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Pedagogical Innovations as a Part of Educational Policy in Poland – Trends and Prospects

Summary: *The last 20 years in Polish educational policy has been marked by radical but positive change in the social perception of new, innovative ideas in educational practice. This change, however, came along with important misconceptions, including: superficial/or insubstantial understanding of the very concept of “innovation”, “staging” innovations to fulfill bureaucratic demands. The article explores popular barriers and veiled threats in the process of introducing innovative ideas into schools, searching for potential means of overcoming these barriers. How to bridge the gap between the educational sciences and the school practice? How to prevent the decline in the quality in teacher training? What changes in teacher training are necessary to create the culture of enquiry, self-regulated learning, building learning potential of both, teachers and students? Can innovative teacher training be the answer to bureaucracy, politicization and fake reforms in the Polish educational system? These are the main questions addressed in the presentation.*

Keywords: *pedagogical innovations, innovative teacher, teacher training*

Резюме (Дорота Здыбель: Педагогические инновации как элемент образовательной политики в Польше – тенденции и возможности): *Последние 20 лет польской образовательной политики были отмечены радикальными, но положительными изменениями в общественном восприятии новых инновационных идей в педагогической практике. Однако данные изменения совпали со значительным недопониманием, включая поверхностное и неполное понимание собственно термина «Инновация»; «инсценировки» инноваций должны выполнять бюрократические требования.*

Данная статья исследует популярные барьеры и скрытые угрозы в процессе введения инновационных идей в школах и ведет поиск потенциальных средств преодоления этих препятствий. Как необходимо восполнить пробел между педагогикой и школьной практикой? Как остановить процесс снижения качества педагогического образования? Какие изменения необходимы в педагогическом образовании для создания культуры исследования, самоуправляемого обучения и развития учебного потенциала учителей и обучающихся? Может ли инновационное педагогическое образование быть ответом на бюрократию, политизацию и неправильные реформы в польской системе образования? Это главные вопросы, рассматриваемые в данной презентации.

Ключевые слова: *педагогические инновации, передовые учителя, педагогическое образование*

Zusammenfassung (Dorota Zdybel: Pädagogische Innovationen als Bestandteil der Bildungspolitik in Polen – Trends und Chancen): *Die letzten 20 Jahre der polnischen Bildungspolitik wurden geprägt von radikalen, aber positiven Veränderungen in der gesellschaftlichen Wahrnehmung der neue, innovativen Ideen in der pädagogischen Praxis. Diese Veränderungen fielen jedoch zusammen mit großen Missverständnissen, einschließlich eines oberflächlichen oder unvollständigen Verständnisses des eigentlichen Begriffes "Innovation"; "Inszenierungen" von Innovationen sollten bürokratische Anforderungen erfüllen. Dieser Artikel untersucht populäre Barrieren und versteckte Drohungen im Prozess der Einführung innovativer Ideen in Schulen und ist auf der Suche nach potenziellen Mitteln zur Überwindung dieser Hindernisse. Wie ist die Lücke zwischen den Erziehungswissenschaften und der Schulpraxis zu überbrücken? Wie kann der Rückgang in der Qualität der Lehrerbildung verhindert werden? Welche Veränderungen in der Lehrerbildung sind notwendig, um eine Kultur der Nachforschung, des selbstgesteuerten Lernens zu schaffen und das Lernpotenzial der Lehrer und Schüler zu entwickeln? Kann eine innovative Lehrerbildung die Antwort sein auf Bürokratie, Politisierung und gefälschte Reformen im polnischen Bildungssystem? Dies sind die wichtigsten Fragen, die in dieser Präsentation erörtert werden.*

Schlüsselwörter: *pädagogische Innovationen, innovative Lehrer, Lehrerbildung*

Introduction

In the last 20 years a substantial change has occurred in legal regulations and philosophy of education. Alternative pedagogical solutions are no longer treated like they used to be in the communist system as "suspicious and undesirable political activity", an eccentric whim which should be suppressed, curbed, or at least brought under strict bureaucratic control (i.e. "a bureaucratic murder" should be committed). After Poland joined the European Union, the legal changes forced by the process paved the way for teachers' innovative activities – educational innovations became a desirable phenomenon which was promoted and present in nearly all educational documents. As B. Śliwerski estimates, in the first period of pro-democratic opening (1989–1994) when the educational system was decentralized and initiative was handed over to teachers, over 4,000 innovative curricula and "authors' classes" based on creative educational concepts were developed in Poland (from: Dudel et al, 2014, p. 49). The quality of the changes varied considerably - there were both unconventional solutions which were groundbreaking for the Polish post-socialist pedagogy, and projects which were seemingly alternative, superficial, and quasi-innovative. However, their large number clearly indicates how strong was the desire for changes and search for solutions which would be alternative to the educational mainstream. Currently, after 25 years since the system was changed, the situation does not provide scope for much optimism. Polish schools are being increasingly criticized. On the one hand, they are treated as a tool for maintaining social cohesion, transmitting cultural heritage, and building national identity. On the other hand, they are criticized for ineffectiveness, inhibition or even blocking intellectual potential of students and teachers, for helplessness in the face of discipline problems and narrow didacticism. One of the outstanding Polish educationalists, Prof. D. Klus-Stańska makes the following diagnostic statement:

