terrestrial bipedal hominids more closely resembling modern humans). As the number of species multiplies, so does the frequency of hominid extinction since, clearly, not all these species can be directly ancestral to ourselves. This leads in turn to a different view of evolutionary processes and patterns: the evolution of modern humans was not an inevitable, long term consequence of the hominid evolutionary process, but rather the outcome of chance events and fluctuating environmental conditions impacting on

small, scattered populations of early hominids. A slightly different set of habitats and hominid groups would have resulted in radically different evolutionary outcomes.

Although most recent attention has focused on Africa, there have been dramatic developments elsewhere. Recent finds in Spain extend human occupation of western Europe back from about half a million years ago to more than eight hundred thousand years. Until only a few months ago it was widely believed that hominids in the form of early *Homo erectus* first migrated beyond Africa c. 1.4 mya. We now know, thanks to recent discoveries at Dmanesi, near Tibilisi, Georgia, that *H. erectus* had reached the 'Gates of Europe' by at least 1.8 mya (Gibuina 2000). As the evidence expands, equally dramatic re-evaluations and changes of perspective can be confidently expected in the foreseeable future.

The book of Charles Darwin »Human origin« which was published in England in 1871, was translated into Slovene eighty years later in 1951.

Internationally, as a subject of university study, palaeoanthropology is becoming more widely available to much greater numbers of students. In many universities in the United States and Britain human evolution is studied by students of sociology, psychology, geography, physical and earth sciences such as chemistry and geology, as well as by students of biology and archaeology. While many of these students will not necessarily follow palaeoanthropology courses throughout their entire university study, typically they will be educated in the subject at least to a level at which they can read and critically assess articles explaining new discoveries, and evaluate the impact of these on established views and paradigms. In the Faculty of Education at Charles University in Prague, Czech Republic, where future primary and secondary school teachers are educated, students are required to attend lectures on human evolution irrespective of their subject specialism. The Faculty of Education in Prague requires that trainee teachers receive a wide education and must know something of human evolution irrespective of whether they will be teaching the subject in school or not. In other words, some knowledge of palaeoanthropology is viewed as a necessary component of the general, liberal education required of the nation's educators.

WHAT IS THE SITUATION IN SLOVENIA?

From the 1930's, and especially immediately following World War II, palaeoanthropology was well developed in Slovenia, largely due to the work of Prof. Božo Škerlj, whose research and scientific publications made him an internationally known figure. In addition to numerous papers he also published many anthropological books, and through his influence palaeoanthropology was clearly represented in programmes and associated text books for lower and upper secondary schools.

As early as 1934 Škerlj published his book »Man«, and from immediately after the war and through the 1950's he produced several accounts of palaeoanthropology and human evolution. In 1946 he published »*Origin and evolution of man*«, in 1947 »*General anthropology*« (with a second edition in 1959), and in 1950 »Human evolution«. There followed »*Unpleasant relationship*« in 1955 and, after his death in 1963, the book »*Thinking biped*«. All these were aimed at students of anthropology, and combined scientific accuracy with an accessible, popular style so that they could be read by a wide spectrum of readers, both young and adult.

In 1962 the influential and popular survey of human evolution, »*Mankind in the Making*« by William Howells, was translated into Slovene, but we had to wait another thirty-seven years for a comparably authoritative overview of the subject in our language – »*The fossil trail*« by Ian Tattersall (1999).

This marked contrast in access to extended accounts of human evolution in Slovenian over the last four decades is difficult to explain. Publishers will doubtless retort that we are a small nation and the market for books in the Slovene language reflects this fact. Furthermore, they will argue that the readership for such specialised subjects is tiny, and therefore uncommercial. But this ignores both the interest shown in Skerlj's time, and the worldwide popularity of palaeanthropology today. Has Slovenian curiosity in our origins effectively disappeared over the last forty years, in contrast to public attitudes in just about every other western country? I think not. Rather, the likely explanation is that Slovenian readers are largely unaware of recent developments in this fascinating area. And the single most important reason for this lack of awareness is that the subject does not now feature in the school curriculum.

Božo Škerlj was not the only figure concerned to bring his subject to the attention of a wider audience. Back in 1947 Professor Polenc published »*Evolution of the Living World*«, and in 1981 »*Man, on the Evolution trail*«, both written for younger readers. The latter book is richly illustrated and presents human evolution to children in an attractive and interesting way, so that they get an idea of what our ancestors looked like. But unfortunately, because of the pace of discovery in human evolution, such accounts while attractive and accessible to children are no longer full or accurate. This is important, because the much expanded fossil evidence has not provided 'more of the same' but rather led to a radically different view of human evolution (see above).

Some instances of major revisions and changes of perception serve to illustrate the point. For example, following the influential writings in primatology of Le Gros Clark and the even more influential classification of Mammals by Simpson (1945), tree shrews were long regarded as Primates. They are no longer included in Primates, but viewed as a distinct radiation that show interesting parallel adaptations to Primates for arboreality. During the 1960's and '70s *Ramapithecus* – a fossil hominoid from later Miocene sites mainly in India and Pakistan – was widely viewed as an early hominid (ie human ancestor), with the implication that hominids had differentiated as long ago as 14 million years. We now know that *Ramapithecus* was not a hominid at all, and is most closely related to the orang-utan. In fact *Ramapithecus* is no longer even recognised as a distinct genus, and the fossils are now included in very similar but better known, and also orang-like, *Sivapithecus*. All evidence now indicates that hominids have a much more recent origin – perhaps 6-7 million years ago in Africa, not Asia, and that our closest living relatives are the African apes, not the orang. It is conventionally accepted that among the earliest evidence of controlled fire, dated between 0.3 and 0.6 mya, is that from the *Homo erectus* site at Zhoukoudian, near Beijing, China, usually reconstructed to show a living site with hearths used to provide warmth, light protection, and even cooking. New and careful archaeological studies show that Peking man did not use fire in this way. While ash and charcoal are present in some of the Zhoukoudian levels, they do not show the localised concentration characteristic of hearths. This, together with evidence of hyenas at the site suggests that very 'human-like' reconstructions of Peking Man's behaviour are wide of the mark, and that the evidence of burning may result from natural brush fires or lightning strikes rather than human activity.

In school year 1986/87 there was a series of the articles in the journal Pionir with the title »About man, from prehistoric monkeys to stone age civilisation« by Davorin Vuga. Here the author describes the most important hominid discoveries up to that time. However, since that time we have evidence of at least another four species of *Australopithecus* and several species of *Homo,* including the early East African form *H. rudolfensis,* resulting in the bushier view of human evolution referred to above. It would therefore be very welcome if a similar journal (*Pionir* has ceased circulation) published another series of articles with updated information about new findings, a clear overview of major patterns, and which summarised current theories in simple, accessible terms, and with nowadays valid theories about human evolution. In 1992 the children's book »*Early People*« (Dorling Kindersley Limited, London). was translated and published in Slovenia. In 1995 we had access to the Slovene translation of *Human Evolution* by Alberta Salza. However, this had been published in Florence in 1986, so nine years elapsed between its original and the Slovenian publication – nine crucial years during which the scope and interpretation of human evolution changed dramatically. So even relatively recent accounts in our language are often based upon much more dated originals, which inevitably provide incomplete and misleading accounts of the subject.

Over the last two decades several other authors have attempted to provide Slovenien readers with up-dated summary accounts of human evolution. Professor M. Štefančič, who lectures on human evolution at the Department of Biology in the Biotechnical faculty, University of Ljubljana, published several articles in the journals *Proteus* and *Gea* (Štefančič, 1979, Štefančič, 1983, Štefančič 1995), and in 1995/96 a series of general articles in *Proteus* with the common title »*On the paths of human evolution*« (Štefančič, 1995/96). These articles are aimed at secondary school students and general readers interested in the field. Most recently, at the invitation of Modrijan, publishers of the journal »Naravoslovna solnica«, for primary school teachers, the author wrote an article with the title »Human evolution« (Bajd, 2000), with the purpose of providing an up-to-date overview of the topic suitable for younger children. As argued earlier, the subject is naturally interesting to children in primary schools, but in Slovenia we do not yet have enough appropriate literature and supporting resources for smaller children. With the journal there is also a coloured wall poster that can be used by the teacher when explaining the topic.

