CONTENTS

Stanisław Juszczyk
Editor’s Preface .......................................................... 11

■ GENERAL PEDAGOGY

Stanisław Juszczyk
The Scientific Development of the Researcher in the Process of Shaping His Scientific Identity .................................................. 17

■ TECHNOLOGY OF EDUCATION

Karla Hrbáčková, Jakub Hladík, Soňa Vávrová, Vlastimil Švec
Development of the Czech Version of the Questionnaire on Self-Regulated Learning of Students ................................................. 33

Jelisaveta Safranj
Using Internet in English Language Teaching ..................................... 45

Rajko Pećanac, Dragan Lambić, Miroslav Marić
The Influence of the Use of Educational Software on the Effectiveness of Communication Models in Teaching ........................ 60

■ GENERAL DIDACTICS

Maria Kozielska, Götz Seibold
Studying Styles and Sensory Preferences of Technical Students ............ 73

■ PEDEUTOLOGY

Irena Przybylska
Teachers’ Role Perception ..................................................... 85

Beata Pitula
Disputable Issues in Teacher Education ........................................ 96

Tatáňa Göbelová
Research on Professional Values of Primary Student Teachers – Results of Mixed Model Research .............................................. 109
Stanko Cvjeti&ntilde;anin, Mirjana Segedinac, Vlasta Sucevic

Application of the Scientific Method in the Integrated Science Teaching .................................................. 119

■ SOCIAL PEDAGOGY

Maria Czerepaniak-Walczak

School Gentrification in the Open Network Society (The Critical Perspective) ........................................... 131

Mirosława Wawrzak-Chodaczek

Place of Computer Games in the Leisure Time of Polish Youth in Their Adolescence ................................. 143

Ewa Ogrodzka-Mazur


Ingrid Emmerová

The Social Pedagogue at School and Professionalising Prevention Processes in the Slovak School Environment .................. 171

Jurka Lepi&ntilde;nik Vodopivec

Adolescents and Self-Esteem ........................................... 180

Lucjan Klimsza

Ethical Education as Duty in Post-modernism ............................ 194

Mateja Pšunder

Mobbing Prevention and Intervention Strategies in Educational Institutions: Teachers’ View .................. 205

■ SPECIAL PEDAGOGY

Jana Škrabánková


Daniel Mara, Elena-Lucia Mara, Olivia Andrei, Elena-Liliana Danciu

The Role of School-Family Partnership in the Implementation of Inclusive Education in Romania .................. 228
Fahad Alshemmeri, Abu Talib Putih, Saedah Siraj, Aqeel Khan & Nabeel Abdallah
Art Ability and Academic Achievement in the Kingdom of Saudi Arabia: Role of Age and Sex ........................................... 238

Avni Yildiz, Serdal Baltaci, Bülent Güven
Metacognitive Behaviours of the Eighth Grade Gifted Students in Problem Solving Process ........................................... 248

■ CHOSEN ASPECTS OF PSYCHOLOGY

Dorota Turska
Female Maths Teachers – Will They Fall Prey to Stereotype Threat? .......... 263

Beata Žitniaková Gurgová
Perfectionistic Cognitions as Related to Optimism and Pessimism in College Students ........................................... 272

■ REVIEW

Stanislaw Juszczyk
Words of Farewell to Professor Wincenty Okoń, Honorary Editor of The New Educational Review ........................................... 283

Viera Kurincová

Stanislav Bendl

■ THE LIST OF THE REVIEWERS

The List of the Reviewers of Manuscripts Sent to The New Educational Review in 2011 ........................................... 295
CONTRIBUTORS

Alshemmeri Fahad, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Abdallah Nabeel, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Baltaci Serdal, Ahi Evran University, Çiçekdağı Vocational School, Kırşehir, Turkey e-mail: serdalbaltaci@gmail.com

Bendl Stanislav, (PhD. doc. PaedDr.) Department of School and Social Education, Pedagogical Faculty, Karl University in Praga, M.D. Rettigové 4, Praha 1, Czech Republic

Cvjeticanin, Stanko, (Prof. Dr) Faculty of Education, University of Novi Sad, Serbia; address: Preradoviceva 141, 21132 Petrovaradin, Serbia e-mail: tozchemy@eunet.rs

Czerepaniak-Walczak Maria, (Prof. PhD.) Szczecin University, Institute of Peda-gogy, Ogińskiego 16/17, 71–431 Szczecin, Poland e-mail: malwa_1@interia.eu

Danciu Elena-Liliana, (PhD.), West University of Timisoara, Faculty of Sociology and Psychology, Department of Educational Sciences, Romania

Emmerová Ingrid, (doc. PhDr. PhD.) Institute of Science and Research, Pedagogical Faculty, University of Matej Bel, Ružová 13, 974 11, Banská Bystrica, Slovak Republic e-mail: ingrid.emmerova@pdf.umb.sk

Gőbelová Taťána, (PhD. Mgr.) The University of Ostrava, Pedagogical Faculty, Mlýnská 5, 710 00 Ostrava 1, Czech Republic e-mail: Tatana.Gobelova@osu.cz

Güven Bülent, (PhD.) Karadeniz Technical University, Fatih Faculty of Education, Secondary School Science and Mathematics Education Department, Trabzon, Turkey e-mail: bguven@ktu.edu.tr guvenbulent@gmail.com

Hladík Jakub, (PhD.) Faculty of Humanities, Tomas Bata University in Zlín, nám. T.G. Masaryka 5555, 760 01 Zlín, Czech Republic

Hrbáčková Karla, (PhD.) Faculty of Humanities, Tomas Bata University in Zlín, nám. T.G. Masaryka 5555, 760 01 Zlín, Czech Republic
Contributors

Juszczyk Stanisław (Prof. PhD. DrSc.) University of Silesia in Katowice, Faculty of Pedagogy and Psychology, Grażyńskiego 53, 40–126 Katowice, Poland; e-mail: stanislaw.juszczyk@us.edu.pl

Kozielska Maria (Prof. PhD.) Poznań University of Technology, Faculty of Technical Physics, Poland

Khan Aqeel Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Klimsza Lucjan (ThDr. PhD.) Department of Social Sciences Pedagogical Faculty University of Ostrava, Podlahova 3 709 00, Ostrava - Mariánské Hory, Czech Republic e-mail: lucjan.klimsza@osu.cz

Kurincová Viera (Prof. PhD. CSc.) Pedagogical Faculty, Constantine the Philosopher University, Dražovska cesta 1, 949 01 Nitra, Slovak Republic e-mail: vkurincova@ukf.sk

Dragan Lambić (Msc) Faculty of Education, Podgorička 4, 25000 Sombor, Serbia; e-mail: draganposao@yahoo.com

Lepičnik Vodopivec Jurka, (PhD.) Department of Preschool Education, Faculty of Education, University of Maribor, Koroška 160 Maribor, 2000 Maribor, Slovenia e-mail: jurka.lepicnik@uni-mb.si

Mara Daniel (PhD.) University “Lucian Blaga”of Sibiu, Department for Teacher Training, Romania

Mara Elena-Lucia (PhD.) University “Lucian Blaga”of Sibiu, Department for Teacher Training, Romania

Marić Miroslav (PhD.) Matematički fakultet, Studentski Trg 16, 11000 Beograd, Serbia.

Ogrodzka-Mazur Ewa (Prof. PhD.) University of Silesia, Faculty of Ethnology and Education, Institute of Education, 43–400 Cieszyn, ul. Bielska 62, Poland e-mail: eom1@wp.pl

Pećanac Rajko (PhD.) Faculty of Education, Podgorička 4, 25000 Sombor, Serbia

Pitula Beata (dr hab.) University of Silesia in Katowice Faculty of Pedagogy and Psychology, ul. Grażyńskiego 53, 40–126 Katowice, Poland e-mail: beata.pitula@us.edu.pl

Putih Abu Talib, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Pšunder Mateja (PhD.) University of Maribor, Faculty of Arts, Slovenia e-mail: mateja.psunder@uni-mb.si
<table>
<thead>
<tr>
<th>Contributors</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Przybylska Irena (PhD)</td>
<td>University of Silesia in Katowice, Faculty of Pedagogy and Psychology, ul. Grażyńskiego 53, 40–126 Katowice, Poland</td>
</tr>
<tr>
<td>Safranj Jelisaveta, (Prof. PhD.)</td>
<td>University of Novi Sad, Faculty of Technical Sciences, Department for Fundamental Sciences in Engineering, Trg Dositeja Obradovića 6 21000 Novi Sad, Serbia</td>
</tr>
<tr>
<td>Siraj Saedah</td>
<td>Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia</td>
</tr>
<tr>
<td>Švec Vlastimil (Prof. PhD.)</td>
<td>Faculty of Humanities, Tomas Bata University in Zlin, nám. T.G. Masaryka 5555, 760 01 Zlin, Czech Republic</td>
</tr>
<tr>
<td>Vávrová Soňa (PhD.)</td>
<td>Faculty of Humanities, Tomas Bata University in Zlin, nám. T.G. Masaryka 5555, 760 01 Zlin, Czech Republic</td>
</tr>
<tr>
<td>Segedinac Mirjana (Prof. Dr)</td>
<td>Faculty of Science, University of Novi Sad, Serbia; address: Trg Dositeja Obradovica 3, 21000 Novi Sad, Serbia; e-mail: <a href="mailto:msegedinac@gmail.com">msegedinac@gmail.com</a></td>
</tr>
<tr>
<td>Seibold Götz (PhD.)</td>
<td>Brandenburgische Technische Universität Cottbus, Germany</td>
</tr>
<tr>
<td>Škrabánková Jana, (PhD. Doc. PaedDr.)</td>
<td>Katedra pedagogiky a andragogiky, Pedagogická fakulta, Ostravská univerzita, Fráni Šrámka 3, 709 00 Ostrava – Mariánské Hory; e-mail: <a href="mailto:jana.skrabankova@osu.cz">jana.skrabankova@osu.cz</a></td>
</tr>
<tr>
<td>Sucevic Vlasta (PhD.)</td>
<td>Faculty of Education, University of Novi Sad, Serbia; address: Podgoricka 4, 25000 Sombor, Serbia; e-mail: <a href="mailto:vlastasucevic@sbb.rs">vlastasucevic@sbb.rs</a></td>
</tr>
<tr>
<td>Turska Dorota (Prof. PhD.)</td>
<td>Institute of Psychology, Maria Curie-Sklodowska University, Lublin, Poland; e-mail: <a href="mailto:dorota.turska@gmail.com">dorota.turska@gmail.com</a></td>
</tr>
<tr>
<td>Wawrzak-Chodaczek Mirosława (Prof. PhD.)</td>
<td>Institute of Education, Wrocław University, Dawida 1, Wrocław, Poland; e-mail: <a href="mailto:mwa@dawid.uni.wroc.pl">mwa@dawid.uni.wroc.pl</a></td>
</tr>
<tr>
<td>Yildiz Avni:</td>
<td>Ahi Evran University Faculty of Education, Elementary Mathematics Education Department, Kırşehir, Turke; e-mail: <a href="mailto:yildiz.avni@gmail.com">yildiz.avni@gmail.com</a></td>
</tr>
<tr>
<td>Žitniaková Gurgová Beata (PhD.)</td>
<td>Pedagogical Faculty, Matej Bel University, Department of Psychology, Ružová 13, 974 11 Banská Bystrica, Slovak Republic; e-mail: <a href="mailto:beata.gurgova@umb.sk">beata.gurgova@umb.sk</a></td>
</tr>
</tbody>
</table>
Editor’s Preface

The fourth number of The New Educational Review in 2011 is the twenty sixth issue of our journal since the start of its foundation in 2003. In this issue there are mainly papers from: the Czech Republic, Kingdom of Saudi Arabia, Malaysia, Poland, Romania, Serbia, the Slovak Republic, and Turkey, because our journal is open for presentation of scientific papers from all over the world.

In the present issue the Editor’s Board have proposed the following subject sessions: General Pedagogy, Technology of Education, General Didactics, Pedeutology, Social Pedagogy, Special Pedagogy, and Chosen Aspects of Psychology, and Review.

The subject session “General Pedagogy ” consists of an article by Stanisław Juszczyk, which characterizes the scientific development of a scientist, his way to achieve methodological maturity through research maturity, connected with shaping the identity of the scientist, who is a master to his disciples and the authority to his scientific community.

The subject session “Technology of Education” starts with an article by Karla Hrbáčková, Jakub Hladik, Soňa Vávrova, and Vlastimil Švec, who describe the issues connected with self-regulated learning and thus present the first attempt at measuring the level of self-regulated learning of university students. The paper by Jelisaveta Safranj deals with implementation of a cycle of blogging activities within different levels of English courses at the Faculty of Technical Sciences, University of Novi Sad. The purpose of the research carried out by Rajko Pećanac, Dragan Lambić, and Miroslav Marić is to determine the influence of the use of educational software in the classroom on certain communication models that are applied in teaching.

In the subject session “General Didactics” Maria Kozielska and Götz Seibold in their research the following problem: are dominant styles applied by students for learning purposes correlated with the sensory system preferred by them?
In the subject session “Pedeutology” Irena Przybylska focuses on teachers’ role perception. The text by Beata Pituła constitutes an attempt to show a synthesis of still unsolved but essential issues concerning devising/reforming teacher education. The report by Tatána Göbelová summarizes the results of mixed model research on the professional values of primary student teachers. Stanko Cvjetiçanin, Mirjana Segedinac and Vlasta Suçeovic examine application of the scientific method in the integrated science teaching, and analyze teachers’ attitudes toward their further education in the field of application of both the scientific method and teaching methods of integrated science.