The picture of school presented in numerous studies is overwhelming. The Polish school, paralyzed by pseudo-reforms, with teachers whose rights to professional independence have been deprived, is becoming increasingly subject to the dictates of the market and is no longer a supportive place for students. It forces conformism, impairs critical thinking abilities, kills curiosity about the world, limits the richness of peer relations. It turns education into a kind of struggle for survival. It does not meet the expectations even of those who accept the unfavorable atmosphere but believe it to be fully effective in teaching. On the contrary, Polish school teaches inefficiently. In international mathematical and natural science competence tests Polish third-form students did not do as well as their European peers (although the results of secondary school graders have improved in recent years). It happens that school hinders skills which were mastered outside an institution. The fact is proved by the studies in which students appear to be relatively the best at the tasks which have not yet been covered by school curriculum. They have a potential which school transforms into cognitive helplessness (in: Socha, 2014).

We are particularly behind on education for creativity and releasing the innovative potential of Polish society. Here are some harsh facts (Szmidt, 2013a, p. 15):

- "We rank fifth in Europe for innovation and number of patents; however, we are 5 places from the bottom in the ranking.
- There are only 71 patents per one million Poles (while there are 405 in France and as many as 650 in Germany).
- Only 0.6% of GNP is spent on research and development in Poland, whereas in Europe the average is 2.3%, and as much as 4.53% in Israel, 3.73% in Sweden, 2.62% in the USA

- Psychological knowledge of creativity, creative processes, and innovativeness is underdeveloped in Poland. We lack research institutions which could deal with the issues in a systematic way and on a long-term basis, not only from one doctorate to another” [or because of a passing trend – the author’s own comment].

At the same time, the term "innovations" itself, suffered a kind of erosion– it is misused and overused, stripped of its original meaning; it entered newspeak as a key word (or picklock?) which opened the door to modernity, progress, knowledge society, and common happiness. A bureaucratic order to innovate caused every change, improvisation or just a counterbalance for tradition to be perceived as "innovation", and a project of educational activities or scientific research in whose description that key-word was missing was doomed to failure in the system of grants, competitions, and struggle to obtain funds for educational institutions. The results are easy to predict– it became common practice to simulate innovativeness and build appearances; for example, one of the state universities in eastern Poland considered pre-work experience as innovative when collective lesson observations were organized - a group of 15-20 students was sitting at the back of the classroom, passively watching a teacher conducting a lesson. While commenting on this kind of "innovations" it is worthwhile recalling an ironic but very accurate remark made by M. Dudzikowa, who says that observing changes in Polish school reality, both in the area of educational reforms and innovations, brings inevitable associations with the di Lampedusa Principle

“If we want things to stay as they are, things will have to change. And, the secret of this principle is that it should not be preached too openly and should stick to the strategy of appearances” (2013, p. 71).

In this context, the question should be asked: what blocks creative potential of Polish teachers? What are the barriers and threats in the way to effectively implementing educational innovations in Polish schools? And what changes in teacher training are necessary to create a culture of enquiry, self-regulated learning, building learning potential of both, teachers and students? These are the main questions addressed in the presentation.

Legal and cultural framework of educational innovations in Poland

The key legal document which defines the framework for innovative activities of Polish teachers is the Decree of Minister of National Education and Sport of 9 April 2002 on conditions for performing innovative and experimental actions by public schools and institutions (Journal of Laws No 56, item 506). The document outlines the nature and kinds of educational innovations and also determines procedures and conditions for implementing them in school practice. According to the decree, pedagogical innovations are considered to be all kinds of "innovative solutions in the area of curricula, organization or methodology of teaching aimed at improving the quality of school work" (§1, section 1). Innovative means: pioneer, non-standard, untraditional, breaking out of the routine or schematic actions, unusual, characterized by different quality than the solutions previously chosen in an institution. It should be noted that in the legal sense pedagogical innovations are different from pedagogical experiment which, apart from the fact that it introduces a qualitative change in school work i.e. is aimed at improving the efficiency of education, by modifying conditions or organization of classes or curriculum contents; in addition, it must be under constant substantive supervision of a scientific institution. At the same time, both innovations and pedagogical experiments must remain consistent with other legal acts regulating the functioning of school system in Poland, and particularly must not infringe on the students' right to free education, upbringing and care which was determined by the act of 7 September 1991 on the educational system and on the scope of obtaining knowledge and skills essential for graduating from a particular type of school as well as conditions and methods of

conducting examinations and external tests.