A major raising of public awareness in the subject would have followed the Congress of Paleoanthropology in Slovenia planned to be held in 2001. Unfortunately, plans for this had to be abandoned following the tragic death in a climbing accident of Professor Iztok Saksida, its main organiser. However, a preliminary and exploratory meeting had already been convened by Prof. Saksida, and the review papers given at that meeting by several workers who had planned involvement were published in a memorial volume as *Pliocene and Pleistocene Hominids* (Bajd, Kavur, 1999).

Of course, children acquire their knowledge from a variety of sources besides school: through their reading of books, magazines and comics, through watching TV, increasingly through using computers to access the inter-net, and through visits to galleries, museums and exhibitions. Unfortunately, in the Natural History Museum in Ljubljana there are only few shelves of exhibits to explain human evolution and, moreover, the displays are quite out of date. To be fully effective the exhibition needs to be both updated and displayed in an attractive, interesting way to catch young people's interest and attention. And, of course, it also need to be expanded to incorporate casts and photographs of some of the important specimens discovered over the last two decades or so.

Currently in Slovenia we have in Tržič an exhibition of a private collection with the title » *Hunters of mammoth- ice age in Europe*«. The exhibition is based on a private collection, the property of Mr. Milan Kovač, and will be displayed for several more years. Another private exhibition was set up in 1996 at the Firšt inn in Logarska dolina to display the finds from Potočka zijalka. Unfortunately there is no guide, supporting material or other publication about the exhibition from which interested visitors can obtain further information about the finds and their significance. Potočka zijalka was excavated from 1928 by Professor Srečko Brodar. Although it did not yield any human fossils, the site is important in attesting to Upper Pleistocene hunters in Slovenia. Brodar excavated more than 300 stone tools as well as more than 130 bone artefacts, clear evidence of human activity at the site. He also recovered bones of the now extinct cave bear. Professor Polenc writes in his book »Man, on the evolution trail« : *Brodar was digging throughout the school holidays with insufficient financial support, in very difficult conditions and with modest resources. Every day, in all weathers he had to walk, with some volunteers and with two or three paid workers, on the mountain path from the village St. Duh (1250 m) to the cave. The only support he had was from the museum in Celje, but this was extremely modest. The political climate then was not sympatheitc to archaeology or any activity that did not bring immediate profit. Moreover, many politicians of the day, influenced by their own upbringing and the Church's continuing influence, resisted the notion of man's natural origins and antiquity. In spite all these difficulties Brodar persisted in his excavations, displaying the determination of an enthusiastic and dedicated scientist with the courage of his convictions.*

I must also mention the extremely important finding of a possible bone flute, discovered in 1995 in Mousterian levels at the site of Divje babe near Idrija, (Turk, 1997). However, not all workers are absolutely convinced that the object is a flute, or that its dating is correct. If further studies show that the flute really is from the Neanderthal period, the find will be the oldest musical instrument in the world, and evidence of the early development of human culture.

Since 1997 a major exhibition on human origins – *The story of human evolution, missing links alive«.* has been on display in several European cities, including Liverpool, Hamburg, Vienna and Helsinki. It includes accurate state-of – the art displays, and provides a striking example of what an imaginative, accurate and visually exciting exhibition on human evolution can be like. It is probably expensive to mount and needs a large exhibition hall, so that any exhibition in Slovenia would doubtless be restricted to Ljubljana. However, the city can be reached from all parts of the country, so that school visits could easily be arranged if the exhibition comes here. But without some such stimulus and initiative, our young people will remain ignorant of the recent striking developments in our understanding of human evolution.

While palaeoanthropology and evolutionary studies generally are rapidly expanding and influential areas of biology world-wide, in the Slovene secondary school curriculum the evolution of organisms and especially human evolution are represented by only a few hours teaching. The following paragraphs summarise the current position:

Lower secondary school: in class eight (of nine year schooling) biology as a whole includes (number here) specified topics, with a total of 52 hours teaching. The topic »Classification and evolution« has as its objective that pupils be aware of man's evolutionary development. They should be able to explain why we classify man within Mammals and Primates, and to describe major stages in his evolutionary development. All this seems appropriate and even laudable, but the reality is rather different. For within the time con-

straints imposed by the curriculum it is effectively impossible for pupils to acquire an adequate grasp of the topic.

Additional support for any move to increase the teaching of evolution in our schools is provided by the results of the TIMMS study, based on data collected in May and June 1995. More than 40 countries from across the world participated, and children aged 9 and 13 in each country were asked the same questions under the closest possible circumstances, so that the results could be compared directly. In Slovenia 371class seven and 344 class eight children answered questions on evolution. Of these, 41% of class seven children and 52% of class eight class pupils answered correctly that in the evolutionary timescale humans appeared relatively late. However, the international average for the correct response was 60%, so that Slovenian children were well below average. Swedish pupils scored the highest correct responses (89.4%), with children from Denmark, New Zealand, Australia, France, USA, Austria, Norway, England, Thailand, and Iceland all scoring over 80%. By contrast, among Slovenian class seven children, more than half thought that the latest animals to evolve were insects. These results should give us cause for concern, for they indicate that our children know little of biodiversity and evolution in general, not just human evolution.

Upper secondary schools: here the teaching programme and the number of hours allotted to subjects differ according to the type of school. Those schools having 175 hours of biology or, in some cases, even more (210 hours) in their programmes, as in general secondary schools have 5 hours on the teaching of human evolution. Schools with fewer than 175 hours of biology have no human evolution at all in their curriculum.

In addition to the – at best – very limited time available to treat human evolution, there is a structural problem. When taught, it is usually placed towards the end of the school year, so that it is often squeezed out by the overrunning of earlier topics, and/or the build-up to exam preparation. In many cases, therefore, the topic is covered cursorily if at all, and pupils do not take it as seriously as those parts of the biology syllabus covered earlier in the year.

In the new syllabus for A level Biology with Ecology, to be introduced in 2002 for external assessment, there are specified objectives in terms of content which the student is expected to have covered by the time of examination. Within the section on evolution students are expected to achieve the following objectives in relation to human evolution:

- to classify humans within a taxonomic framework
- to summarise and explain the adaptations primates show to their arboreal habitat
- to correlate with climatic and vegetation changes the transition of primate species from arboreality to savannah living, the development of erect walking in hominids, and to set these shifts within a chronological framework.
- to summarise the anatomical changes associated with erect posture and bipedal locomotion in hominids
- to summarise the adaptive advantages of erect posture, (especially the freeing of the forelimbs from locomotion, and the subsequent development of manipulative dexterity), the use of tools and fire.
- to recognise the importance of brain evolution for human evolution
- to appreciate the role of positive feedback between biotic and psychosocial evolution, with special attention to speaking and language, in the evolution of human intelligence.

- to compare Neanderthal and modern humans and indicate the periods when these forms were living

As we can see, the syllabus for 2002 includes treatment of several fundamental structural and adaptive changes important for human evolutionary success. Even so, it does not expect from the student much knowledge of the actual pattern of human evolution, or the kinds of earlier hominids, their features and adaptations. The only pre-modern form specifically mentioned is Neanderthal Man –the latest and, in the view of many workers, the most parochial of pre-modern humans. Students are *not* expected to know about earlier hominid species and their specific characteristics, when the fundamental structural adaptations that they *are* expected to know about were first evolving.