The subject session “Social Pedagogy” starts with an article by Maria Czerepaniak Walczak in which presents one of the aspects of changes in education which are generated by the expanding range of the technical possibilities and contents of the environment networks, namely school gentrification. Mirosława Wawrzak-Chodaczek shows in her work what kind of games the adolescents play and what are the differences in the preferences of games by girls and boys. In her article Ewa Ogrodzka-Mazur describes the achievements, problems and prospects of cultural transmission in family and school environments in the Polish-Czech border. The article by Ingrid Emmerova deals with the problems of preventing sociopathological phenomena in the school environment. In his study Jurka Lepičnik Vodopivec is interested in how important family is to adolescents and how adolescents enrolled in different secondary school programmes see themselves, how high their of self-esteem is and what differences there are in their self-esteem in regard to their gender, secondary school programme and academic record. Lucjan Klimsza emphasizes the importance of educated society that, apart the mere possession of knowledge, also has to learn how to utilize it. The article written by Mateja Psunder deals with mobbing prevention and intervention strategies in educational institutions.

In the subject session “Special Pedagogy” the aim of the presented models by Jana Škrabánková is to offer a rounded-off structure of information to gifted pupils, which can be accepted within the scope of a logical system of science without any necessary simplification. Daniel Mara, Olivia Andrei and Elena-Lucia Mara present the role of school-family partnership in the implementation of inclusive education in Romania. Fahad Alshemmeri, Abu Talib Putih, Saedah Siraj, Aqeel Khan and Nabeel Abdallah explore the art ability of teenaged blind students in the Kingdom of Saudi Arabia with an objective to study age and sex differences in the art-related activities of visually impaired students and to assess the artistic abilities of visually impaired students. The goal of the research presented by Avni Yildiz, Serdal Baltaci and Bülent Güven is to examine how gifted students exert their metacognition in each problem-solving step while solving a problem.
The subject session “Chosen Aspects of Psychology” consists of two papers. Dorota Turska attempts to explain a particularly unfavourable perception of a female maths teacher by female students. Beata Žitniaková Gurgová investigates the relationship between perfectionistic cognitions and optimism-pessimism, including the results of a study college students.


We hope that this edition, like previous ones, will encourage new readers not only from the Middle European countries to participate in an open international discussion. On behalf of the Editors’ Board I would like to invite representatives of different pedagogical sub-disciplines and related sciences to publish their texts in The New Educational Review.
The New Educational Review

General Pedagogy
The Scientific Development of the Researcher in the Process of Shaping His Scientific Identity

Abstract

The paper characterizes the scientific development of a scientist, his way to achieve methodological maturity through research maturity, connected with shaping the identity of the scientist, who is the master to his disciples and the authority to his scientific community.

Key words: methodological maturity, research maturity, identity of the scientist.

Introduction

Science, as a value of special importance, is an area of culture which involves people making an intellectual and spiritual effort characterized by systematic and conscious research explorations. Their chief qualities are, among others, perspicacity of conducted observations and innate, but systematically developed, cognitive curiosity.

The scientific development of researchers takes different paths but their scientific journeys are supposed to reach an objective (not only in an instrumental or unconditional way) which can be called ‘achieving the position of the scientific authority’, understood as becoming a person well-known to the entire scientific community of a particular discipline or even area of science; somebody whose example we follow and turn to while having doubts, and whose opinion is often conclusive in significant academic disputes (J. Gockowski, 1984). The way of research exploration through shaping methodological maturity and then research maturity leads to building the identity of the scientist.
Ethical values in scientific and research work

It can be concluded from the analysis of the theory of ethical values recognized in the scientific and research work of such authors as Max Scheler, Nicolai Hartmann, Heinrich Rickert, Roman Ingarden or Dietrich Hildebrandt that acknowledged researchers are guided by the following values: honesty and modesty, authenticity, courage and audacity to formulate even revolutionary theories or break stereotypes; fidelity to certain scientific issues, responsibility for their words and attitudes, confidence and trust, moral and intellectual honesty and approval of life (cf. J. Gockowski, K. Pigon 1991; J. Homplewicz, 1996; PAN 1994).

Following ethical values in scientific and research work makes an important issue in the process of shaping the profile of the researcher, his academic and social position, values determining the quality not only of his scientific but also educational and organizational activity. It influences the way the researcher is perceived by his colleagues and community and how he creates his scientific and social image, which makes following values an essential condition for being a scientist, a researcher and an educator shaping profiles of students and doctoral students (W. Cichon, 1996).

This paper makes an attempt at characterizing the following concepts as well as their practical exemplifications: methodological maturity, research maturity, the identity of the scientist.

Methodological maturity

Karl R. Popper (1968) believed that all people carry a question encoded in their genes which they try to answer throughout their lives. This statement can be recognized as the origin of ethnomethodology, a folk methodology, according to which each person tries to understand his/her life through participating, more or less actively, in various processes, phenomena or events, acquiring numerous experiences and this way accumulating his/her life experience (S. Juszczyk, 2005). The German researcher claimed that the people of science are characterized by enthusiasm in conducting their research, which determines the style of their creative work, satisfaction with the successful construction of research projects based on theses they feel a special bond with. At a particular moment of the research procedure the scientist experiences an intuitive satisfaction; it happens when an idea has arisen, a coherent research approach has been developed and conclusions presented (K.R. Popper, 1977). Therefore, methodological maturity is connected
not only with great methodological knowledge of the researcher, his long-standing experience in constructing research projects comprising the principles of ethics (U. Ostrowska, 2007), the ability (but not routine) to carry them out, awareness of various viewpoints on a certain issue, process, phenomenon or just an event, but it is also connected with avoiding mistakes of ecologism and reductionism, the ability to formulate the most important research problems for specific research, the ability to define and operationalize variables, and also to reduce their number, including elimination of intervening and confounding variables during a research project. It is also connected with accuracy of selecting research methods and techniques according to Norman Denzin’s concept of triangulation: theory, attempts, methods and research techniques in order to obtain mutually verifying data followed by proper construction of the researcher’s tools, critical and careful analysis of the veracity of the research results, rejection of questionable results and the ability to construct a synthetic qualitative analysis of research results and then making references to studies completed and published by other authors.

The aforementioned activities undertaken by the researcher cannot be treated instrumentally as a way to achieve only the cognitive objective. Each subsequent research project is connected with satisfying the researcher’s curiosity about surrounding reality – natural, social, cultural or educational, and each should be approached as a subsequent, but also the most important, research project. Therefore, an accurately or even precisely designed project does not necessarily prove the researcher’s methodological or research maturity. The thing is not to design further studies elaborately and precisely, but to use higher-order thinking (including abstract thinking) to be able to design studies in an inductive and deductive way. The studies should convey original and new information and lead to the development of a subdiscipline, a scientific discipline or even a field of study. That is why methodological maturity is necessary, but not sufficient, to build the identity of the scientist. His next step is to achieve research maturity.

**Research maturity**

Research maturity includes many factors, among which the following ones are certain to be found: intellectual and emotional predispositions, analytical and synthetic skills, abstract thinking, inductive, objective perception, which is noticing facts, behaviours or even preferences often ‘ruining’ the picture of reality arduously constructed by predecessors. Such activities are often connected not only with a brilliant idea but also with laborious work. Research maturity, for me, is not an
objective in itself – a desire for dynamic, scientific development and fulfilment of, often spectacular, ambitions of an individual, but it is cultural and civilizational creativity of the researcher which leads to the discovery of reality and sometimes to a scientific discovery which can be beneficial to the whole society, nation or global community. This is why I am critical about conducting basic research in order to use the results by selected individuals or groups who want to turn the discovery to their, often commercial, advantage.

A mature researcher frequently has doubts about universally acknowledged truths, which becomes a norm in the ethics of pursuing research activities and is a feature of outstanding scientists, resistant to requests of the environment, independent and critical in the process of conceptualisation. Among the basic elements of the ethos of science, Robert Merton (1973) listed ‘organized scepticism,’ which is the researcher’s right to articulate his doubts, to be cautious in expressing his opinions, indefensible generalisations or creating norms for the research process. Scepticism does not constrict the freedom of cognition but makes the researcher critical about the results announced by other researchers. Mature researchers are not allured by the picture of reality developed by plain and mediocre researchers, who carry out their studies only to obtain scientific and professional promotion. Mature researchers do not succumb to commercialism, they remain uncompromising in their search for the truth and this search should not be harmful to other people, on the contrary, it should help them. Researchers who undertake studies not as a result of their interests and desire to explore but as a result of carrying out scheduled tasks, can hardly be called mature.

It is also important to determine the significance and the sense of human scientific activity and its educational impact on other scientists as well as on students and doctoral students, so that the valuable patterns of the researcher’s conduct, not only in science but also education, culture and social interactions, could be popularized. Creative scientific activity is a significant culture-creating factor, as researchers influence the concept of human functioning in each historical era not only through discoveries in technical, natural, medical sciences, law or economy that lead to existential comfort, but primarily they consider people’s dreams of happy lives, associated with the prolongation of life, lower disease rates, fighting poverty, hunger, suffering and all the evil of the world and the development of humanity (R. Hubachi, 1982). Missions to carry out such lofty goals are undertaken by universities, which provide proper conditions to conduct high value scientific studies and are concerned with their need for strong connections with the teaching and educational process and popularizing both the results and human values (cf. K. Twardowski, 1993; S. Juszczyk, 2000, pp. 19–49; J. Kostkiewicz, 2007)
A university can be recognized as a community of men of science and students, the edifice of knowledge inspired with the desire to explore; guided by the ethos of science and patronage of academic scholars whose main goal is to discover the truth (O. Stróżewski, 1992). According to Jozef Bochenski (1993, pp.62, 63, 66), a logician and historian of logic, an academic researcher of philosophy and contemporary thought, the university ought to be an autonomous place where independent research should be conducted and students educated in the humanistic spirit. The author claims that the autonomy of the university is mainly based on its social role, because the university serves people, therefore its autonomy is used to provide the best service to society and its activities penetrate social life in many ways.

Hardly ever is research maturity achieved individually, much more often it is reached within a research team. Such a team is usually led by a researcher with the greatest scientific and education authority (J. Gockowski, 1984). If the research team eliminates the routine and the tendency to avoid difficult problems, and its members, who should also be competent researchers, cooperate and collaborate in order to achieve a cognitive objective, it is highly possible that the objective will be connected with a scientific discovery on a different level of the significance of such a discovery. In a creative research team the atmosphere of freedom should prevail, including freedom of thought and acceptance of diversity; the researchers should be able to listen to other people, to respect their different opinions, to discourse and express scientific criticism based on substantive argumentation and rhetoric. Respect for independence allows junior researchers to seek their own ways to discover the truth and perfect their research skills. Under such conditions a scientific culture is being formed, which lets the people of science differ beautifully even in the most controversial areas of discourse. However, one needs to remember that a friendly atmosphere is required to do research and it depends on interpersonal relationships, kindness, or sometimes on the support of the community. Also society should realize the importance of undertaken studies. This is why it is so meaningful to popularize the results of studies in society, especially among younger generations and prospective students, and to gain social acceptance of certain lines of research.

According to Alicja Żywczyk (2009, pp. 30–31) eminent men of science combine two important abilities in their activities: selective affirmation of things that make the heart of a person's scientific creativity and rejection of everything that could disrupt, or even worse, invalidate such an activity. The author points out that there are certain features shared by eminent scientists; developing these dispositions of the human mind at a young age combined with cultivating intellectual culture
should result in revival and enhancement of the quality of academic life. Analysis of the biographies of outstanding academics, beginning with the ancient ones, eg. Aristotle, Seneca, Cicero, Socrates, then the later ones, eg. Bertrand Russell, Sergius Hessen, Florian Znaniecki and Hans Georg Gadamer, and finally contemporary ones, such as Karl Popper or Leszek Kołakowski, has brought the author to the following conclusion: the incubation of new ideas always required similar mental and moral competences even though it occurred under different socio-historical conditions. Affirmation of life, courage, inner authenticity, reluctance to megalomania, intellectual honesty and faithfulness to a scientific model of life have proved to be essential to sustain and develop a creative attitude. These moral qualities or ethical values exist in the personalities of scientists almost as separate beings or as a real ‘centre’ of their creative potential.

Each researcher should have cognitive curiosity. Primal ontological curiosity, noticeable in small children asking about everything they encounter, makes the genesis of behaviours of famous scientists, whose biographies can be found in numerous papers (cf. W. Okoń, 2001; P. Grimal, 1994; J. Grondin, 2007; M. Przetacznik-Gierowska, A. Wyszynska, 1989; B. Russel, 1996; J. Szacki, 1986; W. Theiss, 1984). Another quality was the researchers’ enthusiasm, the source of creativity unexplained by logic and rational thinking, which in time became the style of their scientific work and a method of scientific activity. The most valuable ideas and achievements of creative people had often emerged enthusiastically from their subconsciousness as ‘raw’ information which was later perfected and shaped as a result of intentionally initiated conscious processes (R. Dubos, 1986, pp. 9–11). Karl. R. Popper (1997, pp. 45–56) pointed at certain moments in scientific activity when researchers experience happiness: proposing theses, formulating a research problem or a hypothesis give the researcher inner satisfaction out of discerning a scientifically important issue which develops in the process of crystallizing concepts and construction of a scientific disquisition. The researcher’s satisfaction is the result of arriving at the truth, even unwelcome, which can sometimes be disappointing, not necessarily to the researcher himself but to his environment or people who ordered the research. Therefore, a mature researcher enjoys recognizing reality and solving problems as well as being aware of his own contribution to the development of a subdiscipline or even a field of science. The researcher derives contentment or satisfaction also from publishing his scientific papers. The better the journal (and I mean journals parametrized by The Ministry of Science and Higher Education in Poland and journals on the Philadelphia List, such as Thomson Reuters Master Journal List, that already have their Impact Factor, eg. The New Educational Review) or more acknowledged the publishing house where
the researcher publishes his article or monograph, the greater the satisfaction. The line of the passage of time contains points connected with the release dates of the author's most important publications. Publications that are highly assessed by the scientific community make a motivating factor for further scientific research. Publications that are criticized provoke reflection and make the researcher shape his ability to defend his viewpoint and opinions or revise his research concept, seek critical points, which could be the reason for a false, and thus criticized, argumentation.