Furthermore, the Decree of the Minister of Education specifies the procedure for implementing innovations into school practice (diagram 1). In accordance with § 4 of the decree, a resolution concerning introduction of an innovation is adopted by the teacher board of an institution, after the following requirements are met, i.e. it is necessary to obtain:

- 1) a permission from the teachers participating in an innovation program,
- 2) an opinion from the school board (or, if there is no such organ, from the teacher board – a meeting of all the teachers employed in an institution),
- 3) a written permission from the author or a team of authors of the innovation for implementing it in a school (in the case when the assumptions of the innovation were not published earlier).

Then, the documentation, together with a detailed description of theoretical assumptions and operational rules, is submitted to the superintendent of education and to the body managing the institution (local government). A full description of implementing the educational innovation process is presented in the diagram below.

Idea of an innovative solution	
Developing the project of educational innovation – analysis of contents of the literature on the subject, consultations with other teachers and academic researchers, conducting preliminary research, assessing originality and novelty of the idea	<i>Preparing documents, obtaining a permission from the author /team of authors and other teachers participating in the project</i> <i>If the project requires additional funding – obtaining a written permission of the managing body for obtaining financial support</i>
Consulting with school headmaster – presenting the project (aims, assumptions, planned stages), obtaining a permission stating that the school will ensure staff and organizational conditions for implementing the project	
Submitting the innovative project to the teacher board in order to obtain a substantive opinion / assessment	
Adopting the teacher board's resolution on implementing the innovation	
Submitting the documentation at the School Superintendent's Office and to the body managing a school/ an institution at any time during the school year	
Implementing the project	
Preparing a report on implementing the innovation and sending it to the School Superintendent's Office	

Diagram 1: Procedure for implementing pedagogical innovations in Poland (based on: Dudel et al, 2014, p. 73)

Thus, the legal procedure seems rather complex and time consuming, however, it should also ensure proper substantive supervision of the project, eliminating, in due time, pseudo-initiatives or weak projects which are incompatible with the school mission or current legislation. On the other hand, the project documentation accompanying the procedure should be perceived as a tool for promoting the school in the local environment and, at the same time, prevent copyright infringement of the authors of previous innovations which could have inspired new ideas (Dudel et al, 2014).

Interestingly enough, it is not legal procedure that is perceived by teachers as a major obstacle to their creative initiative, but it is rather educational culture understood in the broad sense as a system of certain cultural models – stereotypes of thinking, acting and evaluating educational activities (Bruner, Olson, 1996). As B. Przyborowska rightly notes,

education not only 'absorbs' and draws upon the culture prevailing in a society, but at the same time it also develops its own culture which includes specific taboos, the way of members' life, certain order and discipline. It reflects both standards and values of the formal system and also their interpretation carried out in the informal system (2013, p. 191).

Thus, on the one hand, school teaches and preserves the culture specific for a society; on the other hand it creates its own culture – a distinctive, unique system of institutional values and standards.

And it is that unique "hidden" culture of an organization that determines and creates opportunities for performing the two basic functions of school, i.e. transmitting and innovating. Such educational culture of an institution:

influences the whole strategy for creating and promoting pedagogical innovations. It determines the content of created innovations, the direction for the changes, the frequency of reforming activities. The influence of culture can be observed already at the stage of diagnosing problems, at which negative phenomena, requiring change, are assessed. Culture also determines the factors of pedagogical success, the criteria for success or failure of a teaching practice (Schulz, 1980, pp. 303-304).

The reception of innovative projects will depend on internal differentiation of that culture, on the level of its modernity and openness, on the ability to find a delicate balance between transmission (i.e. the effort to maintain the current status quo) and innovation (i.e. the ability to absorb changes, to internalize and accept them). As every institution has certain innovative absorbency (limited capability to transform), resistance to changes may occur at the intersection of the two functions – transmission and innovation. As Przyborowska (2013) notes, it is difficult to introduce a complex innovation, especially if it requires substantial changes of habits or perspective of perception and evaluating school reality, without taking into account the power of the existing culture, its ability to absorb innovation, regardless of the need to negotiate new meanings with all the participants in an innovation process. All of them, both teachers and students, and sometimes parents, will need support to accept the time of exploration and uncertainty, to go beyond comfortable and reliable conventions and to enter unknown territories. It is the cultural reluctance of institutions to accept the suggested changes that is a frequent reason for blocking innovative attitudes of teachers, especially in the Polish educational system which since 1999 has been struggling with a wave of unfinished or unsuccessful reforms, as well as with changes of governments and ministers of education "who ad hoc introduce improperly prepared innovations to schools, without research, without monitoring, just to abandon them quickly in an un-pedagogical way" (Przyborowska, 2013, p. 197). Furthermore, the politicization of the educational system, uncertainty about the future, insecurity and lack of professional stability additionally reinforce the attitudes of resistance or discouragement.

In other words, even in the most modern democratic knowledge society "innovations cannot be decreed. Innovativeness emerges only in those areas in which adequate conditions have been created for it" (Dudel et al. 2014, p. 50), where there is social and cultural need for change.