All this can, of course be explained in terms of the constraints of available time and the need for a balanced curriculum. And it can be argued that it is more important for students to acquire a sound grasp of the adaptive fundamentals underpinning human success, rather than the details of how, when and where these evolved, and in what sequence. And, were the requirement for a detailed knowledge of the pattern of human evolution to be incorporated within the syllabus, there would be a continuing need for refresher courses for teachers to keep them abreast of new discoveries.

However, it is necessary to have *some* idea of the pattern of human evolution to fully appreciate the significance of those basic adaptations such as bipedalism and manual dexterity that are represented within the syllabus. Moreover, to include only Neanderthal Man without reference to any earlier hominids makes very little sense, for then Neanderthals are left floating, without any chronological or evolutionary referents. So we should at least explore the possibility of providing additional information for students through supplementary support materials which fill out the essential background.

Within higher education the situation is rather better, with human evolution taught in several faculties of the University of Ljubljana. All biology students and those training to be biology teacher have lectures on the subject, covering the main features of fossil hominids, major sites, together with major adaptive and evolutionary patterns. Similarly, archaeology students also take a course on human evolution. Students in the Department of Sociology within the Faculty of Arts study social anthropology, and within this subject also have lectures on human evolution and primatology. However, other students - for instance those studying history – receive no teaching in human evolution.

WHAT CAN WE DO TO ENSURE THAT STUDENTS ACQUIRE MORE KNOWLEDGE OF HUMAN EVOLUTION?

Given the overall constraints on the school timetable, it is realistic to plan on the assumption that there will be no increased teaching time for biology in the secondary curriculum. This is despite the fact that the life sciences are at least as important as other school subjects, and that issues of ecology, biological diversity and conservation are increasingly topics of public concern. A necessary precondition for the protection of our natural environment is an appreciation of the scale and pattern of biodiversity and recognition of its sensitive interconnectivity. This is where knowledge of evolution –the central unifying theory of biology – is of crucial importance. And to understand man's place in the living world and the significance of his interactions with other species in turn requires some knowledge of human evolution.

If these arguments are accepted, then ways of introducing more teaching of human evolution will nonetheless need to be found. One possible way is to explore the connections between aspects of human evolution and other subjects, interweaving them into the teaching of (for example) history, sociology, art and geography. This would have the added benefits of promoting pupils' awareness of the value of diversity, and the richness of experience that it provides. It would counter tendencies towards stereotypical thinking, encourage pupils to recognise the positive importance of variability, and promote tolerant attitudes to other individuals, nationalities, cultures and creeds. In other words, teaching human evolution in this way will not only provide pupils with a sound knowledge of many important concepts in the biological sciences but also help promote their social responsibility and citizenship. We live in an increasingly interconnected world in which individual, regional and national prosperity will depend not only upon technical and economic expertise, but also on the ability to extend those beyond national frontiers and interact constructively with people with very different backgrounds from our own.

Such an interweaving of topics also has pedagogic benefits in encouraging pupils to think flexibly, to counter the tendency to compartmentalise knowledge into separate 'boxes' and to avoid the overloading of the curriculum with facts to be memorised by rote. Within such a flexible framework it may eventually be possible to provide older pupils with an optional (or facultative) treatment of human evolution as a supplement to the core curriculum.

At university level some treatment of palaeoanthropology could usefully be incorporated within the course framework for students of geography and history, for example. And we should encourage the publication of accounts of the subject, whether text books or shorter popular articles explaining specific aspects and current developments, whether as original accounts or in translation. Without access to some such seed-corn accounts, popular interest is unlikely to develop as it has elsewhere, and no Slovenian author has written wide-ranging, authoritative and yet accessible accounts since Škerlj.

A timely catalyst to this would be the mounting of a major new exhibition on the subject in the Natural History Museum in Ljubljana. It is twenty-five years since the last such display, and a silver jubilee exhibition would emphasise to people the fundamental changes over that period, the richness of present evidence, the exciting pace of development in the subject.

Anton Polenc in his book "Man" quotes Charles Darwin prophetic sentence: "*the light also started to shine on man's evolution and his history*". Let us hope that light will start to shine on Slovene paleoanthropology again in the sense of teaching and learning.

These thoughts are intended not as a criticism of other workers, who have struggled with limited resources over the years to continue the teaching of palaeoanthropology in Slovenia, but rather to stimulate discussion of the pedagogic value of human evolution, and its enhanced role within the curriculum of Slovene schools.

POVZETEK

Članek obravnava pomen poučevanja evolucije in še zlasti evolucije človeka v naših osnovnih in srednjih šolah. Avtorica analizira stanje v programih slovenskih osnovnih in srednjih šol in ugotavlja, da je pri nas evolucija in zlasti evolucija človeka zelo skromno obravnavana in z majhnim številom ur. Tudi na knjižnem trgu v Sloveniji je malo literature, domače ali prevodov, z vsebino, ki obravnava razvoj človeka in ki bi jo lahko učenci prebirali. V svetu je evolucija človeka (in širše paleoatropologija) pomem-

bna veja znanosti, ki se hitro razvija. Prav najdbe v zadnjem času, mnoge od teh so zelo nenavadne in presenetljive, so močno spremenile obstoječe vedenje o naših prednikih. Evolucija človeka ni samo zanimiva, ampak ima veliko pomembnih izobraževalnih dobrih strani. Preko nje spoznamo osnovne evolucijske principe, prikazuje skupno delovanje usmerjenih multidisciplinarnih pristopov v naravoslovju in dopolnjuje obravnavanje zaščite okolja, medčloveške odnose in socialno odgovornost. Zaradi pomembnosti tega področja ponuja avtorica nekaj rešitev, kako bi lahko evolucijo človeka bolj vključili v pouk in mladini ponudili več znanja preko drugih virov o naših prednikih, njihovem razvoju in nas samih.

KLJUČNE BESEDE: *paleontologija, evolucija človeka.*

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CHALLENGES OF THE EUROPEAN ANTHROPOLOGY

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ABSTRACT

If natural history of Man is indeed still our background, an evolution of anthropology has been felt with the development of new techniques in molecular biology and in statistics for instance. However, it is not because we use new techniques that we would be necessarily better anthropologists. We must not use a reductionnistic reasoning, but a holistic thinking. We do not need all competencies (from prehistory to genetics), we will not be poly-competent but we must be able to focus on priority problems and to stimulate the complementarity of the disciplines. Therefore, it is important to promote networking, mobility of students and of staff, and joint prospects. A few colleagues took the initiative to answer this philosophy by creating an European Master in Anthropology as well as an European Ph.D. in biology.

KEYWORDS: anthropology, master, PhD

INTRODUCTION

Anthropology finds its origin in the European culture in the 19th century, as a result of observations of travellers and of colonisers as well as the publications of Darwin : human variability becomes of interest at the physical level but also at the cultural level; this variability and its origin are the studies of the first anthropologists. It is the spirit of the natural history of Man, it is in this spirit that the EAA was created in 1975.

Anthropology is still the science of the natural history of Man, and shows many facets and subdisciplines. But, we know that anthropology changed totally in its mental approach and that, in our search for the origin of variability, we discovered that the main variability is in fact lying inside each population: in terms of nuclear DNA, 90% of the diversity is attributable to differences between individuals of the same geographical population and very little of the overall diversity is attributable to interracial differences, the same is true for mitochondrial DNA where 94% of the variation is observed inside the same population (Melnick et al., 1992).

If the natural history of Man is indeed still our background, an evolution of anthropology has been felt with the development of new techniques in molecular biology and in statistics for instance. However, it is not because we use new techniques that we would be necessarily better anthropologists. We must not use a reductionistic reasoning, but a holistic thinking.

Pascal said "Je ne connais pas le tout si je ne connais pas les parties, mais je ne peux connaître les parties si je ne connais pas le tout" (I do not know the whole if I do not know the parts, but I cannot know the parts if I do not know the whole)

The problem, but perhaps the advantage, of the teaching in anthropology is that we must keep a broad basis, we will continue to be generalists but we must avoid being specialists in nothing. Anthropologists frequently assume themselves be experts in fields for which they have no background, e.g. the primatologist with no training in zoology, the DNA expert with no training in biochemistry, etc.