The process of discovering the objective truth is frequently connected with going beyond the limits set by the capabilities of our senses and with the image of reality which our senses show us. Overstepping the limits makes us recognize the explored reality better, but not every researcher dares to go beyond his limits and beyond perceived information. Such a risk is usually taken only by a mature researcher who, although aware of its existence, has research experience and intuition which may lead to a scientific discovery (cf. J. Bruner, 1978). A researcher who is doing detailed and meticulous scientific research deprived of a wide research perspective, rarely undertakes such a risk, so he is not likely to make a scientific discovery. However, if it does happen, it usually happens by chance.

A contemporary researcher is also satisfied with the fact that due to information and communication technologies as well as to the development of cognitive theory and research, scientific disciplines which used to be unrelated and which originate in different fields of study, such as: natural, medical, technical sciences, law and the humanities, have been brought closer. Each of these scientific disciplines has been using achievements of other fields of study, which support one another and make it possible to construct in an integrated way more and more accurate images of reality. Therefore, contemporary scientific studies are of transdisciplinary (cross-disciplinary) nature and are carried out by researchers representing different scientific disciplines. Explanation of such phenomena or processes within just one discipline may lead to a negative phenomenon of reductionism, which restricts the image of the explored reality. Transdisciplinary studies, quite common today, are becoming a requirement of the contemporary paradigm of designing scientific research, confirming the unity of science (A. Bonk, 1992; S. Kaminski, 1981; S. Juszczyk, 2006).

There are situations during the scientific research activities of culture creators when they obtain satisfaction with their moral and intellectual efforts. Such events may include taking part in congresses, conferences, symposia or seminars, which are participated by experts representing various disciplines or even fields of study. The gatherings shall be treated as a celebration of science, unique time
for the mind and spirituality of the scientist. They provide an opportunity for individual or group meetings with the authorities of science, who significantly influence junior researchers’ scientific activities. It is time for passionate discussions, expressing viewpoints and opinions, time for confrontations and thus verification of research results, observations or opinions. It does not only give a deep insight into the research issues of other research teams, their progress in conducting empirical studies and theoretical analyses of subject-related issues, but it also teaches humility, especially to junior researchers (A. Zywczok, 2009, p. 61)

**The characteristics of the contemporary researcher**

The contemporary researcher participating in the teamwork of experts in different disciplines or even fields of study must himself be a specialist in different areas, and this is how he becomes a versatile specialist. Indeed, scientists who represent cooperating fields of study can together overcome problems that appear on their research pathways. This activity can be encouraged by the structure of science as well as by using achievements of other fields of study in terms of using similar concepts, methods or research techniques (M. Ossowska, 1983, pp. 331–332).

For a long time there was an imposed model of a scientist-specialist, which showed a scientist specializing in a specific subdiscipline or even specific issues; it can be called fidelity to a specific scientific problem, eg. Louis Pasteur who began his research on bacterial fermentation, explored this issue throughout his life and succeeded in laying the foundations for clinical bacteriology; Claude Bernard started his scientific studies in 1843 with determining the level of sugar in blood and urine and completed his research determining the blood glucose level; Jan Strelau, an acknowledged Polish psychologist, since writing his Master’s thesis has been specializing in the issue of temperament and individual differences. Pursuing one scientific concept throughout the professional career of a researcher is not the result of his lack of imagination or his idea for conceptualisation of another scientific issue, but it indicates following the planned path, the strong will and perseverance of a genius (H. Seyle, 1967, pp. 37–38). It is falsely believed that a narrow scientific specialization might narrow a researcher’s intellectual horizons. However, it turns out that even narrow specializations do not restrict interests of the researcher as it has been proved that specialists are well-informed not only on related, but often unrelated issues.
The identity of the scientist

Let us now try to characterize the identity of the researcher, which is developed in the process of his actions. Long-term studies on the understanding of human nature and the significance of identity in the processes of regulating human behaviours and their social control, reveal numerous conceptions (or even theories) of identity, which are in the phase of intensive development and indicate that there is not one coherent and consistent theoretical construction of this phenomenon (L. Witkowski, 2000). According to Jerzy Nikitorowicz (2007, pp. 756, 760) identity is understood as continuous defining one’s self in development, in the context of different circumstances connected with cultural heritage, participation and conscious functioning in the area of culture; with the ability to organize life filled with offers from the macro world, with the quality and quantity of interactions with other people. Identity understood in such a way constitutes a set of characteristics of a different quality arranged in overlapping and complementary layers – spheres infiltrated with culture and education in the form of pneumators (values, traditions, principles of behaviour, morals, rituals, customs etc.), which at the same time integrate and penetrate all the spheres of identity and protect the distinctiveness of certain layers from shock and conflicts, ensuring their permanence and development. P. Boski, M. Jarymowicz, H. Malewska-Peyre, (1992) define personal identity as a sense of unity, similarity to him/herself, continuity of time and space, as relatively steady arrangement of feelings, values and future projects concerning oneself.

Personal identity consists of constant and most specific qualities of an individual, which provide him/her with the sense of uniqueness (being different from other people, emphasizing identity, which regulates interpersonal behaviours) considered in the social context, whereas social identity is created by emotionally significant classifications determining an individual’s affiliation and the degree of identification with certain groups and social categories (therefore, it is connected with inter-group relations and behaviours), developed from individual human attributes, eg. interests, ideology, the need for affiliation and autonomy. The contents of personal identity can determine the development of social identity, so they can influence an individual’s behaviour within a group (group behaviour) (M. Jarymowicz, 1984).

As far as researchers are concerned, their personal identity is connected with their individual scientific research activities compared to the activities of the scientific community from specific areas or even fields of study. Therefore, originality in scientific theories or models of explored reality, originality in the results of empirical research and their quantitative and qualitative analyses; taking up chal-
lenge concerning exploration of socially and cognitively important phenomena and processes, the ability to predict and anticipate, to formulate bold theses, usually confirmed later; overcoming barriers to the conceptualisation of groundbreaking and innovative research – these are the factors that construct the identity of the scientist. Being recognized by a scientific community, interactions not only with the members of his research team, but also with the researchers from other academic and scientific centres, his scientific position as well as being one of the acknowledged scientists, determine the dynamic identity of the scientist.

The researcher builds up his identity through the whole period of his scientific and publishing activity, being in a relational context with other scientists functioning in the same scientific space. It is an arduous, long-lasting process which leads to the modification of identity, resulting from relations with examined individuals and groups, or to the change of the concept of perceiving reality, connected not only with greater knowledge, experience and awareness of the researcher but also with a change of the explored reality (A. Wyka, 1993).

Conclusions

The profile of the researcher is shaped by various factors, beginning with his educational career, encountering his master and frequent interactions with him, which lead to the development of knowledge and abilities and also to creating the researcher’s skills and techniques. Long years of gaining experience result in obtaining by the researcher his methodological and then research maturity, both these things shape his identity. This process takes years and includes the researcher’s scientific and publishing activity and his interactions within the scientific community during congresses, conferences, symposia or seminars. The personal and social identity of the researcher is the product of the following factors: various actions undertaken by the researcher; external factors independent of the researcher, such as the state policy towards financing science and research activities; determining national (or European) research priorities; access to domestic and foreign scientific literature and unique equipment; opportunity for direct interaction with foreign scientists (including the opportunity for working in multinational teams, drawing up publications, foreign internships or study tours); human resources policy of universities (or other higher education institutions and scientific centres); identifying priority fields of study; atmosphere within the research team. These and a lot of other direct or indirect factors influence the researcher’s scientific development and form his identity.
Bibliography


Zbiór zasad i wytycznych, Komitet Etyki w Nauce przy Prezydium PAN (1994).
Warszawa.
Technology of Education
Development of the Czech Version of the Questionnaire on Self-Regulated Learning of Students*

Abstract

The authors of the paper aim to briefly describe the issues connected with self-regulated learning and thus present the first attempt at measuring the level of self-regulated learning of university students. The aim of the questionnaire survey, which was carried out among the students of auxiliary services professions at Tomas Bata University in Zlin, was to verify the validity and reliability of assessment scales of the first version of the Questionnaire on students’ self-regulated learning (DAUS). Factor analysis proved that the strongest factor of self-regulated learning is goal orientation (F1) followed by self-efficacy (F2), metacognitive strategies (F3) and study value (F4). The internal consistency of the questionnaire survey and individual scale differentials vary in the range of $\alpha = 0.77$ to 0.91.

Key words: self-regulated learning, students of auxiliary services professions, questionnaire validation, motivational beliefs, cognitive and metacognitive strategies, self-determination theory.

* The presented outcome of the research was created during a grant solving process GA ČR 406/09/1240 Cognitive and Noncognitive Determinants of Self-Regulated Learning Development among Students of Auxiliary Services Professions.
Problem

Self-regulated learning has become a widely discussed issue nowadays. Contemporary information society emphasizes not only people's professional knowledge but also development of their personal intelligence and social and emotional skills. Personal qualities are crucial especially in so-called auxiliary services professions (e.g. teacher, social worker, nurse). Personal qualities, such as reliability, flexibility, resistance, creativity, independence, involvement and working on oneself, are emphasized. These attributes are closely linked with learning issues.

In order to be able to control one’s learning process and begin a process of lifelong learning, a person needs to acquire a whole range of specific competences of self-regulated learning. The core of these competences is knowledge and skills of the student who is able to (Schunk, Ertmer, 2005; Švec, Hrbáčková, 2009):

1. set one’s own learning goals (decide what the student should learn),
2. assess one’s professional skills and potentiality (assess what the student is able to achieve even when supported from the outside),
3. direct one’s attention to studies (have a strong will and persevere in learning),
4. select and apply personally appropriate learning strategies,
5. acquire knowledge from diverse resources,
6. use time management effectively,
7. assess one’s learning progress (to what extent the student has achieved goals set for him/herself),
8. reveal and overcome learning blocks,
9. self-reflect (monitor and evaluate) one’s learning process,
10. change one’s learning strategies based on this self-reflection,
11. maintain positive belief about oneself.

Every human being has this competence, which is hidden in the form of potentiality (Mareš, 1998) and which needs to be first discovered and refined, extended and perfected. A wide range of skills connected with this competence must be learnt even by an adult.¹

¹ We refer here to the similarity with tacit knowledge as an aspect of successful intelligence (Sternberg, 2001). Tacit knowledge is manifested in a person's behaviour and enables him/her to achieve the goals which he/she personally approves. This hidden knowledge of “important threads” may not be conscious, but may be made explicit and further developed through self-reflection.
Self-regulated learning is a process when the student (pupil)\(^2\) controls his/her learning without being controlled from the outside. According to Zimmerman (2001), self-regulating skills cannot be considered as inborn mental skills or acquired learning skills but they should be perceived as a self-controlling process when a learner transforms his/her personality into skills necessary for learning. It includes both inner and outer human world (learning of a student, pupil).

In this sense, learning is not something directed at students but something that comes from students themselves. The student (pupil) involved in the process regulates:

1. Cognitive aspect, which means that the student selects necessary learning strategies which help him/her to achieve his/her goal, e.g. he/she either underlines important information in a text or draws mind maps, learns by heart, etc.

2. Metacognitive aspect, which means the student controls, monitors and evaluates the learning process, how successful he/she is; he/she is aware of his/her strengths and weaknesses, e.g. he/she recognizes when he/she does not understand the subject matter and chooses a different learning strategy; he/she examines him/herself, asks him/herself questions, sets tasks for him/herself, etc.\(^3\)

3. Motivational aspect, which means that motivation and will are always at the beginning of the learning process, the process cannot begin if the student him/herself is not motivated and sure about his/her own competence; he/she considers learning meaningful and he/she understands that he/she is successful for inner reasons. It is essential for the student to be able to regulate motivational and volitional processes.

The transition from external regulation to self-regulation happens gradually in phases (Zimmerman, 2005) and requires connection (Garcia, 1995) of skill and will. Skills relate to the selection of an appropriate strategy but they are also affected by personal expectations, personal beliefs and values.

---

\(^2\) The text works with expressions “student” (at secondary level and higher) and “pupil” (attending primary school). We believe that the competence of self-regulated learning should be developed systematically from a very young age – preferably from early school attending age (Hrbáčková, 2009; Hwang, Gorell, 2001; Perry, Drummond, 2002).

\(^3\) Self-regulated learning is based on meta-cognition, which is understood as knowledge of one’s own cognitive processes (knowledge of how I learn, act) and knowledge of controlling these processes by a subject who learns and acts in various situations (Pintrich, 2002). In the context of this study, we work with the term of meta-cognitive strategy. It is a skill of the student (pupil) which requires a set of skills and knowledge to be aware of one’s own cognitive (learning) activity, to plan, monitor and assess methods used while learning.
We proceed from a definition by Zimmerman (2001), who understands self-regulated learning as a learning process when the pupil is actively involved in his/her own learning process and strives to achieve certain goals, he/she initiates and controls his/her own learning efforts, uses specific learning strategies with respect to the context in which learning takes place and interconnects personality and individuality emphasis with the social dimension of learning.


Over the past thirty years foreign literature has dealt with self-regulated learning from different perspectives (cf. Boekaerts, Pintrich, Zeidner, 2005; Zimmermann, Schunk, 2001; Puustinen, Pullkinen, 2001). Their diversity of views is caused by multiple theoretical approaches (learning theories) the authors work with. Our study builds on motivational, cognitive and metacognitive aspects, where all the aspects are given the same degree of importance. Each aspect represents a part of the process which should be available for the self-regulated learning process.

Abroad, the level of self-regulation is often measured with the use of:

1. Self-evaluation scales (see below).

In the Czech environment, a tool for measuring university students’ self-regulated learning has not been validated yet.