Personal barriers to pedagogical innovations

The other group of variables inspiring or blocking educational innovations in the school practice are personal barriers – associated with the personality profile and competences of a teacher. Among these the most vividly discussed in the modern Polish pedagogical literature are: the lack of teachers' emancipatory competences and consequently their inability to resist the unrealistic requirements relating to their professional role imposed from outside, the lack of ability and habit to critically reflect on one's own professional practice, the lack of contact with scientific pedagogy and the resulting commonness and conceptual chaos accompanying pedagogical activities, and finally, the phenomenon of occupational burnout. The above provides a concise characteristics of these inhibitors and their mechanisms of action.

To define the meaning of personal variables it is essential to understand the fact that innovativeness constitutes one of the stages in a teacher's professional development process, the stage a teacher needs to grow up to, namely, he or she not only has to master some set of instrumental skills and test

them in action, but also to build up his/her own interpretation of the school reality (the so-called personal educational theory) and the vision of his own professional role – his professional identity (Czerepaniak-Walczak, 1997). That is a complex, long-standing task, going far beyond the field of pedagogical studies – it requires not only some sort of “toughening” in the profession, testing oneself, “domesticating” one’s own knowledge and skills, but also further questioning, restructuring and re-interpreting this knowledge. In addition, it requires an individual work on one’s own self, deliberate effort to be put in self-structuring, self-education and auto-creation. All this is absolutely necessary for a teacher to be able to convert the formerly thoroughly learned, stereotypical norms and patterns of action and where necessary, to react flexibly and with adequate confidence and responsibility indispensable for the process of shaping young minds. As M. Buber rightly noted:

the ability to intentionally convert the world and one’s own self is based on...perceiving oneself not as someone who only reflects somebody else’s light but as someone who is able to shine himself, create his own glow (in: Czerepaniak-Walczak 1997, p. 8).

The driving force, and an important tool in the process of settling oneself into the professional role of a teacher, is reflection – intentional and critical thinking about oneself, about the effectiveness of one’s actions, about the essence and sources, genesis of one’s own beliefs. Paraphrasing the thought of R. Kwaśnica it may be said that a teacher becomes an innovative person while practicing his profession - “he becomes one as a result of his own struggle to understand and convert himself, thanks to his self-reflection and the resulting transformations of his personality” (2003, p. 314). No institutions can replace or relieve the teacher in achieving this, they can only give him assistance by creating adequately flexible, although still demanding, frameworks of action.

As pointed out by R.I. Arends, the essence of the teacher’s professional development process is the transition from the conventional phase (adjusting to the existing norms and patterns of action) to the post-conventional phase (“creatively overstepping the bounds of the professional role”), based on the capability to replace the social requirements of the role with individual personal identity (1995, pp. 49-50). The highest levels of professionalism are therefore reached by those teachers who, while performing their professional role, are able to go beyond the two types of rationality - instrumental and practical (Kwaśnica, 2003). The first one connotes the teachers’ focus on finding the answer to the question: “what to do and how to do it?”, and thus, on an “artisanal” implementation of available rules and policies of educational actions to skillfully achieve the intended standardized results. In the case of practical rationality the teacher’s efforts are supplemented with additional attempts aiming at finding the answer to the vital question “why?”, which provokes understanding of the actual meaning of the actions taken within the existing norms and standards and giving them a clearly defined sense, that is, proper interpretation and substantiation (Czerepaniak-Walczak, 1997, pp. 6-7). In both cases we are dealing with the issue of understanding the teacher’s professional qualifications as concentrated on mastering the ability to implement the commonly accepted rules (either with a reasoned substantiation or without it) shaped in the effect of participation in various social events and situations governed by some specific patterns of action, as well as the rules of their interpretation (ibid). However, to achieve full professionalism in teacher’s profession it is necessary to go beyond the above mentioned types of rationality and to achieve its particular type which constitutes the personal teacher’s identity, and which “does not warrant anything but expresses itself in a continual exploration, critical evaluation, as well as in responsible and bold verification of particular elements of one’s own activities” (ibid, p. 32). A teacher’s professional development is consistently heading in the direction of emancipatory rationality (Kwaśnica 2003). Finding the way to this type of rationality is inseparably linked to bold efforts to break free from restrictions and to go beyond the traditional models of professional behaviors. The so understood independence is a peculiar sort of “enlightenment” as a result of which

professional knowledge is perceived as temporary and relative, not assuring but giving a possibility to justify one's own mental perspective. Thanks to this, professional practice is expressed in continuously going beyond the proven, firmly established regulations and algorithms, beyond the personal experience gathered so far and beyond the commonly accepted models (Czerepaniak-Walczak, 1997, p.137).