The holistic approach must be kept in the beginning of the studies (in the graduate studies), where we must receive a very serious background of biology in general, as well as statistics, anatomy, molecular biology, prehistory...

This is also related to the job market where employment in academic positions is diminishing: this means again the importance of acquiring training in non-anthropological areas in order to expand employment opportunities beyond traditional Anthropology.

But, afterwards the appropriate training is a specialised training in one of the subfield of anthropology. Our students cannot be prepared for a future professional career in physical anthropology unless they further their education with doctoral and postdoctoral studies and research in more relevant areas.

COMPETENCES AND ETHICS

We do not need all competences (from prehistory to genetics), we will not be polycompetent but we must be able to focus on priority problems and to stimulate the complementarity of the disciplines.

At M.Sc. and at PhD. level we must be honest with ourselves and we must confess that we cannot offer the whole range of Anthropology to our students: indeed we have to be modest about the expertise our own home university can offer and we must be ready to help our students

1. to choose the correct university for the topic they want to specialise (not what we want to impose)

2. to choose the correct experts in each subfield.

Therefore, it is important to promote networking, mobility of students and of staff, and joint prospects.

A few colleagues have taken the initiative to answer this philosophy by creating an European Master in Anthropology as well as an European PhD. in biology (you are welcome to contact the author to receive more information on this topic).

A modern society can no more exist without educating the individuals to use maximally the freedom of thinking, without educating people to be continually critical, to respect rational laws but to reject the manipulations. For instance, we must tell that the planification of birth, health and death is inevitable, that it is stupid to make from it "taboo" topics, that eugenism is already today part of our daily life ... These are societal but at the same time anthropological problems.

It is up to us to participate in the daily and actual problems of our society, or to disappear with our bones, with our skinfold or somatotype analysis, with our statistics of gene frequencies. I do not want to offend these Anthropologists, these topics are still interesting and these anthropologists will still exist, we still need them, but we will have to accept "strange" anthropologists who are no longer following the good designed ways of the rou-

tine to disappear in the mazes of the reality of the world. We will not escape the biology of the 21st century and its eventual risks, let us prepare ourselves to explain these risks, this education being the only way to preserve democracy.

Sartre said "L'homme est obligé à chaque instant d' inventer l' Homme", I would say anthropologists are obliged continuously to invent anthropology. We are obliged to engage ourselves in the new debates and to accept the corollary confrontation with others.

Our richness is our diversity. Let us accept this diversity but let us work at the same time to a common spirit. Let us accept the fusion of "hard" and "soft" science in Anthropology, the scientific and humanistic approaches.

ANNEX 1: EUROPEAN MASTER IN ANTHROPOLOGY AND HUMAN BIOLOGY

The idea of this European Master of Anthropology and Human Biology arose from discussions with many friends of the EAA inside the Erasmus Biology (ICP-B-1004) and Erasmus Anthropology (ICP-B-3010) and is continuing now under the umbrella of the Socrates Programmes.

It is original by joining forces between different laboratories to propose an adequate teaching on the main topics of the research domain of physical anthropology, such as :

- Human paleontology, including paleoecology
- Human ethology
- Nature versus Nurture in Human beings (human biology of hereditary and of non-hereditary traits)
- Human growth
- Population genetics
- Primatology
- Applications such as ergonomy and biodemography

It is also original by the fact that it can better answer to the new challenges of anthropology. Although the natural history of Man is still the background of all anthropologists, the development of new techniques in molecular biology and in statistics influence our research. New challenges have appeared in human ecology, in human paleontology, in biology of the skeleton, in the biology of past populations, in human growth, in population genetics, in demography and even in global bioethics. One laboratory, one department, one institute cannot answer all these new challenges. Together we can try.

The future is no longer the interdisciplinarity, with the juxtaposition of the different disciplines, the future is transdisciplinarity where the interest is in just what is lying between the disciplines. Anthropology was an interdisciplinarity science, it must become transdisciplinary. We must not use a reductionist thinking, but a holistic approach. The autonomy of anthropology is linked to the networks of our subdisciplines, we must reinforce our anthropological culture.

Teaching in anthropology means a good broad and not (too) specialised background at B.Sc level but afterwards at M.Sc level and PhD level, a specialised training in one of the subfields of anthropology. Our students cannot be prepared for a future professional career in physical anthropology unless they further complement their education with research in relevant areas. At the level of the specialised research, we must be honest with our students (and with ourselves): each university cannot offer the whole range of anthropology. We must be ready to help our students to find the correct experts in each subfield.

Therefore, it is important to promote :

- network
- mobility of staff and students
- intensive courses
- joint projects

Our richness is our diversity. Let us accept this diversity but let us work at the same time towards a common spirit. Anthropology participates today in the paradigm of the complexity : distinction and conjunction, one and multiple, unity and diversity.

This master's degree is something more than its participating parts. It has all together the qualities of utilitarism and avant-gardisme, its roots but also escape from tradition.

The degree is open at staff level for suggestions of cooptation by the founder members but is open from now on to all students having a full degree awarded by an officially recognised European University.

PARTICIPATING UNIVERSITIES.

AT: UNIVERSITY OF WIENNA

BE: FREE UNIVERSITY BRUSSELS (UNIV. LIBRE DE BRUXELLES)
FREE UNIVERSITY BRUSSELS (VRIJE UNIVERSITEIT BRUSSEL)

D: GEORG-AUGUST-UNIVERSITY, GÖTTINGEN
JOHANNES GUTENBERG-UNIVERSITY, MAINZ
FRIEDRICH SCHILLER UNIVERSITY, JENA

ES: UNIVERSITY COMPLUTENSE OF MADRID
UNIVERSITY AUTONOMA OF MADRID
UNIVERSITY OF THE BASQUE COUNTRY
UNIVERSITY BARCELONA
UNIVERSITY AUTONOMA BARCELONA
UNIVERSITY ALCALA DE HENARES

FR: UNIVERSITE DE BORDEAUX
UNIVERSITE DE MARSEILLE

GR: DEMOCRITUS UNIVERSITY OF THRACE

HU: EÖTVÖS LORAND UNIVERSITY BUDAPEST

IT: UNIVERSITY OF ROMA "TOR VERGATA"
UNIVERSITY OF FIRENZE
UNIVERSITY TORINO
UNIVERSITY PISA
UNIVERSITY PARMA
UNIVERSITY BOLOGNA
UNIVERSITY ROMA LA SAPIENZA

PL: UNIVERSITY OF POZNAN

PT: UNIVERSITY OF COIMBRA

SLO: UNIVERSITY OF LJUBLJANA

ANNEX 2: EUROPEAN PhD

It is today obvious for everybody that the growing integration of the European Community at the economic, political, scientific and cultural levels, involves enhanced mobility and increased interactions between people. This means that, in most European countries, graduates who try to find a job have to take into account the European if not the world dimension of almost all Enterprises and, consequently the fact that the requests of recruitment are more and more oriented to adaptability and functional mobility of the applicants.

This statement strongly suggests that if the preparation of a PhD thesis has to remain an intensive training in Methods and Techniques of Research and Studies which aims to lead the graduate students to the highest scientific level, it has also to prepare the graduate students to acquire a good level of adaptability and flexibility.

Consequently, encouraging the mobility skill during the preparation of the PhD thesis, has certainly to be one of the major aims.

EUROBIO has started to implement the concept of an European PhD. The delivery of an European label attached to the national PhD appeared to the members of EUROBIO to be a suitable vehicle to promote student mobility by formally recognising their adaptability to a new working environment.

For several years, some universities have decided on their own to deliver the European label on the base of minimal criteria supported in these decisions by the CRE (European Conference of Rectors). The purpose of our association is to work within a network of universities, involving mutual confidence and reciprocal recognition between them and consequently to take into account the agreement of several EU states and not only the decision of individual institutions.