Studies distinguish certain tendencies, e.g. they show a link between students’ self-regulated learning and their learning achievements. Academically successful students use self-regulation strategies (setting one’s goals, selection of an appropriate strategy, monitoring one’s progress) more than less successful students (Zimmerman, Martinez-Pons, 1986), while the level of self-regulation may be different (domain-specific) in one student (pupil) according to a subject studied (Boekaerts, 2002).

Pintrich et al. (1995) found out that students regulating their learning process and using a range of strategies are more intrinsically motivated. Also students
who believe in themselves and are confident about their qualities and skills ("self-efficacy") tend to use learning strategies more than students who see themselves as incompetent. The link between self-regulation and motivation is quite obvious in Ryan and Deci’s self-determination theory (2000), which is based on an autonomy concept.

Self-determined motives based on a person’s inward needs are opposed to external regulation. The internalization process in which external regulation turns into self-regulation is seen as a motivational process related to intrinsic motivation. We believe that both cognitive and non-cognitive processes also constitute an important part of self-regulated learning and they help us to indirectly assess the level of self-regulated learning as self-regulated learning is a procedural skill which is manifested in human behaviour.

These are the factors we considered crucial when designing the research tool.

**Method**

The first version of our questionnaire (DAUS) was based on students’ self-regulated learning theories (Zimmerman, 2002; Borkowski, 1992; Boekaerts, 2002). According to Boekaerts (1995) the key role in a self-regulated learning process is played by a pre-action motivational phase and by students who come to class to achieve their own goals, which are essential for their adaptive system. Even though we discuss here global transfer from controlled teaching to self-regulated learning, it is also important to understand the dynamics and power of the learning environment in order to develop self-regulation further. All this must be achieved in interdependence of an individual and the whole in the context of a classroom. According to Borkowski (1992), self-regulated learning represents a higher level of metacognitive activity while monitoring is considered a key component of self-regulation.

When processing information, a successful student differs from a less successful one mostly by knowing and using various learning strategies, is intrinsically motivated, is not scared of failure and reflects results of his/her efforts. It is not a mere skill but also knowledge and awareness of one’s own personality which jointly form a self-regulated learning process in a real context (Zimmerman, 2002). Self-regulated learning is a cyclical process. Previous performance serves as a tool to assess future changes or adjustments to one’s own behaviour during upcoming attempts. This regulation is necessary as personality, human behaviour and environment keep changing and a person must be prepared to react to these
changes. He/she should react by controlling, observing and monitoring the whole learning process.

We drew inspiration from three most popular techniques: Learning and Strategies Study Inventory LASSI (Weinstein, Schulte, Palmer, 1987); Motivated Strategies for Learning Questionnaire MSLQ (Pintrich, Smith, Garcia, McKeachie, 1991) and Metacognitive Awareness Inventory MAI (Schraw, Dennison, 1994). The questionnaires provided items relating to previously selected factors.

The constructed questionnaire included 103 items divided into four factors:

1. **Motivational factor** (32 items) included four areas: intrinsic and extrinsic motivation, study value, self-efficacy and attribution beliefs.
2. **Cognitive strategies** (13 items) were divided into three areas: rehearsal, elaboration and organization strategies.
3. **Metacognitive factor** (40 items) included six areas: procedural knowledge, declarative knowledge, conditional knowledge, planning, monitoring and self-evaluation.
4. Examination of an environment and learning context (18 items) was composed of four areas: time management and study environment, volitional regulation and support (help seeking, etc.).

The questionnaire included scales with the range from 1 (least accurate) to 7 (most accurate) and was analysed in Statistica Base 9 software.

281 students of the Faculty of Humanities at Tomas Bata University in Zlin participated in the survey. 240 valid cases (213 women and 27 men) were analysed. This selection set was composed of students present on lessons at the time of the survey, which means an exhaustive selection. Out of that number, 155 students were full time students and 85 students were part-time students of social pedagogy specialization (average age was 27, from 20 to 53, standard deviation 8.1 years).

The aim of the pilot survey was to verify if the selected scales had satisfactory construct validity and if the measurement was adequately reliable. To assess the quality of the scales, apart from descriptive statistics, we carried out a more detailed biserial correlation and factor analysis. To select individual scales we set up three criteria:

1. to exclude all the items with a lower correlation coefficient, according to the statistics of item-total correlation less than 0.2
2. to exclude all the items according to the measure of variability (with means less than 1.75 or more than 6.25)
3. to exclude all the items with low factor loading (less than 0.45).
Results and discussion

At the first stage of analysis, 23 items were excluded, 18 items with a low correlation coefficient and 5 items with outlying means.

To determine dimensionality, an exploratory factor analysis was employed for the remaining items. We suggested a 4-factor solution based on a Scree test. Four extracted factors explained 31.6% variance. 81 out of 33 items did not show factor loading higher than 0.45. Factor 1 Goal orientation (12 items) accounted for most of the total variance of 13.9%. Factor 2 Self-efficacy (18 items) accounted for 6.3% variance. Factor 3 Metacognitive strategies (9 items) accounted for 4.7% variance and Factor 4 Study value (9 items) accounted for 3.5% variance.

The selected items of individual factors were further analysed for their content validity on a consensus of the judges who evaluated the degree to which items by their content expressed truly a given factor from 1 (least accurate) to 5 (most accurate). All the items with a low average score (which meant they did not correspond with a given factor) were excluded. Based on this analysis, 8 items were excluded with an average score lower than 3.5 points.

The research represents the first attempt at measuring students’ self-regulated learning in the Czech environment while only internal consistency of the questionnaire and four partial factors were examined. Cronbach’s alpha for all the 103 items reached 0.91, which may be regarded as high internal consistency. Factor 1 reached the internal consistency of alpha 0.84, factor 2 also proved to be internally consistent (α = 0.88). Factor 3 reached the internal consistency of α = 0.77 and factor 4 coefficient was α = 0.80. We can state that the established internal consistency was high. Analysis of the links between the standards of self-regulated learning and students’ study achievements showed a high level of correlation (p < 0.05). The students whose study achievements were not so good also showed a lower level of self-regulated learning.

The new version of DAUS1 questionnaire is represented by 40 items (Chart 1). Factor 1 (F₁) Goal orientation includes 8 items, factor 2 (F₂) Self-efficacy is dealt with in 16 items, factor 3 (F₃) Metacognitive strategies contains 8 items and factor 4 (F₄) Study value consists of 8 items.

Conclusion

A research tool to measure the degree of university students’ self-regulated learning was designed and this tool will be further analysed. Differences in various
standards of self-regulated learning according to the type of study, form of study, one's gender and successfulness in one's studies will be further examined, as well as links among all the examined factors.

**Chart 1:** Overall summary of factor loading for individual items of the final version of the questionnaire (40 items)

<table>
<thead>
<tr>
<th>Item</th>
<th>Text of the item</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>I have to force myself to study. (r)</td>
<td>.653</td>
<td>.050</td>
<td>.162</td>
<td>.024</td>
</tr>
<tr>
<td>72</td>
<td>When learning, I often think of something else rather than what I am learning about. (r)</td>
<td>.583</td>
<td>.187</td>
<td>.045</td>
<td>-.108</td>
</tr>
<tr>
<td>4</td>
<td>I study even if I do not have to.</td>
<td>.565</td>
<td>-.013</td>
<td>.169</td>
<td>.356</td>
</tr>
<tr>
<td>10</td>
<td>I like to study.</td>
<td>.535</td>
<td>.168</td>
<td>.090</td>
<td>.317</td>
</tr>
<tr>
<td>68</td>
<td>In my studies, I do more than I am asked to by the teacher.</td>
<td>.497</td>
<td>.202</td>
<td>.386</td>
<td>.052</td>
</tr>
<tr>
<td>7</td>
<td>I study professional literature on my own initiative even though it is not required.</td>
<td>.493</td>
<td>.042</td>
<td>-.009</td>
<td>.369</td>
</tr>
<tr>
<td>11</td>
<td>I buy or borrow recommended books related to my studies because I want to understand the field even more.</td>
<td>.486</td>
<td>.035</td>
<td>.171</td>
<td>.438</td>
</tr>
<tr>
<td>34</td>
<td>I keep rereading my study materials (lecture notes, textbooks) at home.</td>
<td>.485</td>
<td>-.142</td>
<td>.322</td>
<td>.293</td>
</tr>
<tr>
<td>51</td>
<td>I can assess the requirements I am to fulfil in my studies.</td>
<td>.090</td>
<td>.637</td>
<td>.071</td>
<td>-.033</td>
</tr>
<tr>
<td>60</td>
<td>I can tell which learning method is in a given situation.</td>
<td>.071</td>
<td>.625</td>
<td>.166</td>
<td>.055</td>
</tr>
<tr>
<td>48</td>
<td>I know my strengths and weaknesses when studying.</td>
<td>-.156</td>
<td>.599</td>
<td>.225</td>
<td>.028</td>
</tr>
<tr>
<td>50</td>
<td>I can organize my study materials so that they are convenient when studying.</td>
<td>.017</td>
<td>.588</td>
<td>.110</td>
<td>.187</td>
</tr>
<tr>
<td>20</td>
<td>I expect to succeed in my studies.</td>
<td>.135</td>
<td>.584</td>
<td>.057</td>
<td>.308</td>
</tr>
<tr>
<td>18</td>
<td>I believe that if I decide to succeed, I will.</td>
<td>-.057</td>
<td>.555</td>
<td>-.073</td>
<td>.233</td>
</tr>
<tr>
<td>54</td>
<td>I control my learning and I can tell when I understand the matter.</td>
<td>.125</td>
<td>.553</td>
<td>.195</td>
<td>.003</td>
</tr>
<tr>
<td>22</td>
<td>I do not give up easily even when I do not understand something.</td>
<td>.202</td>
<td>.514</td>
<td>.180</td>
<td>.295</td>
</tr>
<tr>
<td>49</td>
<td>I can tell which piece of information is most important and which is less important.</td>
<td>-.059</td>
<td>.509</td>
<td>.004</td>
<td>.135</td>
</tr>
<tr>
<td>52</td>
<td>I have got a good memory.</td>
<td>.052</td>
<td>.506</td>
<td>-.010</td>
<td>-.078</td>
</tr>
<tr>
<td>Item</td>
<td>Text of the item</td>
<td>F₁</td>
<td>F₂</td>
<td>F₃</td>
<td>F₄</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>61</td>
<td>I can manage my time to study so that I succeed at the exams later.</td>
<td>.189</td>
<td>.506</td>
<td>.340</td>
<td>.003</td>
</tr>
<tr>
<td>75</td>
<td>When I know what is challenging for me when learning I can deal with it.</td>
<td>.124</td>
<td>.496</td>
<td>.278</td>
<td>.027</td>
</tr>
<tr>
<td>19</td>
<td>I am not afraid to do more advanced tasks which are required to meet the requirements in the courses.</td>
<td>.349</td>
<td>.496</td>
<td>.007</td>
<td>.302</td>
</tr>
<tr>
<td>24</td>
<td>I think that in my studies I am better than most of my classmates.</td>
<td>.158</td>
<td>.480</td>
<td>.051</td>
<td>-.125</td>
</tr>
<tr>
<td>21</td>
<td>I often feel I do not understand anything and will not master anything. (r)</td>
<td>.282</td>
<td>.465</td>
<td>-.329</td>
<td>-.058</td>
</tr>
<tr>
<td>80</td>
<td>When I finish writing my test I know how successful I was.</td>
<td>.030</td>
<td>.456</td>
<td>.199</td>
<td>.003</td>
</tr>
<tr>
<td>85</td>
<td>When learning I need to make sure that I am going in the right direction.</td>
<td>.100</td>
<td>.004</td>
<td>.639</td>
<td>.063</td>
</tr>
<tr>
<td>70</td>
<td>I often find myself stopping and checking that I understand everything.</td>
<td>.167</td>
<td>-.059</td>
<td>.538</td>
<td>.053</td>
</tr>
<tr>
<td>69</td>
<td>When learning new things, I often ask myself questions to find out how well I am doing.</td>
<td>.174</td>
<td>.060</td>
<td>.533</td>
<td>.126</td>
</tr>
<tr>
<td>66</td>
<td>Before I start learning, I say to myself what I am about to do (what first, what next).</td>
<td>-.021</td>
<td>.159</td>
<td>.527</td>
<td>.165</td>
</tr>
<tr>
<td>73</td>
<td>When learning, I examine myself to find out how well I understand.</td>
<td>.039</td>
<td>.070</td>
<td>.522</td>
<td>.084</td>
</tr>
<tr>
<td>83</td>
<td>I often ask myself if I did everything I could to understand the subject.</td>
<td>.082</td>
<td>-.081</td>
<td>.521</td>
<td>.188</td>
</tr>
<tr>
<td>78</td>
<td>I often analyse or evaluate myself when studying.</td>
<td>.035</td>
<td>.120</td>
<td>.510</td>
<td>-.011</td>
</tr>
<tr>
<td>65</td>
<td>I usually divide what I have to learn into parts which I learn one by one.</td>
<td>-.080</td>
<td>.163</td>
<td>.482</td>
<td>.088</td>
</tr>
<tr>
<td>38</td>
<td>I try to find links between what I study in my courses.</td>
<td>.184</td>
<td>.123</td>
<td>-.011</td>
<td>.660</td>
</tr>
<tr>
<td>16</td>
<td>I like the curriculum of the subjects studied.</td>
<td>.126</td>
<td>.085</td>
<td>.150</td>
<td>.540</td>
</tr>
<tr>
<td>15</td>
<td>I find it useful to try and study hard.</td>
<td>.100</td>
<td>.187</td>
<td>.201</td>
<td>.535</td>
</tr>
<tr>
<td>14</td>
<td>I am interested in the subjects studied.</td>
<td>.110</td>
<td>-.029</td>
<td>.082</td>
<td>.533</td>
</tr>
<tr>
<td>17</td>
<td>It is essential for me to understand the matter studied.</td>
<td>.172</td>
<td>.105</td>
<td>.233</td>
<td>.527</td>
</tr>
<tr>
<td>37</td>
<td>I learn by finding links from various sources (lecture notes, textbooks, recommended reading).</td>
<td>.335</td>
<td>.101</td>
<td>.137</td>
<td>.514</td>
</tr>
<tr>
<td>8</td>
<td>I see studying as my hobby.</td>
<td>.421</td>
<td>.200</td>
<td>-.022</td>
<td>.467</td>
</tr>
<tr>
<td>13</td>
<td>I believe that what I learn here will be useful in my work later.</td>
<td>.051</td>
<td>-.002</td>
<td>.128</td>
<td>.454</td>
</tr>
</tbody>
</table>
Bibliography


Abstract

This paper deals with implementation of a cycle of blogging activities within different levels of English courses at the Faculty of Technical Sciences, University of Novi Sad. Blogs, which are interactive homepages that are easy to set up and manage, enable students to engage in online exchanges, thereby expanding their language study and learning community beyond the physical classroom. Findings from a survey conducted over two semesters with three groups comprising 98 students demonstrate that they had positive attitudes toward blogging and the blogging buddy system.