Lack of teachers' emancipatory competencies is highlighted by many researchers as the main barrier hampering the introduction of educational innovations. Research shows that Polish teachers do not lack creative potential (understood as the ability to detect problems or to trigger divergent thinking). But they lack such features as: "autonomy, independence, nonconformity, reflective thinking, the ability to give constructive criticism and feedback in an existing situation, team work skills, willingness to fight against mediocrity, crumminess and routine" (Dudel et al, 2014, p. 17). They lack the ability to engage in so-called transformative resistance considered to be a source of motivation to perform innovative actions – "transformative resistance is a transgressive (auto-creative) action the aim of which is to go beyond what an individual is and what he possesses. It is a property and the ability to create a new quality through overcoming difficulties unassisted" (Adamek, 2013, p. 29). Contemporary, variable and unpredictable reality - Baumann's "liquid post-modernity" (2012) - requires a teacher to possess "the critical knowledge giving him the right to resist the schemes and stereotypes, the imposed roles and justifications of the status quo" (Adamek, 2013, p. 8). In such reality a teacher is no longer, as he can no longer be, "a man of answers" – he must convert himself into "a man of questions", a researcher becoming aware of defeasibility and uncertainty of knowledge, and overthrowing the existing school reality in search of another - a qualitatively new reality, tailored to students' needs and capabilities (ibid, p. 30).

As proposed by I. Czaja-Chudyba, in this particular context, we should rather talk about teachers' critical/creative competencies (2013, p. 183), thereby appreciating the value of those two fundamentally different, but inevitably interrelated, poles of creative interaction: the first one - generating ideas (regulated by creative skills) and the second - appraising those ideas, implying a critical evaluation, testing their social adequacy and applicability, searching for workable solutions and possible application of those solutions in the school practice (that is, the factors constituting the rudiments of innovativeness). The lack of the critical component may cause innovativeness to remain only a dead letter to be found among educational documents. On the other hand, it should be noted that criticism does not always carry an embryo or a promise of innovativeness. Research shows that negative, destructive criticism, sometimes referred to as hypercriticism or negativism, may effectively block creative processes (Szmidt 2013a). Creativity is encouraged rather by critical thinking, defined as evaluative and constructive reasoning, launched at the stage of verification of creative ideas, selection of the relevant solution from numerous possibilities. In other words, it is not the criticism itself that is the source of innovations in pedagogical work but rather "the attitude of constructive skepticism" giving way to pose questions, to question the reality and to reinterpret one's own knowledge, being thus a very peculiar "approach to the world expressed in mindfulness, reflective thinking, open and constructive skepticism, perceptiveness and neutrality in information analysis" (Czaja-Chudyba, 2013, p. 184). Such constructive criticism helps to make a distinction between real and superficial creativity, and its elimination from the processes of one's own thinking exposes us to trivial, inaccurate and worthless creations (Czaja-Chudyba, 2013, p. 180).

Another factor that blocks the innovative potential of Polish teachers is the dissonance, developing in the course of professional career, between the findings of the latest psychological research and the teachers' personal knowledge (Klus-Stańska 2010). As J. S. Bruner (1996) rightly states, educational practice is inevitably based on teachers' notions about the nature of the learner's mind. These commonsense concepts and hidden presumptions do not only help teachers to explain children's mental

activity, the process of acquiring and structuring knowledge, the reasons of classroom behaviors, etc. They also determine the choice of particular methods and strategies of educational interaction, even if the performers themselves - that is the teachers - do not realize their overwhelming influence on a type of pedagogy they are practicing. This private, "naive" psychology constitutes a natural and immanent element of any classroom culture, even though it is only rarely verbalized, stated directly and openly.

Such a personal pedagogical theory constitutes some sort of "handy knowledge" (Stemplewska-Żakowicz 1996) which is naturally and automatically activated during learning processes, both in and outside school, and although it is not always realized by the teacher himself, is inevitably influencing the course and the results of constructing one's own knowledge. However, its "naive" and commonsensical character hides some threats, the most important of which is the fact that personal pedagogy, brought by a student to his or her pedagogical studies as foreknowledge, becomes a specific interpretative filter for newly acquired scientific knowledge.

The more personal knowledge departs from the scientific knowledge, the more the scientific knowledge is perceived as unrealistic and not very useful to be applied in practice. Leaving this fact to the natural course of events results in the division of the knowledge into two, isolated from each other, categories which are formed in the student's cognitive structures. Those two categories of knowledge are: the scientific knowledge which needs to be acquired to be demonstrated, in the case of which it is not proper not to have it when being a teacher, and the practical, personal knowledge, which proves useful in specific situations in a school classroom (Dudzikowa, 2015).

Such a dualism makes it difficult, if not impossible, for the scientific thought to permeate the teacher's practice which often leads to the trivialization of educative actions and causes them to become intuitive, with the simultaneous helplessness or rather inertness of theoretical knowledge, which is referred to by D. Gołębiak as "inability to go beyond one's own definitions" (ref. to in: Klus-Stańska, 2010, p. 72). D. Klus-Stańska adds:

The inertness of those definitions, their focus on the local everyday life and their dependence on specific teacher's working conditions may lead to an anti-developmental stabilization of the system of not only the teacher's knowledge but also of the reality created by the teacher with the use of such knowledge in the classroom. This type of stabilization stands not so much for traditionalism (although it may in fact consist in leaning towards it) but for creative inefficiency when a teacher is in two minds about a hazy need for change and a semantic closure of his own ideas (2010, p. 72).