The network, from which you will find the provisional list herewith, is, of course, still open : if, in your capacity as head of your Institution you are interested in participating in a network allowing your students in Biology to attach the label "European" to their national PhD, please send us a letter of intent.

CRITERIA - IMPLEMENTATION

1. Candidates must fulfil the requirements to obtain the PhD at the university with which they are registered.
2. Before the award of the European PhD, the host university has to send to the board of examiners a written assessment of the period of study.
3. The national board of examiners must include one or more foreign experts.
4. The European label has to be delivered by the mother university, simultaneously with the PhD degree.

ATTRIBUTION - CRITERIA

1. The students have to fulfil all the criteria requested to obtain the national PhD.
2. Additionally they have to spend a stay abroad, which would last at least six months. During that stay, students have to undertake a pre-agreed research programme.
3. Attendance at advanced course abroad and attendance at scientific meetings with oral presentations will not be obligatory but desirable.
4. Depending on the system of operation in the different European countries, publication of at least one paper in an international journal would be required.
5. Students would be requested to prepare an exhaustive summary of the PhD thesis in the mother language, in another European language, and of course one in English.

LISTING OF UNIVERSITIES FOR THE EUROPEAN PhD IN BIOLOGY (EUROBIO on 14th January 2000)

AL: UNIVERSITY OF TIRANA

BE: VRIJE UNIVERSITEIT BRUSSEL
UNIVERSITÉ LIBRE DE BRUXELLES

BG: UNIVERSITY OF PLOVDIV

ES: UNIVERSIDAD ALCALA DE HENARES
UNIVERSIDAD AUTONOMA DE MADRID
UNIVERSIDAD DE BILBAO (BASQUE COUNTRY)
UNIVERSIDAD DE NAVARRA

FI: UNIVERSITY OF OULU

FR: UNIVERSITÉ DE MONTPELLIER
UNIVERSITÉ DE PARIS 6
UNIVERSITÉ DE RENNES

GR: UNIVERSITY OF THESSALONIKI
UNIVERSITY OF KOMOTINI

HU: UNIVERSITY EÖTVÖS LORAND BUDAPEST
UNIVERSITY JOSZEF ATTILA SZEGED

IT: UNIVERSITÀ DI ANCONA
UNIVERSITÀ DI FIRENZE
UNIVERSITÀ DI MILANO
UNIVERSITÀ DI PALERMO
UNIVERSITÀ DI PERUGIA
UNIVERSITÀ DI ROMA TOR VERGATA
UNIVERSITÀ DI TORINO
UNIVERSITÀ DI URBINO

LI: UNIVERSITY OF VILNIUS

NL: UNIVERSITEIT VAN AMSTERDAM

P: UNIVERSITY OF PORTO

PL: UNIVERSITY OF KRAKOW
UNIVERSITY OF WARSAW
UNIVERSITY OF WROCLAW

RO: UNIVERSITY OF BUCAREST
UNIVERSITY OF SIBIU

SK: UNIVERSITY OF BRATISLAVA

SW: UNIVERSITY OF LUND

POVZETEK

Prirodoslovje človeka imamo resnično za našo osnovo; evolucijo v antropologiji pa občutimo z razvojem novih tehnik v molekularni biologiji in statistiki na primer. Vendar pa nismo samo zaradi uporabe novih tehnik boljši antropologi. Ne smemo uporabljati redu-kcijskega, ampak celostno mišljenje. Ne potrebujemo vseh sposobnosti (od praz-godovine do genetike). Ne moremo biti multi-sposobni, moramo pa biti sposobni osre-dotočiti se na prednostne probleme in spodbuditi komplementarnost strok. Zato je pomembno, da spodbujamo povezovanje v mreže, mobilnost študentov in zaposlenih in skupna pričakovanja. Nekaj kolegov je prevzelo pobudo in v odgovor na to filozofijo razvilo evropski magisterij iz antropologije in evropski doktorat iz biologije.

KLJUČNE BESEDE: *antropologija, magisterij, doktorat*

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MEDFAKULTETNI PODIPLOMSKI ŠTUDIJ ANTROPOLOGIJE

MARIJA ŠTEFANČIČ

koordinatorica študija s strani Biotehniške fakultete
Oddelek za biologijo,
Biotehniška fakulteta,
Univerza v Ljubljani

Podiplomski študij antropologije je zasnovan kot medfakultetni študij dveh fakultet Univerze v Ljubljani: Biotehniške fakultete in Fakultete za družbene vede. Povezava teh dveh fakultet v integralnem študiju antropologije je rezultat dolgoletne tradicije dveh temeljnih antropoloških disciplin: fizične antropologije na Oddelku za biologijo Biotehniške fakultete vse od ustanovitve Katedre za antropologijo leta 1946 in socialne antropologije na Fakulteti za družbene vede od leta 1965. Obe antropološki tradiciji sta izoblikovali skupini strokovnjakov, ki sta razvijali vsaka svojo antropološko disciplino na raziskovalnem in pedagoškem področju ter producirali vrsto odmevnih rezultatov, tako doma kot v mednarodnem merilu. Razvoj moderne antropologije je zahteval sodelovanje med obema raziskovalnima področjema, ki sta se povezala v skupnem raziskovalnem polju. Čas pa je pokazal, da tudi v Sloveniji potrebujemo strokovnjake, ki bi vsaj v osnovah obvladali obe na videz različni interesni področji. Tako se je rodila ideja o medfakultetnem podiplomskem študiju.

Program študija je sestavljen tako, da omogoča holistično antropološko interpretacijo z možnostjo ožje usmeritve v socialno in kulturno, lingvistično ali fizično antropologijo. V prvem letu študija vpisujejo študentje štiri obvezne temeljne predmete: Fizično antropologijo, Lingvistično antropologijo, Socialno in kulturno antropologijo in Metodologijo antropološkega raziskovanja. V drugem letniku pa izberejo iz obsežnega spiska ponujenih izbirnih vsebin tri predmete, od katerih je vsaj eden povezan s temo izbrane magistrske naloge. V programu redno sodelujejo poleg domačih strokovnjakov tudi priznani antropologi iz tujine, občasno pa vabimo k sodelovanju tudi druge eminentne znanstvenike in strokovnjake.

Leta 1995 so stekle priprave, dogovori med fakultetama, izdelava učnega programa in prijava predloga na Univerzi v Ljubljani. V šolskem letu 1996/97 pa so se vpisali prvi štirje študentje. Da je študij kvaliteten, priča vsako leto večje število vpisanih. Tako smo imeli v šolskem letu 1999/2000 že devet novih slušateljev. Njihova osnovna izobrazba je zelo raznolika. Naši študenti so diplomirani novinarji, sociologi, politologi, ekonomisti, pravniki, kulturologi, biologi in drugi, skratka vsi, ki smatrajo, da jim pri opravljanju osnovnega poklica antropološko znanje v vsej svoji širini lahko koristi. Študij je ovrednoten s kreditnim sistemom, ki omogoča mednarodno izmenjavo. Nekateri študentje so že izkoristili možnost izbire in del svojega študija opravili v tujini. V letošnjem letu so že prvi magistri prejeli svoje diplome.

Vpis in ostale administrativne zadeve vodi trenutno Fakulteta za družbene vede. Strokovna plat študija in organizacija izvedbe programa pa je v rokah šest članskega kolegija, ki ga sestavljata po dva profesorja in prodekana za študijske zadeve obeh fakultet. Kolegiju predseduje prof. dr. Vesna Godina-Vuk.

V Sloveniji so še drugi antropološki študiji, vendar je medfakultetni študij antropologije edini, ki združuje vse temeljne antropološke discipline in v tem smislu sledi zgledom, kakršni so uveljavljeni v ZDA in zahodni Evropi.