Key words: English language teaching, tertiary education, blogging.

1. Introduction

A student in the traditional writing class has typically presented his/her work to the teacher alone, or at most, to a group of peer reviewers and then to the teacher. When a foreign language teacher introduces blogging activities within the language classroom in tertiary education, the opportunities for student interaction and the horizons of that learning space are expanded and thus provide student writers with a far greater audience both within and outside the classroom. “We can assume that after having used the information and communication technologies traditional on-campus learning will be enhanced in the sense that technology can be used
to facilitate key mechanisms of effective learning, namely motivation, interaction between students and instructor and interaction among students themselves as well as collaboration in the learning enterprise.” (Juszczyk, 2003, p.165)

In his academic blog, Stanley (2006) notes that “(Blogs are) a way of opening up the classroom walls and showing the wider world what is happening… thus creating a small language learning community;” Similarly, while relating the findings of a series of interviews with bloggers in the Stanford University area, Nardi, Schiano, Gumbrecht, & Swartz (2004) relate how a rhetoric instructor/researcher using blogs explained that for students blogging created a sense of community that would be less likely to emerge in a conventional classroom setting. Murray (2007) notes that a key feature of a “blog community” is the fact that all community members have easy access to each other’s blogs. This can be accomplished with moodle, a class wiki page, or the blog community’s homepage (which might also be called a 'blog magazine’). According to Darabi (2006), the core principles of learning communities focus on integration of curriculum, active learning, student engagement, and student responsibility. Blogging activities realize these principles. To illustrate, Pinkman (2005) writes that blogging becomes communicative and interactive when participants assume multiple roles in the writing process, as writers who write and post, as readers/reviewers who respond to other writers’ posts, and as writer-readers who, returning to their own posts, react to criticism of their own posts. Dieu (2004) reaffirms this by stating that blogging gives a learner the chance to maximize focused exposure to language in new situations, peer collaboration, and contact with experts. Within the scope of classroom-based blog activities, assignments can require the student blogger to communicate closely with a particular group of student bloggers. Moreover, the exchange can be almost instantaneous or at the leisure of the student bloggers. This combination of planned and spontaneous communicative exchanges inside and out of the classroom makes blogging a meaningful and engaging social exercise. It is within this context that Williams and Jacobs (2004) contend that blogging has the potential to be a transformational technology for teaching and learning. Since information and communication technology (ICT) plays an important role in the development of the new type of society, it plays a key role as a catalyst for creativity, stimulating innovation in all fields of art and social relations as well as in learning languages. Likewise, Juszczyk (2006, p.25) notes that “schools are extremely important for socialization and communication and one of the major needs of the future workplace are communication skills. This type of skills one can shape with the help of ICT. Not only in work but also in social and political life, communication and socialization are extremely important.”
2. Pedagogical perspective of blog and blogging

A principal assumption in this approach to language teaching activity was that for academic success the students needed to have opportunities to develop their computer – and language-based skills in tandem. Another assumption was that for optimum English language development, the students needed as many opportunities as possible to interact in the target language within their community of learners, and not just within the confines of the traditional classroom. Given these assumed requirements, one concern was discussed in the form of a question: What would be the most appropriate CALL activity available to supplement traditional paper-based reading and writing in our courses? Chapelle (2002) says that this question, restated as follows, is a recurring one: How can computer-assisted language learning (CALL) applications best serve the learner within the guiding parameters of current “research and practice in L2 pedagogy” (p. 498). Chapelle’s suggested “principles for CALL pedagogues” include six requirements: (1) language learning potential, (2) learner fit (presenting tasks “appropriate to learners’ linguistic ability level”), (3) meaning focus, (4) authenticity, (5) positive impact (resulting in “effects beyond its language learning potential”), and (6) practicality (pp. 499–500). Similarly, based on the experiences of teachers surveyed worldwide, Warschauer & Whittaker (2002) have compiled a set of considerations for teachers planning to implement CALL tasks. Their suggested considerations include the following: (1) understanding of one’s goals, (2) aiming for the integration of skills activities, (3) understanding the “complexity” of CALL tasks, (4) providing strong teacher support, and (5) involving learners in decision-making (pp. 368–371). With these considerations and principles in mind, blogging was selected as the CALL activity that would best serve our students. This was done for a number of reasons. First, it was evident from our own experience and from an understanding of the prior research on blogs (Dieu, 2004; Downs, 2004; Glogoff, 2005; Lamshed, Berry, & Armstrong, 2002; McIntosh, 2005; Pinkman, 2005; Thorne & Payne, 2005; Warschauer & Whittaker, 2002; Williams & Jacobs, 2004) that blogging’s popularity was growing rapidly, parallel to that of the Internet, and its potential in language teaching and learning was encouraging, though not fully known.

2.1. The peer reviews

The teacher has been the traditional source of power in the second language classroom, particularly for the writing classroom. A student’s paper is often corrected, commented on, and graded only by the teacher. Peer review activities diffuse some of that power, giving students a sense of responsibility and accomplishment
both as readers and writers. Paper-based peer review activities usually involve pairs or small groups of three or four student writers exchanging copies of their papers and making comments based on a number of possible criteria (content focus, organization, language use, etc.). Such activities can be augmented in three ways with the use of blog-based peer review: peer comments on blog posts, blogging groups and the blogging buddy system.

As this peer commentator reads those posts and responds with his/her own viewpoints, sometimes in accordance with a classmate, and sometimes not, a number of written dialogues is initiated. This step underlies the notion of the blogging activity as a student-centered process, one in which “active learning, student engagement, and student responsibility” are central (Darabi, 2006, p. 53). Ideally, each student writer would also return to his/her own post of any particular writing assignment, review the commentary left by classmates and then, if so motivated, leave them a response. A member of one blogging group notes that “a kind of reciprocity (was) expected because I read others’ blogs, so I have to make my contribution” (Nardi et al. 2004, p. 45). In this way, the blog realizes the vision to provide a forum that reaches beyond the scope of a university subject and which augments the knowledge creation occurring throughout a student’s enrolment in a higher education program.

Teachers with experience having students create blogs and make posts often state that it is difficult to insure that members of a class regularly and universally receive comments on their posts. From our experience it seems that if students are not provided with enough guidance, they will gravitate and respond to the posts made by their friends. Under these conditions, in a class of 16, a popular student might receive comments from more than half of his/her classmates, while a quieter student close to none. In answer to that challenge and in lieu of having to assign certain students to respond to others’ posts, a teacher can create “blogging groups” within the class. A blogging group might consist of any number of students, but since the purpose is to narrow the field of potential peer respondents/commentators to a specific manageable group, it is best limited to no more than six members.

2.2. The blogging buddy method

Student writers developing skills in a non-native language need to be encouraged to write in that language as often as possible. Writing assignments for such developing writers tend to fall into one of two types: guided, teacher directed, and accuracy-based work, such as structured paragraphs, strip stories, summaries, multi-draft essays and the like, or self-directed, fluency-based tasks, such as those often found in free writing and journals. The challenge to teachers who utilize blogs for instructional purposes, especially when they are creating assignments aimed at
providing students with opportunities similar to fluency writing tasks, is how to increase production without compromising quality. The term “blogging buddy” refers to a student writer’s editing partner, the person who checks and comments on his/her blog post before it is posted. The blogging buddy is the initial peer reviewer, the first or final-draft reader, the one who acts as both the writer’s good conscience (useful for motivational purposes) and as his/her proofreader (in that way, also a surrogate teacher). The blogging buddy system is simple: It requires each student to present a piece of writing to his/her blogging buddy before it is posted.

3. The Purpose of the research

Bygate, Skehan, & Swain (2001) emphasize that any pedagogical task should be assessed in terms of “its modes of implementation, its operation and its outcomes” (p. 1). Thus, this research deals with parallel cycles of blogging and associated activities within three different general English courses over a period of one academic year at the Faculty of Technical Sciences, University of Novi Sad. Each cycle included the following activities:

1) every student in each class set up a blog,
2) every student’s blog address was distributed to all other students in the classes at each respective level via the teacher’s blog site, a class wiki or a class moodle page,
3) every student worked at least half the semester with a “blogging buddy,” a classmate/peer reviewer who would read the student’s blog post before it was posted,
4) every student made at least one post on a specified theme to his/her blog every two weeks,
5) every student was also required to read and respond to at least three posts made by classmates during each biweekly cycle.

At the end of each semester, a survey was distributed to all participating students in order to gather data on student views toward the blogging experience. The four main topic areas of the survey were student attitudes toward writing, blogging as a classroom activity, doing peer reviews and being paired with blogging buddies. The purpose of the research was to gauge student interest in blogging and associated activities. After two semesters, that data was analyzed. This paper describes the design, operation and apparent benefits of blogging and related activities as they were implemented. Finally, it presents and interprets findings from the survey of 98 student bloggers.
3.1. The Participants

The research included 81 men and 17 women attending three different English language courses at the Faculty of Technical Sciences, University of Novi Sad. The surveys were conducted at the end of the fall and spring semesters of the 2009/2010 academic year. Student writers in this study were fourth – and fifth-year students at the Department of Power, Electronics and Telecommunication Engineering. The students were attending three different courses First Certificate (1), First Certificate (2) and Advanced English. Teaching activity was organized through lectures, over the course of 15 weeks, in 90-minute sessions per class.

3.2. The Survey Instrument

In order to collect data, at the end of each term throughout the research period, the online survey program surveymonkey.com was used. It was available for free for small-scale surveys (www. surveymonkey.com). This program allows users to create an online questionnaire quickly by following simple procedures. After both the fall and spring semesters of the 2009/2010 academic year, the students took surveys. By the end of the academic year, 98 student writers had completed surveys regarding their attitudes toward writing, blogging, the blogging buddy system and commenting on classmates’ posts. There were 35 items in total on the survey instrument, including four focusing on demographic information, 23 rating scale items focusing on the degree of agreement in the Likert Scale format, six multiple choice questions, one yes/no question, and one question requiring a short answer response. The questionnaire comprised 31 non-demographic questions. Four questions were focused on writing in general, ten aimed to determine student attitudes toward blogging in general, while 17 aimed to determine student attitudes toward the blogging buddy system.

3.3. Common Aspects of the Blogging Activities

The common aspects of the blogging activities in three classes were as follows:

1) All blogging activities were assigned and not optional.
2) In addition to writing their own blogs, students were required to read and comment on classmates’ blogs.
3) Every student had a blogging buddy, assigned by the teacher or chosen by the student.
4) Every student blogging buddy was encouraged to make any sort of comment necessary to improve his/her partner’s writing. This was understood to include language usage and/or content/organization corrections.
5) Every student made blog posts for half of their respective course without
utilizing the blogging buddy system, and then made posts for an equal length of course time utilizing the blogging buddy system.

Some variations on the application of the blogging buddy system in and among these three classes included:

1) whether a student commented on peer papers by writing on a printed copy, or typing directly onto the computer,
2) whether blog posts and comments were made during class time or outside class time,
3) whether the minimum length of each post was specified by the teacher or not,
4) whether students were assigned to a blogging group.

4. The Results of the Research

Overall, the majority of the students found the main blogging activities, including writing and uploading their blog posts and responding to classmates’ posts, positive and useful. On item No.8 (cf. the questions in the attached Appendix), for example, 82.65% of the respondents (81/98) chose “Strongly agree” or “Agree” for the statement that they liked blogging (cf. Figure 1).

Similarly, on item No.9, for the statement “I like posting writing assignments on my blog,” 84.69% of the students (83/98) responded positively (cf. Figure 2).

On item No.10, “I like reading my classmates’ written posts,” 94.89% (93/98) of the students expressed agreement. On item No.11, for the statement “I like making comments on my classmates’ posts,” 88.78% (87/98) answered in agreement. For item No.12, regarding the value of receiving comments on posts from classmates, an impressive 96.94% (93/98) expressed agreement. On item No.13, for the statement “I find the blogging buddy system useful,” 96.94% of the students (93/98) answered “Strongly agree” or “Agree” (cf. Figure 3).

Equally impressive was the response to item No.13: 96.94% of the students (93/98) agreed that they liked having their instructor make written comments on a blog post. The survey results also revealed that the blogging buddy system was viewed favorably by the majority of the students. 82.65% of the participants (81/98) answered “Strongly agree” or “Agree” to the statement of item No.16: “I find the blogging buddy system useful.” Item No.17, that the blogging buddy system was effective for improving blog posts, got positive responses from 84.69% of the students (83/98). 88.78% of the students (87/98) answered positively to item No.20: “Having a blogging buddy encourages me to write a better post” (cf. Figure 4).