In this sense the key to releasing the teacher's innovative potential is "to realize his own hidden pre-suppositions, tacit premises and reasons creating the deep structure of human experience" (Kwaśnica, 2003, p. 318), or as stated by J.S. Bruner "to deconstruct and reinterpret" those areas of the personal educational theory, which even though hidden, "silently" shape our proceedings in a classroom (2006, p. 77).

Teachers' personal theories deserve more attention, as they became an inspiration for interesting reformatory initiatives in the field of teacher training in Poland. Although these initiatives are still scattered and locally implemented (realized by one researcher or a group of researchers within a particular institution), they gradually form a characteristic, although diversified, area of searching for improvement of the effectiveness of teacher training. The author's own research used as a form of pilot studies for preparing improvements in curricula for training elementary education teachers

during postgraduate studies at Marie Curie-Sklodowska University in Lublin can serve as an example (Zdybel, 2009).

Revealing lay concepts in teachers' personal epistemology – research study

Design and methodology

The aim of the study was to reveal lay concepts and hidden assumptions in teachers' conception of mind: what is the concept of child's mind underlying teachers' personal theories? What qualities and characteristics are the most important in that concept? And what areas of teachers' assumptions might be potentially dangerous for educational practice?

The teachers were asked to complete a sentence "A child's mind is like because" in three different ways. The statement formulated in this way takes the form of a metaphorical analogy, where a child's mind is an object (i.e. the compared element), while a carrier medium (the comparing element) should be selected in the way it corresponds to the prescriptive object, reflecting its complexity and nature to the fullest possible extent. The specific character of the object which provided ground for the analogy caused the statements to take a metaphorical form (Haman, 1993). A metaphor as a tool for eliciting hidden beliefs of the teachers, influencing their personal educational theory, was deliberately chosen as it is a typical human tool for partial understanding or just getting familiar with the things which cannot be fully understood or explained, including abstract phenomena, emotional or esthetic experience, moral dilemmas, etc. In this sense the representatives of cognitive linguistics argue that metaphors are deeply rooted in our experience "organizing and mirroring the way in which we understand different kinds of phenomena, which is reflected in a systematic and coherent way in language structures" (Lakoff, Johnson, 1998, p. 8). The linguistic form is more or less motivated by our sensory experiences, becoming their outcome and generalization. However, it is never a direct reflection of sensory experiences, it rather results from their mental processing and interpretation.

Thus, constructing metaphors is a symbolization process, requiring a particular mental effort of an individual. At the same time, that kind of focus on seeking unusual but pertinent associations weakens logical control of a statement and causes that an individual is no longer careful about "political correctness", revealing such elements of their beliefs which would never be pronounced directly. The metaphorical perspective in research is then based on an assumption that the choice of particular words "is not accidental, and represents more than the surface meaning of the concepts" (Inbar 1996, p.78). It represents "the deep structure of language" (ibid), serving as a link between different layers of human knowledge: the explicit one, available to critical reflection, and the tacit one - not readily accessible, difficult to verbalize, hidden in deep structures of mind. As a result, metaphors do not only reflect the reality experienced by an individual, but they also help to establish it – the notions offered by metaphors, on the one hand, give a mirror reflection of human views on what the world is (and what it is like), on the other hand, they influence individual behavior in relation to the world, shaping it in the way consistent with the adopted vision.

46 postgraduate students of integrated education in forms I-III participated in the study. All of them were actively employed primary school teachers; as far as their background is concerned - 62.5% of them came from towns and cities whereas 37.5% came from rural areas. Nearly 75% of the group were graduates with the MA degree in pedagogy or special education. Another 16.7% were graduates in the humanities, for example Polish philology, family studies, theology, etc. Only four students had

a degree in mathematics or natural science and they also had the longest professional experience. The largest group of the tested individuals, 35%, included teachers with employment history of 4-15 years. The groups of teachers starting their professional career or having the most experience were of almost equal size (respectively 31.3% and 33.3% of the total number of participants).

Research results

A total of 138 metaphors were collected, of which 11– 8% were considered inappropriate, vague or unable to capture the essence of the subject. Other metaphors were categorized and some common features or assumptions were distinguished. The largest group of metaphors (47.1%) was based on the perception of a child's mind as a kind of a container. Here are some examples of such statements:

- "A child's mind is like a sponge, it readily absorbs all kinds of information, whether it is useful or not, it "takes in everything that a child observes, what he experiences, all those factors influence its life in the future" (27,5%);
- "A child's mind is like a blank sheet of paper (tabula rasa) because it can be filled in a thousand of different ways" (14 statements) or "like a board which should be written on in a thoughtful and organized way" (2 people);
- "A child's mind is like a CD on which all things surrounding a child can be recorded. If an error occurs, it is difficult to erase" (1 person);
- "A child's mind is like a sieve because a lot is put into it but there is not much left, frequently it is not what should remain" (1 person).