PROSSER, Jon. (Ed). 1999.
School Culture. London: P.C.P. pp. 182

REVIEWED BY BOGOMIR NOVAK

This book is an anthology, including eleven chapters on the topic of school culture. These chapters are the following:

Jon Prosser:
The Evolution of School Culture Research
Sally Power and Geoff Whitty:
Market Forces and School Cultures
Louise Stoll:
School Culture: Black Hole or
fertile Garden for School Improvement
David Hargreaves:
Helping Practitioners Explore
Their School's Culture
Jennifer Nias:
Primary Teaching as a Culture of Care
Jon Prosser and Terry Warburton:
Visual Sociology and School Culture
Martin Mac an Ghall:
Schooling Masculine Identities
and Culture
Pamela Munn:
The Darker Side of Pupil Culture:
Discipline and Bullying in Schools
Jenny Corbett:
Inclusivity and School Culture:
the Case of Special Education
Gemma Moss and Dena Attar:
Boys and Literacy: Gendering
the Reading Curriculum
Sandra Weber and Claudia Mitchell:
Teacher Identity and Popular Culture

School culture has its roots in anthropology and the sociological tradition. It is one of the most complex and important concepts in education. There are several definitions of school culture. The authors of the contributions, presented in this anthology use some of them. In the past metaphors such as *'climate', 'ethos', 'tone', 'atmosphere' and 'character'* have been used to orient our thinking about schools.

Chapter 1 explores what constitutes school culture, how it is identified or changed and how it impacts on the quality of educational provision; then it describes the evolution of school culture in the UK, trends in educational practice and meanings over the last thirty years, and the relationship between school culture and improving practice.

Chapter 2 researches the influence of market forces on school culture. Institutional school culture is a part of regional, national and international cultures. *Sally Power and Geoff Whitty,* the authors of the contribution on Market Forces and School Cultures, point out that marketization of education is a global phenomenon. The features of the globalisation of school constitute an international form of *hidden curriculum*. They differ between corporate and state controlled curriculum. The school depends on the market and the State. Here arises an open question on how school can maintain the balance between both kinds of curricula and at the same time develop its autonomy.

Chapter 3 conceives school culture as holistic and universal, and emphasises that the agents of school culture are internal and external. It is seen as a set of context related normative parameters. *Stoll* answers two questions: 1. How has school culture changed, and 2. What are the practical implications for schooling? School culture can be changed in terms of reculturing and school improvement. *Stoll* differentiates the following four types of school culture: 1. traditional with characteristics of low social cohesion, high social control-custodial, formal), 2. welfarist with characteristics of low social control, high social cohesion-relaxed, caring, cosy, 3. hothouse with characteristics of high social control, high social cohesion-claustrophobic, pressured, controlled and 4. anomic culture with char-

acteristics of low social cohesion, low social control-insecure, alienated, isolated participants of education.

Chapter 4 is directed at practitioners, particularly senior members of school staff who are engaged in improving the effectiveness of their school. To achieve this aim, it is necessary to perform on three tasks of school culture: 1. the diagnostic task – identifying school culture, 2. the directional task – deciding which way a school culture should move, 3. managerial task – arranging and implementing a plan into school culture. *Hargreaves* also distinguishes four types of school culture: hothouse, welfarist, formal (traditional) and survivalist. The last one is known by low cohesion and low social control. It veers towards the school in difficulty or failing school. The teachers feel unsupported by senior colleagues, and therefore lack professional satisfaction. The author gives practitioners advice on how to choose their individual culture and style and how to improve them.

We can add to the third and fourth chapter that the school culture can be seen as an education paradigm from the historic point of view. In the history of educational thought, there are three education paradigms in public schools:

- the ethic paradigm from the beginning of the 20th century;
- the psychological paradigm, favouring educational theories, which caused the establishment of some alternative schools;
- the social-legal paradigm, favoured by sociology and law.

Chapter 5 shows a school culture that may be considered as a system of sub-cultures. They pass from generation to generation by learning processes based on generic values and combine to form a 'culture of care'. The first five chapters use an ethnographic qualitative methodology. *Nias* explains different kinds of care: affectibility, responsibility for learners, altruism, self-sacrifice and obedience, over-conscientiousness, commitment and identity. Primary teaching cannot effectively continue as a culture of care, until there is greater clarity in the mind of individual practitioners.

Chapter 6 describes school as rich in visual culture, usually of symbolic nature, embedded in gestures, ceremonies, rituals or artefacts, situated in both constructed and natural settings. The teachers provide an insight into values, beliefs and priorities of those who shape that culture. In this chapter visual sociology with a background in visual anthropology has been considered as a mode of enquiry into school culture by considering researcher generated images.

Chapter 7 analyses social inequalities and cultural identities in changing times, and emphasises pupil culture as a more important part of school culture than it can be assumed to be. Pupil culture is only a reproduction of ethnic/gender djvisions as expressed by wider society. They create their own identity, which we are now beginning to understand. School in late capitalism exists in complex intercultural and social relationships with family, labour markets, the legal system and popular culture. The identity of students in terms of masculinities and femininities is an active process of negotiation, rejection, acceptance and ambivalence, and it is not produced in a direct way but indirectly.

Chapter 8 describes discipline and bullying in pupil culture as darker sides. There is no consensus on what bullying is. According to *Munn,* it consists of many forms of physical aggression, threats, intimidation, extortion, rejection, teasing etc. Bullying is a consequence of social alienation and isolation. He tries to suggest to teacher's strategies for better relationships between pupils and teachers by blocking out the dark – negative sides of pupil culture, and developing the light – positive sides. These are at school level a school

ethos; at classroom level using co-operative learning techniques in heterogeneous groups and at individual level counselling, anger control, etc.

Chapter 9 concerns bullying by pupils with special educational needs. *Corbett* analyses the dynamic between different dominant and less dominant sub-cultures in their culture. He tries to think the inclusivity of their culture into the school culture, and offers answers to four questions: 1. How can schools create an inclusive culture in a climate of effectiveness? 2. Are the concepts of entitlement and inclusion incompatible? 3. What does inclusion actually involve? 4. What specific practices help individuals to feel included or excluded? It is evident that every particular school culture should find adequate answers to these questions.

Chapter 10 focuses on the school and examines the structuring of the reading curriculum and manner of its leading to different forms of activity. This chapter provides an insight into boys' evasive strategies, and provides us with a substantive theory on how texts construct child readers.

Chapter 11 emphasises popular culture, post-modern tenets, and the importance of narrative to enable practitioners to reflect their identity. *Sandra Weber and Claudia Mitchell* consider the importance of teacher images to teachers' work. They represent the difference between holistic and summation sub-culture perspectives. It is necessary to understand school as comprising systems with new theories and methodologies. School culture is a continuous state of flux, and it is not easy to identify and examine for education.

We can add that, generally speaking, contemporary school culture has been historically determined by the paradigms of the European education: *paidea* of the antiquity, charisma of the middle ages, and work of the modern times. The present anthology of school culture is very interesting for analysing the state of school in the countries in transition from different points of view.

EPSTEIN, Arnold Leonard ('Bill'). 1999. **Gunantuna: Aspects Of The Person, The Self And The Individual Among The Tolai.**
Bathurst: Crawford House Publishing. 241pp. + Viii. **ISBN 1 86333 180 8.**

REVIEWED BY BORUT TELBAN

Scientific Research Centre of the Slovenian Academy of Sciences and Arts and Research School of Pacific and Asian Studies, The Australian National University

Arnold Leonard ('Bill') Epstein is renown for his ethnographic work among the Tolai of Matupit, a small island near Rabaul in Papua New Guinea. *Gunantuna* is his last book. It was published just before he died on 9 November 1999, a couple of months after his 75th birthday.