As for item No.22, 90.82% of the students (89/98) agreed that having a blogging buddy read a post before posting was better than not having one do so. Finally, the positive value of working with blogging buddies for this group of students was
Figure 1. Percentage of respondents who agree with the statement: *I like blogging as an activity.*

Figure 2. Percentage of respondents who agree with the statement: *I like posting writing assignments on my blog.*
Figure 3. Percentage of respondents who agree with the statement: *I like having my classmates make comments on my blog.*

Figure 4. Percentage of respondents who agree with the statement: *Having a blogging buddy encourages me to write a better post.*
corroborated by the following two items. In item No.23, 93.87% of the students (92/98) expressed agreement with the statement that “it is better to have a blogging buddy for my writing improvement than not to have one” (cf. Figure 5).

In item No.29, 96.94% (95/98) positively agreed with the statement that providing a blogging buddy with feedback on his/her post was a “positive learning experience.”

5. Discussion

The results of the survey given to the student participants are important for a number of reasons. First, it appears that within our classes the percentage of students who liked writing in general (80.61%) also liked blogging as an activity (82.65%). About the same percentage (84.69%) stated that they liked posting classroom assignments on their blogs. This seems to underscore the obvious: Students who like to write will probably like blogging, while students who do not like writing might not like blogging. Second, the responses seem to indicate that whether the students liked writing or not, they enjoyed reading what their classmates write (94.89%) and having their classmates read and comment on their own writing (96.94%). This again supports the notion of the blogging activity as
a student-centered, peer-focused exercise (Chiddo, 2006; Glogoff, 2005). At the same time, the students did not see the teacher as excluded from this process. In fact, since 96.94% indicated that they appreciated their teacher’s comments on blog posts, input from the teacher can still be considered vital. Finally, it seems clear that the students truly appreciated the need to improve their writing and considered having an editor and being an editor valuable. While 93.88% expressed satisfaction with peer review activities in general, 84.69% indicated that having a blogging buddy was more effective for improving their writing than not having one. 96.94% also indicated that being a blogging buddy editor is a good learning experience.

6. Conclusions and Implications for Future Research

This paper has presented
1) pedagogical perspective for blogging in English language teaching and learning;
2) description of the experience of the teacher who designed and implemented blogging and associated blogging activities in General English classes at the Faculty of Technical Sciences in Novi Sad
3) feedback from 98 students in those classes. The feedback has been derived from an attitudinal survey of those students regarding their experience with a structured blogging regime, and in particular, with the “blogging buddy” system.

The findings show that the students responded positively to the blogging activities in general as well as to the blogging buddy system. While over 80% of the students stated that they enjoyed posting, reading their classmates’ posts and making comments on those posts, they almost unanimously stated that they liked having their classmates and the teacher write comments on their posts. A large majority also found the blogging buddy system useful, motivational and effective for improving their writing. Three features of the blogging activities seem to make them an attractive and powerful curricular component for university level English language classes:

1) their accessibility beyond the limits of the traditional classroom,
2) the personalized, student-centered nature of the interactions that they facilitate, and
3) their capacity for motivating students to work autonomously (whether alone, in pairs or small groups) to consider, produce and react to more content more frequently than a teacher might expect.
These features combine to make blogging a highly productive, communicatively meaningful and effective approach to helping students refine and develop their language skills. To follow up the current discussion, several areas of research can be considered. First, in the area of language acquisition, it would be advisable to analyze more methodically how student writing is affected in quantity and quality thanks to the use of blogging and the blogging buddy system. In related research, the efficacy of the blogging buddy’s commentary on grammar, content or organization should be examined. In addition, the manner in which a blogging buddy gives feedback, on paper, via e-mail or directly to the blogger, should be considered. For a more comprehensive view of how language learners view blogging, it would be worthwhile to implement blogging activities with other student populations and to survey other blog participants regarding their attitudes toward the same set of issues. It would also be of interest to conduct surveys of classroom bloggers to see whether or not they extend their communication via blogging or other media after courses end. Although the implementation of blogging and associated activities in our courses was carried out on a small scale and lacks the quantitative data to provide empirical support for blogging activities as being either more or less effective than traditional paper-based exercises in helping students to refine and develop their language skills, it could be concluded that the blogging methods and activities presented provide a motivating curricular addition for the students with internet access to have meaningful target language interactions outside the classroom.

References


**Appendix: Survey items rated on a Likert Scale and related to the present study**

Question 8:
I like blogging as an activity. 81/98 (82.65%)

Question 9:
I like posting writing assignments on my blog. 83/98 (84.69%)

Question 10:
I like reading my classmates’ written posts. 93/98 (94.89%)

Question 11:
I like making comments on my classmates’ posts. 87/98 (88.78%)

Question 12:
I like having classmates make comments on my posts. 95/98 (96.94%)
Question 13:
I like having my instructor make written comments on my post. 95/98 (96.94%)

Question 16:
I find the blogging buddy system useful. 81/98 (82.65%)

Question 17:
The use of the blogging buddy system is effective for improving my blog posts. 83/98 (84.69%)

Question 20:
Having a blogging buddy encourages me to write a better post. 87/98 (88.78%)

Question 22:
Having a blogging buddy read a post before posting is better than not having one do so. 89/98 (90.82%)

Question 23:
In general, it is better to have a blogging buddy for my writing improvement than not having one. 92/98 (93.87%)

Question 29:
Giving feedback on my blogging buddy’s post is a positive learning experience. 95/98 (96.94%)
The Influence of the Use of Educational Software on the Effectiveness of Communication Models in Teaching

Abstract

The purpose of this research is to determine the influence of the use of educational software in the classroom on certain communication models that are applied in teaching. The survey, conducted among 232 students of the Faculty of Education – future teachers, determined their view on the effectiveness of different communication models in teaching. When it comes to teaching without the use of educational software, the communication model of traditional teaching was rated as the most ineffective. However, in the respondents’ opinions, the disadvantages of this model can be eliminated through the appropriate use of educational software. The survey also found that other communication models in teaching can become more effective through the use of educational software. The survey results clearly show that future teachers are fully aware of the advantages that the use of educational software brings.

Key words: educational software, teaching communication, teaching.

1. Introduction

Educational software has been used for a long time as an instructional aid all over the world, and a number of positive effects has been achieved in the learning process through its use (Kulik, 1994). It has been most used as a student aid for independent work and study (Ng Lee et al., 2005), or as a teacher aid for presenting material, however, the question is to what extent a certain piece of educational
software can help improve the effectiveness of the communication model in teaching. Technology development leads to a situation where students can use always available educational software in classrooms instead of textbooks (Wrench, 2001). Educational software retains its purpose from the previous time, however its development today creates conditions for appropriate educational software to become an integral part of learning in the classroom (Hinostroza and Mellar 2001; Lin and Hsieh, 2001).

For good communication in teaching it is necessary to ensure that the information-cognitive and emotional-social components are appropriately represented in contents and methods (Zins et al., 2004). For receiving and interpreting messages, the verbal and nonverbal components are important (Neill, 1991), because it is easier and more interesting for participants to receive the entire message (e.g., a video is usually more interesting than the written text or transcript of the same speech). When communication is more frequent and richer, participants will experience it as attention and interest in them, and when it is rare/sporadic or absent they will observe the teacher/instructor as indifferent and feel neglected (Johnson and Morrow, 1981). During education it is desirable that communication be as much two-way as possible, and to provide, ask for and receive feedback. Finally, we should take into account the information filters for formatting messages and avoid and overcome the negative effects of noise in the communication process (Falikowski, 2002). What is desirable is democratic communication and a communication climate that is stimulating and motivating (Bentley, 1998).

Some communication models can operate very effectively in theory (almost perfectly) but the real situation in the classroom often shows some disadvantages of specific models (Randall, 1999). Although a democratic communication climate has a stimulating effect on students and motivates them (Kauchak and Eggen, 2007), this mode of communication can have negative side effects. Students (especially those that have little or no interest in the material) can use this possibility of communicating freely for conversation that has nothing to do with the class, which would not have such a negative effect if there was no possibility of influence on other students in the class. It is therefore important that the teacher determines a satisfactory level of freedom for communication among students, which will be at the same time stimulating to the students and eliminate the possibility of noise and a negative impact on the process (Richmond, 1990).

In addition, the teacher can use instructional aids (e.g. educational software) to facilitate teaching for him/herself and the learning process for students. Educational software used to be a CD-ROM edition with plenty of multimedia content, but today this type of software usually relies on the use of the Internet and provides
its users with an easy and fast access to information (Lin and Hsieh, 2001). Using educational software would reduce the need for frequent teacher explanations (which reduces noise in the communication process), because students can get some answers independently, with the help of educational software. It would also reduce the differences in the ability among students with different levels of prior knowledge to follow class instruction (Becker, 2001). In order to achieve a positive effect of educational software use, it is necessary that each student (or group of 2–3 students) can use a computer in the classroom.

In order to be able to compare communication models in teaching, it was very important to find respondents who could make the most objective estimate of the effectiveness of a particular model. Teachers and students often have a subjective opinion on the process, and they look at some phenomena in the teaching process from their point of view. To get the most objective picture of the effectiveness of the communication model in teaching, people who are currently participating in the process of teaching as students, but possess the necessary knowledge about teaching and are preparing for the future profession as teachers, were chosen as respondents. The students at the Faculty of Education have gained some experience in teaching as teachers during their practical work, so it is logical to expect that they will not look at the process only from one perspective (as a teacher or a student) but will rather express their opinion taking all the factors into account.

2. Communication models in teaching

The communication model used in teaching is perhaps the most important segment that largely determines the outcome and effectiveness of the process. Shannon (1948), presented the communication process as a model with eight discrete components. The source of information is the person who creates a message to be transferred to someone else. When it comes to teaching in the classroom, the source of information is usually the teacher but it can be a textbook author or creator of educational software. The message in the process of teaching includes teaching materials of a subject. A transmitter converts a message into a form that is portable. The signal is converted into a form of message which can be transmitted between two people. The signal is transmitted over a channel, and the channels that are commonly used are air for the transmission of sound (speech), the light for the transmission of video, radio waves, paper, etc. Noise is a secondary signal that negatively affects the transmission of useful signals. The concept of noise has previously been associated with technical difficulties in transmission of messages,
whereas today it is more a metaphor for the problems that occur in effective listening (Foulger, 2004). Noise is an important factor when it comes to the process of teaching in the classroom.

Students’ concentration is often very low (Pintrich and Johnson, 1990) so a minimum impact from the side can easily distract the students’ attention from the teacher’s presentation. As in the classroom there are more people who get information from the teacher, any communication that occurs at the same time as the teacher’s speech is a noise. Although two students can also talk about the curriculum, the sound produced may adversely affect the reception of information by other students. The amount of this type of noise only depends on the degree of freedom of communication that the teacher allows in the classroom. The lower the degree of freedom of communication is, the lesser the amount of noise is, so the teacher has to find the optimum ratio that yields the best results. The receiver receives a signal (ears, eyes) and converts it back to a message intended for its destination (students).

In this survey we selected four models of communication that are commonly used (or were used) in teaching, which differ in the allowed degree of freedom of communication of students, and therefore in the amount of noise generated in the process of communication:

1. Communication model of traditional teaching,
2. Communication model with feedback,
3. Model of communication between students,
4. Communication model where the teacher is an accomplice in communication

The communication model of traditional teaching is a model with the lowest degree of freedom, but also with the lowest degree of noise. In traditional teaching the source of information is the teacher, or an object, a phenomenon or a process. The characteristic of this model is that classes are organized frontally, and students are allowed minimum communication. Although there are all conditions for students to fully hear all the information from the teacher, the students’ ability to obtain further explanation necessary for understanding the presented material (Johnson and Morrow, 1981) is kept to a minimum. This communication model in teaching creates an atmosphere that does not seem stimulating to students and creates low motivation for most students.

Bidirectional communication is common in interpersonal communication. When the cybernetic concept of feedback is added to Shannon’s model, an interactive model is obtained (Weiner, 1948, 1986). When feedback is introduced to the previous model, we get the communication model with feedback that enables better
communication between students and teachers. In this communication model students get more opportunities to communicate with their teacher, which encourages them to seek additional information regarding the material. In addition to students having more opportunities to fully understand the material, there is another positive effect for teachers and that is the immediate feedback from students on the understanding of the presented material. This communication model provides a little more freedom for students with a minimum increase in noise.

When the teacher is not the only person who is the source of information in the classroom, but students are also able to perform this role (of course, to a lesser extent), then the model of communication in the classroom will be significantly changed, thus creating new opportunities. The model of communication between students allows yet another opportunity for students during classes. The students may, beside the lecturer, ask other students to explain some part of the material. This model of communication creates a positive atmosphere in the classroom, which stimulates the students and motivates them to attempt to solve the tasks cooperating with other students. This model has the advantage of more students getting answers to different questions at the same time, because the teacher is not the only person they can address. However, this model has a negative aspect – multiple sources of information sending multiple signals, creating higher noise levels than previous models, which can cause a decrease in student concentration.

The model where the teacher is an accomplice in communication encourages communication among all the members of a group. This model allows the highest degree of freedom of communication of all the above-mentioned models. This communication model in teaching encourages students to express their own opinions to the highest degree, but then the effectiveness of teaching depends a lot on the students themselves. Also, this model of communication causes the highest level of noise, which can have a severely negative impact on student concentration.

3. Methods

In this survey a questionnaire method was used to collect data. The pen and paper version was used, which was distributed to the students of the Faculty of Education in Sombor (Serbia). The reason why the survey included only the students of the Faculty of Education is that other than the experience gained by attending classes, its participants can express their opinions on the effectiveness of a teaching model as future teachers and education experts. A total of 246 questionnaires were returned of which 232 were properly filled in. The questionnaire used in
this survey included questions about the effectiveness of different communication models in teaching, as well as the effectiveness of such teaching with and without the use of educational software.