It is worth noting that the metaphor of a container proved to be relatively unsophisticated and limited. Although a container can have various forms, shapes and sizes (a board, a sheet of paper, a box, a supermarket, etc.), the mind as a container is passive, has no influence on what is put into it, has no ability to assess or select its content, unable to change this content independently. It does not produce anything, it only receives – it is filled with knowledge and information, created by the others.

Passiveness and dependence on the adults as well as tenderness and fragility of a child's mind, also susceptibility to injuries, are stressed by another group of comments, comparing a child's mind to a plant (a tree, a flower) – the associations of that kind accounted for over 10% of the statements, for example: "A child's mind is tender like a flower, it must be properly nurtured to develop and grow"; "A child's mind is like a field where nothing will grow without proper fertilization", "A child's mind is like a seed which can give rise to either a beautiful flower or a weed". The plant metaphor seems to be much richer as it brings in an aspect which no container will have – it has energy for growth, constant development, flowering and bearing fruit, e.g.: "a child's mind is like a forest with diverse vegetation which continually grows, thickens and gradually takes shape".

A relatively large body of the statements described the mind as a machine (13 persons), which accounted for 9.4% of the suggested metaphors; the teachers made the following statements comparing a child's mind to:

- "a modern computer containing a small number of data. It does not know much, but can quickly learn a lot of things", however as some teachers stressed "suitable tools for processing information must be provided" (7 persons);
- "a satellite dish which attracts and focuses different waves moving towards it, then it processes them and emits a feedback signal" (1 person);
- "a microscope which wants to examine everything carefully and notices the smallest details" (1 person).

As Lakoff and Johnson rightly note, the machine metaphor offers a richness of meanings and manifold interpretation possibilities – "it gives us the idea of the mind as something that can be turned on and off, has a certain level of efficiency, production capacity, an internal mechanism, a source of energy, and conditions which are most favorable for its functioning" (1988, p. 51). However, in the teachers' statements the semantic potential of the metaphor underwent a significant reduction – three basic properties were stressed: a) ability to process information, b) constant movement, uninterrupted functioning, and c) unexplored, complex, multilayered and complicated structure, which is also mysterious and difficult to describe.

Another group of metaphor offered an image of the mind as a material (substance) with unusual properties – 11 individuals (8%) stated that a child's mind is like:

- "wax on which it is easy to leave marks using words and actions of the adults", "plasticine which may be easily formed" (7 statements);
- "rubber – flexible, extensible, without rigid patterns" (1 person);
- "stone – negative experience is imprinted on it forever and it may always have profound impact on further decisions" (1 person);
- "building material– a professional who handles it determines the final result: one specialist will use it to construct a beautiful building, while another will build an uninteresting small house, in a constant need of repair" (1 person).

Apparently, the substance is supple and flexible, it is also easy to mold. Only in one case flexibility means lack of rigidity and standard thinking.

To sum up, the concept of a child's mind included in the teachers' statements is characterized by a set of certain features: it seems to be mainly passive and waiting, dependent on external conditions and environmental influences. Supple but tender, prone to retain negative stimuli, vulnerable to damage and injuries which are difficult to eliminate in future life. It can be mysterious and inscrutable at times, full of surprises. It is always endowed with everlasting energy for growth, with a tendency for development and self-improvement. What is missing in these teachers' concepts of a child's mind? There is a noticeable lack of such features as: cognitive curiosity, active search for knowledge, inventiveness, and creativity. That is a serious gap, both worrying and startling. It seems that the features of a child, which according to contemporary cognitive psychology are considered as crucial and which are the core of the learning process and the main engine of development, have been eradicated from the private psychology of mind used by teachers participating in the study. Most of the contemporary theories of development regard a child as an active creator of his own knowledge, as an experimenter and a researcher actively searching for knowledge about the world, trying to understand the surrounding environment, striving to explain it, asking questions, formulating hypotheses and, on that basis, constructing his own representation of reality which in turn is used as a ground for interpreting further experience. If one looks at the teachers' statements collected in this study from the perspective of personal epistemology, they primarily give a mirror reflection of teachers' beliefs – their hidden views and assumptions. On the other hand however, they also constitute the school reality in which a child's mind becomes incapacitated and reduced to the role of "an object of educational impact", subjected to careful processing. In such reality, teachers' main concern of is to avoid causing damage or injury, but to mold the child's mind according to the standardized patterns, to fit it into the proper framework, to shape this mind in a desired way, and imprint on it the teacher's marks like in modeling clay. Will it be enough to create the classroom environment which is favorable for "a meeting of two independent minds", as J. S. Bruner postulated? It is hard to resist the impression that collected metaphors represent rather... deficits in teachers' knowledge, lack of precise scientific information concerning the child's mind and its working in educational settings (Kiklewicz,

2006, p. 248).