One of the first explorers of identity, ethnicity and the anthropology of affect, Epstein was justified in returning to those preoccupations which had been central to his academic career: personal identity, emotions, and the self. In this regard one only has to be reminded of his *Ethos and Identity*, published in 1978, and *In the Midst of Life: Affect and Ideation in the World of the Tolai*, published in 1992. It comes as no surprise, therefore, that the Tolai word *Gunantuna*, the title of the present book – meaning 'true land', 'real place', or 'real home' – closely corresponds to the English word 'person'. The book is organised around four main essays: on adoption, names and naming, shame, and privacy. Three of them have been published previously. A general introduction and a chapter on the person, the self and the indi-

vidual, precede the other essays. Over the years at least one of them has gained wide recognition: 'The experience of shame in Melanesia'.

In his introduction Epstein briefly examines the works of several authors – Cohen, Goldschmidt, Shweder and Bourne, and Morris in a general context, and Leenhardt, Read, M. Strathern, Poole, Stephen, and Toren in a Melanesian context – with a keen interest in the notions of person, self, and the individual. Epstein is interested in the relationship between the individual and society and supports Morris' critique of generalisations and comparisons made by Shweder and Bourne. Their analysis, based on the opposition of 'tribal', sociocentric societies and Western, egocentric ones, is deeply entrenched in the classical dualistic paradigm which was characteristic, for example, of Levy-Bruhl.

In his essay on adoption Epstein explores a number of expressions used by the Tolai for adoption and similar phenomena. In this matrilineal social system it is mainly women who adopt children – as sons and daughters – who are already members of their descent groups. A man can also adopt a child, not as a son or a daughter but as a brother or a sister, so that a child can be a member of the same moiety. Epstein argues that one should not seek reasons for adoption in an unmarried mother being unable or unwilling to undertake the task of bringing up her child, as it is the case in the West. Nor should the reasons for adoption be seen in parents' already having too many children to look after, as it is the case in some parts of Eastern Oceania. As in other Melanesian societies, too, Matupit prefer to maintain a discreet silence about adoption. Such concealment protects the interest of both parents child.

The naming system of the Tolai seems quite simple compared to some other New Guinean societies where names are tied to descent groups. The Tolai do not have clan names, 'sorrow names', teknonyms, etc., nor do they have names register of birth order distinction or gender differentiation. They have *a valavalar*, a 'try-out' (p. 104) name, given at birth, *a iang na gunan*, an indigenous name given once the child 'has begun to turn over in its sleep' (ibid.), *a iang na punupuk*, a baptismal name (Tolai have been Christian for more than a century), and *a iang na varvaula*, a joke-name that depicts physical or behaviouristic characteristics of a person.

When Epstein originally published his essay on the experience of shame in Melanesia, much less had been written about the anthropology of emotions. Cognitive psychology and psychological anthropology had yet to pay attention to affect. After presenting a case study from his own ethnography, Epstein analyses two other studies: one by Ian Hogbin on Busama and the other by Michael Young on Goodenough Island. Then, after returning to his own case study, Epstein examines two important issues: shame as a social sanction and the cultural variability of shame.

In the final essay Epstein addresses the question of privacy in relation to sex, defecation and menstruation. He warns against generalisations across cultures, especially against those views which depict non-literate and pre-modern societies as harmonious, with no notion of the autonomous individual. There is a curious editorial error in this essay as the notes 13, 14, and 15 are missing.

While the volume on the whole encapsulates Epstein's work on the Tolai, it does not critically engage in more recent discussions about the individual and society, as represented, for instance, by questions of social action and agency. However, the emphasis on the ethnographic and ethnolinguistic detail in the present essays, along with Epstein's persistent plea to differentiate between individual, individuality and individualism, represent those issues which, I think, are timeless and will contin-

ue to engage not only those with a keen interest in ethnopsychology and New Guinea ethnography but all those who are interested in the lives of Pacific Islanders.

DEVETI MEDNARODNI AVKSOLOŠKI KONGRES

TORINO, 3. - 6. SEPTEMBER 2000

ASIS. MAG. MOJCA JURIČIČ, DR.MED.

Medicinska fakulteta,
Inštitut za higieno,
Zaloška 4, Ljubljana

V zgodovinskem okolju baročnega gledališča Teatro Carignano se je začel IX. mednarodni auksološki kongres, z uvodnim predavanjem poimenovanim po Jamesu M. Tannerju. Predavanje z naslovom Avksologija in ekonomija je podal Nobelov nagrajenec za ekonomijo Robert W. Fogel iz univerze v Chicagu. Da je bila čast uvodnega predavanja zaupana prav njemu ni bilo naključje, saj je v sodelovanju z Jamesom M. Tannerjem razvil teorijo tehnofiziologijo evolucije, ki pojasnjuje fiziološke spremembe človeka zaradi dogodkov v okolju. Predavanju je sledilo družabno srečanje.

Osrednji del kongresa je potekal v kongresnem centru "*Centro Congressi Internazionale*", v samem središču Torina. Vsak dan smo pričeli s plenarnim predavanjem, tako je v ponedeljek Noel Cameron iz Velike Britanije predstavil temo V iskanju krivulje rasti. Naslednji dan je bil posvečen genetiki in motnjah rasti, predavatelj je bil S. Bernasconi iz Italije in zadnji dan je Barry Bogin iz Združenih držav Amerike imel predavanje na temo Otroštvo, igra in rast.

Po plenarnih predavanjih so bile vzporedno dve ali tri skupine predstavitev z naslednjimi vsebinami:

- zdravljenje nizke rasti
- normalna in bolezenska puberteta
- avksološki in antropometrični pokazatelji v javnem zdravstvu in epidemiologiji
- raziskave populacij
- skeletno dozorevanje
- avksologija in šport mladih
- razlike v izločanju hormonov in delovanje telesa skozi celo življenjsko obdobje
- končna višina in psihosocialno stanje na otroka z nizko rastjo
- rast ploda
- večplodna nosečnost - kaj je z rastjo ploda
- modeli rasti
- rast v ekstremnih pogojih okolja
- sestava telesa in prehrana
- sekularni trend
- genetika in rast
- rast pri kronično bolnih
- onesnaževalci in razvoj

Vmes so potekale predstavitve plakatov. Kongresa sem se udeležila edina iz Slovenije s plakatom z naslovom: Indeks telesne teže in debelost pri šolarjih starih 7. do 18. let v Ljubljani (Slovenija).

Poleg obsežnega strokovnega programa so nam prireditelji omogočili, da smo udeleženci vsaj malo začutili kulturno bogastvo mesta v katerem je potekal kongres. Ob omembi severozahodnega italijanskega mesta Torino večina ljudi pomisli na Agnellijev avtomobilski koncern Fiat. Malokdo poveže to piemontsko mesto s savojsko dinastijo, ki je dala italijanske kralje. Še manj je znano, da je leta 1861 Torino postal prva prestolnica tedaj združene Italije. Izgled mesta ovrže vse stereotipne predstave o milijonskem industrijskem središču. Staro mestno jedro je prava zakladnica baročne in rokokojske stavbne dediščine, ki jo predstavljajo poleg kraljevih rezidenc, še številne palače, gledališča, muzeji in cerkve. Posebnost mesta so neskončne arkade ob gla-

vnih ulicah, ki so nekoč služile nemotenemu sprehajanju ob slabem vremenu, tako da so jih imenovali dežnik Torina. V industrijska predmestja vodijo mimo secesijskih stanovanjskih karejev široke avenije z drevoredi in tramvaji.

Udeleženci kongresa smo obiskali koncert baročne glasbe v jezuitski cerkvi Ss. Martiri in zaključili kongres s svečano večerjo v baročnem okolju palače Barolo.

SHORT REPORT ON THE CONFERENCES OF THE EUROPEAN EDUCATIONAL RESEARCH ASSOCIATION (EERA)

BOGOMIR NOVAK

EERA was founded as a learned society in Strasbourg in 1994, particularly for the aims of:

- encouraging cooperation among educational researchers in Europe,
- promoting communication between educational researchers and international governmental organisations such as Council of Europe, OECD and UNESCO,
- improving communication among educational research association and institutions within Europe,
- disseminating the findings of educational research and highlighting their contribution to policy-making and practice.