The students were asked to read statements about the effectiveness of a communication model in teaching and to indicate their level of agreement with these statements based on the five point Likert scale: strongly disagree, disagree, partially agree, agree, strongly agree. In order for the students’ responses to be expressed quantitatively, scores of effectiveness were assigned to them from 1 for the response “strongly disagree” to 5 for the response “strongly agree”.

4. Results

For each communication model in teaching, an average score of effectiveness was obtained based on the students’ responses. The Wilcoxon test was applied to determine whether there were significant differences in the effectiveness of the communication model in the opinion of students, and to determine whether there were significant differences in the students’ opinions on the effectiveness of teaching with and without the use of educational software.

<table>
<thead>
<tr>
<th>Communication model in teaching</th>
<th>Average score of effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Traditional teaching model without the use of educational software (ES)</td>
<td>2.28</td>
</tr>
<tr>
<td>2. Traditional teaching model with the use of ES</td>
<td>3.9</td>
</tr>
<tr>
<td>3. Teaching model with feedback without the use of ES</td>
<td>2.84</td>
</tr>
<tr>
<td>4. Teaching model with feedback with the use of ES</td>
<td>4</td>
</tr>
<tr>
<td>5. Teaching model with communication between students without the use of ES</td>
<td>3.17</td>
</tr>
<tr>
<td>6. Teaching model with communication between students with the use of ES</td>
<td>4.24</td>
</tr>
<tr>
<td>7. Teaching model where the teacher is an accomplice in the communication without the use of ES</td>
<td>2.72</td>
</tr>
<tr>
<td>8. Teaching model where the teacher is an accomplice in communication with the use of ES</td>
<td>3.67</td>
</tr>
</tbody>
</table>

Table 1. Average scores of effectiveness of the teaching model
Table 2. Survey results

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Partially agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe that the traditional teaching model without the use of ES is effective</td>
<td>36</td>
<td>108</td>
<td>76</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>2. I believe that the traditional teaching model with the use of ES is effective</td>
<td>4</td>
<td>4</td>
<td>44</td>
<td>140</td>
<td>40</td>
</tr>
<tr>
<td>3. I believe that the teaching model with feedback without the use of ES is effective</td>
<td>20</td>
<td>60</td>
<td>100</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>4. I believe that the teaching model with feedback with the use of ES is effective</td>
<td>0</td>
<td>4</td>
<td>60</td>
<td>100</td>
<td>68</td>
</tr>
<tr>
<td>5. I believe that the teaching model with communication between students without the use of ES is effective</td>
<td>4</td>
<td>40</td>
<td>112</td>
<td>64</td>
<td>12</td>
</tr>
<tr>
<td>6. I believe that the teaching model with communication between students with the use of educational software is effective</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>88</td>
<td>10</td>
</tr>
<tr>
<td>7. I believe that the teaching model where the teacher is an accomplice in communication without the use of ES is effective</td>
<td>28</td>
<td>60</td>
<td>88</td>
<td>52</td>
<td>4</td>
</tr>
<tr>
<td>8. I believe that the teaching model where the teacher is an accomplice in communication with the use of ES is effective</td>
<td>8</td>
<td>20</td>
<td>56</td>
<td>104</td>
<td>44</td>
</tr>
</tbody>
</table>

5. Discussion

Future teachers perceive a clear distinction between communication models in teaching, as individual questionnaires show. When considering the results of the surveyed group as a whole, the average scores of effectiveness indicate that the students gave the best score to the teaching model of communication between students (third model). Their responses show that the students understand how and in what way the educational software can have a positive impact on the teaching process. It is obvious that the use of educational software in teaching creates positive effects, however the survey results show that the future teachers believe that the use
of educational software has a greater effect on certain communication models in teaching than on others. The Wilcoxon test showed differences in the assessment of effectiveness of teaching with and without the use of educational software. In all four teaching models $p$ is significantly lower than 0.01 which confirms this assumption.

When comparing the results of different communication models in teaching, it should be noted that the comparison was made only between the corresponding samples, i.e. the answers to questions 1,3,5 and 7 were compared mutually and questions 2,4,6 and 8 were also compared mutually. In this way, the results for the communication models without the use of educational software and with its use were compared separately.

**Table 3.** The values of $p$ obtained by Wilcoxon test effectiveness score of the communication model without the use of educational software

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>$p \leq 8.135e^{-10}$</td>
<td>$p \leq 2.209e^{-23}$</td>
<td>$p \leq 1.023e^{-7}$</td>
</tr>
<tr>
<td>3</td>
<td>$p \leq 8.135e^{-10}$</td>
<td></td>
<td>$p \leq 0.003179$</td>
<td>$p \leq 0.5389$</td>
</tr>
<tr>
<td>5</td>
<td>$p \leq 2.209e^{-23}$</td>
<td>$p \leq 0.003179$</td>
<td></td>
<td>$p \leq 3.96e^{-5}$</td>
</tr>
<tr>
<td>7</td>
<td>$p \leq 1.023e^{-7}$</td>
<td>$p \leq 0.5389$</td>
<td>$p \leq 3.96e^{-5}$</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** The values of $p$ obtained by Wilcoxon test effectiveness score of the communication model with the use of educational software

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>$p \leq 0.2902$</td>
<td>$p \leq 1.122e^{-5}$</td>
<td>$p \leq 0.03298$</td>
</tr>
<tr>
<td>4</td>
<td>$p \leq 0.2902$</td>
<td></td>
<td>$p \leq 0.002233$</td>
<td>$p \leq 0.002317$</td>
</tr>
<tr>
<td>6</td>
<td>$p \leq 1.122e^{-5}$</td>
<td>$p \leq 0.002233$</td>
<td></td>
<td>$p \leq 3.666e^{-9}$</td>
</tr>
<tr>
<td>8</td>
<td>$p \leq 0.03298$</td>
<td>$p \leq 0.002317$</td>
<td>$p \leq 3.666e^{-9}$</td>
<td></td>
</tr>
</tbody>
</table>

The results presented in Table 3 show that considering the communication models in teaching without the use of educational software, two models are distinguished by their effectiveness: the traditional model of teaching (the first model) as the most ineffective with an average score of 2.28 and all values of $p$ less than 0.01, which indicates a significant difference compared to the effectiveness scores of other methods, and the teaching model with communication between students (the third model) as the most effective with an average score of 3.17, which also has all the three values of $p$ less than 0.01, which indicates a difference compared to the samples of other models.
As far as the communication models with the use of educational software are concerned, the difference in effectiveness scores among the models is lower, since it can be seen from the students’ responses that in their opinion the less effective communication models achieve a greater improvement in the effectiveness of teaching with the use of educational software. A particularly interesting fact is that the students believe that when the traditional teaching (the first model) uses educational software, it greatly eliminates the disadvantages of such communication, by which the effectiveness of this method reaches that of the other models (effectiveness score of 2.28 rose to 3.9 with the use of educational software). The view of the students that the use of educational software in teaching eliminates almost all disadvantages that may result in a lack of communication in the student-teacher and student-student relation, is obvious. This view is entirely logical if one bears in mind that a piece of quality educational software can provide the same amount of useful data as the teacher who is in the classroom.

6. Conclusion

Communication is a continuous process that involves sending and receiving information, verbal and nonverbal communication whose primary goal is exchanging ideas. The student will not transform a piece of information into his knowledge if he cannot give it any notion or if he does not understand it (Reardon 1987). In essence, he/she receives a message, processes it, decodes it and uses it. In teaching communication, in the relation transmitter (teacher) – connection channel – receiver (student) there are various obstacles that are labeled as noise. These obstacles, which can be designated as primary information barriers, can reduce effectiveness, or even revoke communication. In order to achieve a goal, in the way of ideas, so-called bridges are established (freedom of thought, expression and communication) and possible obstacles and barriers are overcome.

Teachers in the teaching process can use multiple communication models, each of which has its own advantages and disadvantages. The results of the survey conducted among future teachers show that the use of educational software in teaching can largely eliminate these disadvantages. Of course, in order for the educational software to be used for improving the effectiveness of the communication model in teaching, it is necessary for schools to meet certain technical requirements. The perfect situation would be if every student in the classroom could use one computer with Internet connection and appropriate educational software. As this situation is not realistic at all schools, especially in poorer
countries, one computer for two or possibly three students could be accepted as a satisfactory standard.

The survey also found that the future teachers believed that regardless of the use of educational software, the communication model that includes communication between students themselves (the third model) is the most effective. The difference in effectiveness between the above-mentioned and other communication models is great when it comes to teaching without the use of educational software. As far as teaching with the use of educational software is concerned, improvement in the effectiveness of this communication model can be seen, but other less effective models achieve greater improvement using educational software, which reduces the difference in effectiveness between the communication models in teaching.

This study has some limitations. The sample would have been more representative if the questionnaire had been distributed to a larger number of faculties. More extensive data collection is needed for greater generalization. Furthermore, this research is based on the data gathered at the university in Serbia, so it is possible that future teachers in other countries with different culture and a different degree of development of technology may have different attitudes towards the use of educational software in teaching. For these reasons, it is advisable to repeat this research in other countries with a larger sample.

**Bibliography**


Abstract

The presented research has solved the following problem: are dominant studying styles applied by students for learning purposes correlated with the sensory system preferred by them? In order to find the answer to the above question, research was conducted among technical students of eight Polish and German universities. The dominant studying styles applied by students for learning purposes have a statistically strong correlation with the sensory system preferred by them.

Key words: studying styles, sensory preferences: visual, aural, kinesthetic, power correlation.

Introduction

Depending on the cognitive model, the perceptive channels and related impressions are developed to various extent and this affects the diversity of behaviors. Therefore, despite the fact that the same linguistic symbols reach them, they are mapping reality in different ways. That is why the student's awareness of his/her method of learning information is so important. Developing one's own learning methods, seeking measures to support this process and adjusting them to personal predispositions make efforts, time and possibilities to develop information processing skills more efficient.
Sensory preferences of technical students

The sensory system of a student is determined by the student’s individual learning strategy and the style of communicating with others. It determines the individual manner of receiving and processing information delivered via visual, auditory or kinesthetic channels. The preferences determine what type of information a given student perceives and remembers best, namely how the student represents the environment.

Visual learners are eager to learn by watching and direct observation of a phenomenon or event, also by their demonstration. They prefer visual manifestations created with the use of texts, illustrations, diagrams, tables, hypertexts, www documents, etc. They better understand the obtained information after they have been illustrated, put in order, committed to paper. Typical visual learners think with images, they like to draw up lists of solutions, present their thoughts in writing. Kinesthetic learners learn through touching, moving, acting and through their own activities. They like to be in motion, manipulate, construct. They heartily learn by performing and engaging themselves in such activities as assembling, disassembling or changing the arrangement. They learn most efficiently by exploring their physical environment, they like to touch, check the operation, observe the expected results. Those activities are important in technical learning, in exercises consisting in constructing, erecting and examining how a model works, constructing in accordance with the provided scheme. Learning through listening is displayed by auditory learners. They prefer sounds, they acquire substance during talks, discussions and lectures. They learn best while listening to others who present and explain problems, phenomena and processes. They learn by reading texts aloud, they use recordings, etc. During classes they listen carefully what the teacher is saying.

Apart from the sensory systems, the student prefers also individual studying styles. In theory, from among numerous learning style typologies, well recognized is the model developed by David A. Kolb (1984) and further improved by Peter Honey and Alan Mumford (1986, 2006). It defines four styles: active (activist), analytical (reflector), theoretical (theorist) and application (pragmatist). In my opinion, they best suit the academic technical education. They were used to prepare research tools to help students determine their favorite cognitive styles. Evidence proving their suitability for technical education is contained in the paper (Kozielska and Kern, in press).

Probably students learn faster when they can identify which knowledge acquisition technique is best for them. Research has confirmed that students, based on their educational experience, can recognize their sensory preferences and studying
styles. For that purpose, their attention should be drawn to the existence of various sensory systems and learning styles, their preferences and significance for the learning process.

**Course of research**

The presented research has solved the following problem: *are dominant studying styles applied by students for learning purposes correlated with the sensory system preferred by them?* In order to find the answer to the above question, research was conducted among the technical students of eight Polish and German universities. On the basis of the presented characteristics, the students indicated their preferred sensory systems of representation and favorite studying styles.

The above was revealed by the statistical analysis of the obtained results (Góralski 1976, pp. 24 and 36). The $\chi^2$ indicator was determined, the values of which disclosed the existence of the correlation and the values of $r_p$ factors identifying its strength (Tables 3 and 4) on the basis of the following formulas (Table 3 and 4):

\[
\chi^2 = \sum_{i=1}^{w} \sum_{j=1}^{k} \frac{(n_{ij} - n'_{ij})^2}{n'_{ij}}
\]

\[
\chi^2 \geq \chi^2 (\alpha, \nu) \quad \text{– significant correlation,} \quad \chi^2 (\alpha, \nu) \quad a = 0.05 \quad n = (w-1)(k-1)
\]

\[
r_p = \sqrt{\frac{k^{(m-1)}}{k^{(m-1)} - 1} \frac{\chi^2}{(\chi^2 + N)}}
\]

$m=2 \quad k=3 \quad N$ – number of subjects.

The statistical indications are as follows: $r_p = 0$ – no correlation, $0 \leq r_p < 0.1$ – ignorable correlation $0.1 \leq r_p < 0.3$, weak correlation, $0.3 \leq r_p < 0.5$ – average correlation $0.5 \leq r_p < 0.7$ – high correlation, $0.7 \leq r_p < 0.9$ – very high correlation, $0.9 \leq r_p < 1.0$ – almost full correlation, $r_p = 1.0$ – full correlation.