Personal epistemology as an area of teacher training – trends and prospects

A growing gap between scientific psychological research results and teachers' personal knowledge has been observed in many studies. D. Klus-Stańska (2008) claims that Polish students have creative achievements not thanks to school, but despite of what school has done to them – conceptual chaos and superficiality of teachers' knowledge, behavioral didactic based on transmission of knowledge create the space of anti-education rather than for effective development of child's learning potential (Klus-Stańska, 2014). K.J. Szmidt noticed that Polish teachers are strongly oriented on "pedagogy of deficiency" (2013b, p.13), perceiving mainly negative phenomena in classroom life – as a result they focus their attention on dysfunctions, developmental disorders or diseases rather than on positive potentials for development, creative strengths of a child. M. Szczepska-Pustkowska (2011, p. 362) stresses that such negative, doubting attitude toward children's creative forces activates a particular "methodological vicious circle": the teacher who does not believe in a child's potential in a particular area (e.g. potential to philosophical thinking), does not create the educational possibilities/ environment to reveal this potential. And because he does not create proper environment, he has no possibility to observe and experience these behaviors in action. The fact that he has never had the possibility to observe them in his classroom, makes his convictions even more confirmed and strengthen. The vicious circle works particularly well for these areas of children's thinking which are barely present in traditionally oriented curricula, e.g. philosophical thinking or political knowledge.

The common ground in such discussions is a strong conviction that teacher training in Poland has been deprived of critical reflection on one's own knowledge – epistemological reflection, which would offer a training not only in posing the questions on educational practice (its rationale and effectiveness), but also in making ontological enquires – questioning the essence of one's own knowledge, on the course and rationality of one's own thinking (Klus-Stańska 2010; Dylak 2013; Uszyńska-Jarmoc 2014). Such epistemological reflection constitutes a vital area of metacognitive awareness (King, Kitchener, 2004), and according to B. Hofer includes two intertwined areas of beliefs (2004, p. 46): a) beliefs about the nature of knowledge, its certainty and simplicity: What is knowledge? How is it organized? And b) beliefs about the nature of knowing, its sources and justification: What are the sources of my knowledge? How do I judge it to be credible? Can my knowledge be confirmed by scientific evidence? Can I reconcile theory and evidence?

Inspired by such observation Polish researchers are searching for possibilities to improve teacher training (on both, pre-service and in-service levels) to include epistemological reflection as an instrument of deconstructing one's own tacit theories. Two main directions or lines of enquiry can be observed in this search. First one, based on a psychology of constructivism (Bruner 1996) is focused on a direct training of teachers' metacognitive abilities, e.g. providing tools to learn "how to learn", to build one's own learning potential (Uszyńska-Jarmoc 2014; Zdybel et al, 2011; Bednarczuk et al, 2011).

Second direction, more general, inspired by a psychology of creativeness is focused on "education for wisdom" (Szmidt, 2013b; Białecka-Pikul, 2012; Pietrasiński, 2001; Nosal, 2002; Płóciennik, 2013). Wisdom is a concept highly difficult to define or scientifically operationalize – vague and multidimensional concept, almost absent in pedagogical discourse. However in postmodern society, overwhelmed by redundancy of information, which are almost impossible to be processed by human mind, in society where the ability to study has been substituted by the skills of surfing (or rather

drifting along the surface of information, in Bauman's words), wisdom becomes increasingly desirable virtue. It provides the criteria to estimate incoming information, introduces logic, discretion, mindfulness, and moderation to human decisions and actions. Some even claim that "education for wisdom" should be perceived as an alternative to "education for knowledge" (Płóciennik, 2013). According to the Polish psychologist Z. Pietrasiński (2001), wisdom is a highest level of cognitive culture, a kind of "methodology of knowing" - "a type of cognition organized to avoid tendency, to search for sufficient justification, to appreciate multidimensionality, to consider the difference between knowledge and ignorance (...) Wisdom does not guarantee anything, but as a superstructure over the mind provides the coding programme to knowing" (in: Szmids, 2013b, p. 32). For R. Sternberg (2009), wisdom is a sagacity - an integration of metacognitive thinking style and reflective knowledge based on life experience. The important components of such sagacity are (Szmids, 2013b, pp. 33-34): meta-knowledge (an insightful understanding of one's own assumptions, the meaning and constrains of personal knowledge), understanding and resistance to an automated, stereotyped thinking, reflective judgment and a high tolerance to ambiguity, openness to different interpretations. Paraphrasing the words of K.J. Szmids, it might be said that to educate a wise teacher we need to teach him to distance himself from problems, to tolerate ambiguity, to analyze stereotypes in thinking and acting, to question one's own hidden assumptions and cognitive constrains - "we need to awaken and support his metacognitive attitude, his reflective epistemological awareness of personal knowledge, and of methods useful in deepening and enriching this knowledge" (ibid, p. 34). In such terms, teachers' education for wisdom should establish the way to self-formation, awaken the need of self-knowledge, the desire to preserve personal integrity and identity, the pursuit to define oneself. Unfortunately, such "didactic of wisdom" is still in the course of arising.

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