Further information of EERA is available on: *[http://www.eera.ac.uk]*

Every year in September, Conferences of the European Educational Research Association (ECER) have taken place in a different country. In the last few years, the ECER conference were held in Sevilla (Spain, 1996), Frankfurt (Germany, 1997), Ljubljana (Slovenia, 1998), Lahti (Finland, 1999) and in Edinburgh (Scotland 20-23 September 2000).

As I have been a participant at all these Conferences with the exception of the Conference in Frankfurt, the adapted articles which were presented at the Conference in Edinburgh are published in this issue of *Anthropological Notebooks*.

The researchers of education participated at the ECER Conferences, coming from all over Europe and beyond, representing over 50 countries. Slovenia as a small country has sent quite a large delegation from different institutions, particularly from the Educational Research Institute of Ljubljana. The programme organisers received over 1200 papers, covering a wide range of educational topics from different scientific points of view. The ECER Conference in Edinburgh, as in the other cities, offered a unique opportunity to be briefed on educational research, policy and practice in other countries, to meet with old friends and to establish new friendships and educational networks. These Conferences have been professionally rewarding.

At this year's conference there were 22 sections – meaning that their number has doubled if compared to last year.There are many different groups which discuss very complex problems of education. One of the most effective, encouraging new participants to co-operate, was established in Frankfurt, on the topic of the Philosophy of Education.

The presentation of the selection of 24 best papers at the last conference was new. They are published in Day C., Van Veen D.(Ed.): *Educational Research in Europe. Yearbook 20000* where the following chap-

ters can be found: Teaching and Teachers, Teachers' Education, Intercultural Topics, Values in Education, Vocational Education and Lifelong Learning.

For the purposes of the ECER Conferences, I have written the following papers:

- How is Slovenia solving the school's dilemmas politically? (Sevilla, Spain, 1996),
- Anthropological reflection on teacher education. ECER, (Ljubljana, 1998),
- Development of Slovenian School in Interaction with Educational and Political Culture. (22-26 September 1999. Lahti, Finland),
- Development of Critical Thinking in the Slovene School – Encouraged or Impeded, (20-23 September 2000, Edinburgh, Scotland).

The next ECER Conference will take place in Lille, France, from 5–8 September 2001. It will be organised jointly by EERA and the Association des Enseignants et Chercheurs en Sciences de l'Education (AECSE).

MILLENNIAL PERSPECTIVES: PAST, PRESENT AND FUTURE

12. KONGRES EVROPSKEGA ANTROPOLOŠKEGA ZDRUŽENJA

CAMBRIDGE, 8. - 11. SEPTEMBER 2000

DOC. DR. TATJANA TOMAZO-RAVNIK

Dept. of Biology - Biotechnical Faculty
Večna pot 111
SLO - 1000 Ljubljana

Kongres EAA (European Anthropological Association) je potekal pod delovnim naslovom **"Millennial Perspectives: Past, Present and Future".** Kongres so organizirali na Univerzi v Cambridgeu - Oddelek za biološko antropologijo pod vodstvom prof. dr. Nicka Mascie-Taylorja.

Delo je potekalo v obliki plenarnih predavanj v dopoldanskem času in predavanj ter posterskih predstavitvah v popoldanskem času. Plenarne predstavitve so bile osredotočene na tri obdobja: preteklost, ki je predstavljala evolucijske teorije in evolucijo človeka, sedanjost, ki je predstavljala današnje stanje in bodočnost - biologijo človeka v 21. stoletju. Prvi dan so plenarna srečanja potekala v dveh sklopih: Evolucijski modeli in evolucija človeka ter Evolucijske teorije in problem modernega človeka. Predavatelji: Foley, R., Conway-Morris, S., Aiello, L., Stringer, C., Renfrew, C. in Mace, R., so predstavili svoje najnovejše raziskave. Popoldanski del je potekal v sklopu tem: Skeletna biologija in Ekologija človeka. Na voljo za vprašanja in diskusijo so bili avtorji posterjev na temo genetika in variabilnost človeka. Drugi dan je bil ponovno v dopoldanskem času posvečen Evoluciji s predavatelji: Groves, C.,

Ruff, C., Brown, P, Pagel, M., Goldstein, D. in Lahr, M. V popoldanskem delu so avtorji predstavili dela s področja Evolucije človeka in Auxologije ter posterje iz Paleoantropologije. Tretji dan so dopoldanske predstavitve bile združene pod naslovom Današnje stanje človeka. Popoldanske pa v skupini človekova variabilnost in genetika človeka. Pred posterji na temo Auxologija je bilo zelo živahno.

Četrti dan je bil posvečen Biologiji človeka v 21. stoletju z naslovi oz. temami:

- Napredki v molekularni biologiji in njihov pomen za evolucijo človeka,
- Debelost pri otrocih: nova definicija,
- Ekologija podeželja v 21. stoletju: izziv za človekovo biološko prilagoditev,
- Staranje: demografske in biološke perspektive,
- Odraz spolne problematike v biologiji človeka,
- Medicinska antropologija in genetska epidemiologija v okviru ekologije človeka.

Popoldansko delo je potekalo tako v obliki predavanj kot pred posterji v sklopu Svobodne teme.

V gradivu kongresa je bilo objavljenih kar 175 izvlečkov. Kot je že navada je srečanje članov EAA potekalo v živahnih diskusijah in izmenjavi mnenj na številnih področjih antropologije. V času kongresa so nam bile na voljo za ogled številne knjige in revije angleških založb, predvsem Cambridge University Press, Taylor & Francis, Blackwell itd. Zadnji dan smo zaključili s skupščino EAA. Poslu-šali smo poročila vodstva, sprejeli nekaj dopolnitev k statutu ter izvolili oz. potrdili novo vodstvo in svet društva. Ob zaključku smo si zaželeli : Nasvidenje v Zagrebu, kjer bodo kolegi organizirali naslednje srečanje v letu 2002. Kljub veliki zgoščenosti predavanj in ogledov posterjev, se večina udele-žencev ni mogla upreti izredno lepemu po-letnemu vremenu in si ogledati vsaj katerega od prelepih kompleksov univerzitetnega Cambridgea ali se popeljati po rečici Cam.

Za vse podrobnejše informacije o kongresu in seveda o društvu si oglejte spletno stran: *[www.vub.ac.be/gst/eaa]* ali pa pri predstavnici za Slovenijo na e-mail: tatjana.ravnik@uni-lj.si.

I. MANUSCRIPTS

The editors and the editorial board of the Anthropological Notebooks invite professionals and graduate students in all fields of anthropology to submit papers, study themes research, study and conference reports, and book reviwes for publishing.

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ANTROPOLOŠKI ZVEZKI • ANTHROPOLOGICAL NOTEBOOKS

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KAREL

1873 • 1946

OZVALD

Karel Ozvald (1873 - 1946) was a teacher at the grammar schools of Kranj, Ptuj and Gorica as well as a reader and professor at the Faculty of Arts in Ljubljana. He did not agree with the then popular definition of education being a social process of a child's integration into a society and a natural process of the development of a child's character. Instead, he maintained that a child's personality is developed by the interiorization of cultural values. A human being is formed by the whole culture lifelong, and not just by school. As pedagogy is a science on the enculturation of a young human being, his main work has the title **Kulturna pedagogika - Kažipot za umevanje včlovečevanja** (1927, 2000). His culturally based pedagogy cast a new light on the then predominant Catholic pedagogy and pedagogy of social democracy. He published several independent works on pedagogy, child and youth psychology and logic, as well as about one hundred dissertations, reports and evaluations in scientific journals, especially in ***Popotnik*** and **Pedagoški zbornik**.