**Research results**

The statistical analysis of the preferences regarding the sensory systems and favorite studying styles made it possible to find a significant correlation between
Maria Kozielska, Götz Seibold

The strength of this correlation for the group of students of individual universities was identified as average, more rarely as weak (Table 3), while for the examined studying styles as average (Table 4). Thus, a positive answer to the foregoing question was given. The distribution of preferences in the groups of students of all the eight universities reveals that the most numerous are visual learners, then kinesthetic learners, while the group of auditory learners is the smallest one (Table 1). An analogous distribution pattern in the group of individuals identified by their preferred studying styles shows in each of them also visual and kinesthetic preferences (Table 2). In all the groups, the students most rarely reported using audition for learning purposes.

Let us contemplate the sensory predispositions of the technical students as referred to each studying style. In most cases (the examined groups) the active style of studying was demonstrated by the kinesthetic learners, and next by the visual learners. These predispositions constitute a value for those individuals, as they mainly learn through performing practical activities, acting with a model, observing results of their activities, etc. They try to discover the idea behind a phenomenon, process or operation of devices. Kinesthetic learners have manual skills and are

---

**Table 1. Sensory preferences and studying styles of first-year technical students (in the group of researched universities),**

<table>
<thead>
<tr>
<th>School N</th>
<th>Studying styles ( %)</th>
<th>Sensory preferences ( %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>active n</td>
<td>analyt. n</td>
</tr>
<tr>
<td>BUT 100</td>
<td>36.0 36</td>
<td>23.0 23</td>
</tr>
<tr>
<td>PUT 395</td>
<td>19.5 77</td>
<td>21.5 85</td>
</tr>
<tr>
<td>WUT 100</td>
<td>20.9 20</td>
<td>32.6 33</td>
</tr>
<tr>
<td>SzUT 100</td>
<td>29.0 29</td>
<td>30.0 30</td>
</tr>
<tr>
<td>ŠUT 100</td>
<td>32.0 32</td>
<td>21.0 21</td>
</tr>
<tr>
<td>Brand. 65</td>
<td>30.7 20</td>
<td>30.7 20</td>
</tr>
<tr>
<td>Cottbus 44</td>
<td>34.1 15</td>
<td>29.5 13</td>
</tr>
<tr>
<td>Wildau 37</td>
<td>27.0 10</td>
<td>40.5 15</td>
</tr>
</tbody>
</table>

*Source: my study*

BUT – Białystok University of Technology, PUT – Poznan University of Technology, WUT – Warsaw University of Technology, SUT – Silesian University of Technology, SzUT – Szczecin University of Technology, Brand. – Fachhochschule Brandenburg, Cottbus – Brandenburgische Technical University Cottbus, Wildau – Technische Fachhochschule Wildau.
Table 2. Sensory preferences and studying styles of first-year technical students (in the groups of identical styles)

<table>
<thead>
<tr>
<th>Sensory preferences</th>
<th>Studying styles</th>
<th>Active (%)</th>
<th>Analytical (%)</th>
<th>Theoretical (%)</th>
<th>Application (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BUT</td>
<td>47.2</td>
<td>17</td>
<td>33.3</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>PUT</td>
<td>52.0</td>
<td>18</td>
<td>29.8</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>WUT</td>
<td>35.0</td>
<td>30.0</td>
<td>35.0</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>SzUT</td>
<td>34.5</td>
<td>24.1</td>
<td>41.4</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>SUT</td>
<td>12.5</td>
<td>18.7</td>
<td>68.7</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Brand.</td>
<td>30.0</td>
<td>20.0</td>
<td>50.0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Cottbus</td>
<td>40.0</td>
<td>13.4</td>
<td>46.6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Wildau</td>
<td>20.0</td>
<td>20.0</td>
<td>60.0</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: my study
Table 3. Examination of the strength of the correlation between studying styles and sensory preferences (in the group of researched universities),

<table>
<thead>
<tr>
<th>School</th>
<th>N</th>
<th>$\chi^2$</th>
<th>$r_p$</th>
<th>Power correl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUT</td>
<td>100</td>
<td>15.255</td>
<td>0.446</td>
<td>average</td>
</tr>
<tr>
<td>PUT</td>
<td>395</td>
<td>17.852</td>
<td>0.255</td>
<td>weak</td>
</tr>
<tr>
<td>WUT</td>
<td>100</td>
<td>8.797</td>
<td>0.348</td>
<td>average</td>
</tr>
<tr>
<td>SzUT</td>
<td>100</td>
<td>5.814</td>
<td>0.287</td>
<td>weak</td>
</tr>
<tr>
<td>SUT</td>
<td>100</td>
<td>10.713</td>
<td>0.381</td>
<td>average</td>
</tr>
<tr>
<td>Brand.</td>
<td>65</td>
<td>4.958</td>
<td>0.326</td>
<td>average</td>
</tr>
<tr>
<td>Cottbus</td>
<td>44</td>
<td>2.139</td>
<td>0.264</td>
<td>weak</td>
</tr>
<tr>
<td>Wildau</td>
<td>37</td>
<td>2.791</td>
<td>0.324</td>
<td>average</td>
</tr>
<tr>
<td>Total</td>
<td>941</td>
<td>48.423</td>
<td>0.271</td>
<td>average</td>
</tr>
</tbody>
</table>

Source: my study

Table 4. Examination of the strength of the correlation between studying styles and sensory preferences (in the groups of identical styles)

<table>
<thead>
<tr>
<th>Studying styles</th>
<th>$\chi^2$</th>
<th>$r_p$</th>
<th>Power correlat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>29.757</td>
<td>0.408</td>
<td>average</td>
</tr>
<tr>
<td>Analytical</td>
<td>21.238</td>
<td>0.349</td>
<td>average</td>
</tr>
<tr>
<td>Theoretical</td>
<td>32.195</td>
<td>0.357</td>
<td>average</td>
</tr>
<tr>
<td>Application</td>
<td>10.275</td>
<td>0.349</td>
<td>average</td>
</tr>
</tbody>
</table>

Source: my study

able to perform many operations with their skilful hands. Thus, it is obvious that they prefer active knowledge acquisition. Similarly, visual learners cope well when working according to this style since they formulate their thoughts in the form of images, they draw outlines and make notes – they like order. On the other hand, lack of order and a specific systematization, etc. impede their concentration and focusing of attention. In the group of activists, an important portion is represented by kinesthetic and visual learners.

The students describing their own learning style as mainly *analytical* demonstrated different preferences. In terms of quantity, visual learners are leaders, and are
followed by kinesthetic learners. Learning in accordance with this style is executed by observing and watching phenomena, events and by doing, so they display visual preferences. They can also efficiently learn active operations, imitating a model or a presented object, showing others sample activities, examining the results of decisions made, etc. In this paper, kinesthetic preferences are particularly useful.

The students declaring the *theoretical style* as the dominating studying style predominantly pointed out the features of visual learners, followed by kinesthetic predispositions. These results particularly confirm visual preferences of students-theorists, who usually start learning with a theoretical analysis of the problem. When learning about events, correlations, etc. they look for cause and effect relationships and they like finding information, data and knowledge on their own. Thus, visual learners are particularly good in this field, as they are eager to use all visualizations, tables, diagrams and like employing carefully selected data, preferably those collected on their own. Subject related messages organized in a diversified form make theoretical considerations easier for them. Thus, they have a positive effect on learning for theorists.

The group of students who prefer the *application style* of studying is represented primarily by the kinesthetic learners followed by the visual learners. This style is favored by kinesthetic learners probably because they best remember what they have applied, performed and achieved. Their imagination operates at a high level when they are doing things, constructing, moving, manipulating, etc. The students who use this style like to learn by careful action ending with a planned effect. In particular, they observe the agreed algorithms in performed operations. The predispositions of visual learners are also of great value here, since they have spatial intelligence which is demonstrated in the form of seeing and feeling the world and are able to visualize things.

**Conclusions and summary**

The dominant studying styles applied by the students for learning purposes have a statistically strong correlation with the sensory system preferred by them. For each examined studying style – active, analytical, theoretical and application ones – an average strength of this correlation was identified. The strength of the correlation was diversified in the examined groups: weak or average.

Among the students of Polish and German universities, the active and application styles of studying were first and foremost selected by the kinesthetic learners,
followed by the visual learners. On the contrary, the analytical and theoretical styles were selected primarily by the visual learners followed by the kinesthetic learners.

The students were aware of their sensory preferences and most eagerly selected studying styles, as all of them were able to respond. This awareness enabled them to perfect their own learning methods and to apply new studying styles.

The fact that the students were looking for an adequate learning style and developing their own sensory preferences may increase their learning efficiency. The above consists in faster learning, more thorough mastering of acquired information, better understanding and broader knowledge, shaping one’s own skills, etc. When analyzing the memorized information, the students employ their senses and the multisensory approach to memorization of contexts through using various routes of memory search may facilitate the acquisition of information (Czerniawska 2005, p. 296). It is worth bringing up the concept that allows for accompanying the sensory preferences of a student with adequate teaching strategies at the stage of information receiving and acquiring (Fleming and Baume 2006, pp. 4–7). It is a vital argument in creating learning opportunities for students in accordance with their sensory preferences and studying styles to require that the stimuli received by them correspond to their cognitive level (Mietzel 2002, p. 95).

The authors would like to express their gratitude for help in conducting the research to Prof. Marek Gawrysiak from the Białystok University of Technology, Prof. Józef Dygas from the Warsaw University of Technology, Dr. Swietłana Szczysielska from the Szczecin University of Technology, Dr. Janina Poczęsna from the Silesian University of Technology, Prof. Asta Richter from the University of Applied Science in Wildau and Prof. Thomas Kern from the Fachhochschule in Brandenburg.

This work was supported in part by Research Project TB-62–176/11/DS of the Poznan University of Technology.

Bibliography


Teachers’ Role Perception

Abstract

The article focuses on teachers’ role perception. The research was brought about by the assumption that teachers’ awareness of their roles is a constituent of reflective professionalism. The first part of the article contains a short review of changes in the teacher’s role. The second part presents research results. In order to find out if teachers are aware of their roles and how they perceive them, a questionnaire was implemented in a group of 124 teachers of primary school and middle school. Cumulative interpretation of gathered data suggests that teachers perceive their roles traditionally.

Key words: teachers’ roles, role perception, role understanding.

Teachers’ traditional and modern roles

Teachers fulfil a complex set of roles, which vary from one society to another and from one educational level to another. The teacher has always been assigned roles connected with adapting young people to the environment. Up till now being a teacher has meant educating, teaching and taking care of pupils but the essence of action has undergone extensive changes. Educational aims, teaching methods and quality of teacher-student relationships also have been adjusted particularly in terms of autonomy a learner has over learning and in relation with teacher. Moreover, teachers’ work was associated mainly with individual effort: leading classes behind the closed door of a classroom. The teacher was expected to control, instruct, guide, help and discipline. He/she had responsibility for, and authority over pupils. Nowadays it is replaced with cooperation of professionals who support students’ personal growth and manage the learning process departing from the rigid 45-minute pattern.
Having skimmed Polish and international pedagogy writings we can find abundance of teachers’ roles and functions. All of them are complex and demand thorough professional preparation: a therapist, creator, researcher, guide, counsellor, intellectual, animator, ethicist, philosopher, European and patriot, facilitator, assessor, leader, manager, and many others (Gołębniak, 1998; Kwiatkowska, 2009, p; Dyrda, Przybylska, 2007, pp. 119–128). The attributed roles consolidate different expectations of scientists, society, educational dissidents and probably, only to some extent, students. Taking into consideration theoretical assumptions it seems that more roles are attributed to the teacher than one person would be able to cope with. But on the other hand, the above-mentioned roles can be reduced to three main ones: didactic, educational, caring. It would be difficult to allocate each role to one basic because they percolate one another. Some new roles turn out to be just functions, as teachers are expected to react to different needs and situations. Thus, from time to time they have to act as therapists, animators, counsellors. Some of the discussed roles are more stable, evident in teachers’ actions such as those ensuing from the teaching profession ontology: creator, communicator, ethicist, intellectual (Kwiatkowska, 2008, pp. 47–57).

Academic preparation provides teaching candidates with an overview of education foundations: from theoretical to pedagogical. They explore psychological, philosophical, sociological and pedagogical aspects of education. Teachers-to-be are made accustomed with teacher action ontology and ensuing from it roles, functions and tasks. The curriculum assumes that students must get to know what is the substance of teaching roles and strengthen their competences: teachers should know what to do, how to do that and why it is essential. Finally, practice verifies their grounding; extends and deepens. Even though I am aware that there is a distinction between teaching and talking about teaching, the awareness of roles and expectations is crucial to act well. The assumption can be referred to Tomaszewski’s statement (1970, p. 183) that awareness along with abilities to meet responsibilities and motivation to work underlie the effectiveness of action in any field. The awareness of roles contributes to teachers’ reflective acting and without doubt is the constituent of competences and professionalism (Kwiatkowska, 1997, p. 148). One could suggest that it is possible to work effectively without knowing the name of actions, perhaps in a technical profession it is achievable but teaching is communicative and without awareness it could not be professional (effective and highly competent). As sources of role are dual: experience and professional preparation, one who has had extensive theoretical preparation (academic) will attribute teachers’ roles, customized during studies different, from the one who
has had schooling experience. On the other hand, practising without knowledge (awareness what I am to do) would be hazardous, for sure not professional. Awareness would be the sign of professionalism and a reflective attitude to work. Awareness of the teacher’s professional roles along with their interpretation are constituents of teachers’ identity (Kwiatkowska, 2008, pp. 229–280). Simplifying, the teacher’s identity would include how one acts in a given situation and how actions are assessed, negotiated and acted upon by others (Burke, Franzoi, 1988, pp. 244–245).

In a school setting, the roles assumed by the teacher are multiple and varied, often identifiable by the physical environment (classroom, playground). Teachers must interpret their actions and act accordingly, thus confirming and reinforcing their role identification and understanding.

**Research methodology**

The main aim of the research was to verify whether teachers are aware of their roles, imposed by law acts and pedagogical assumptions, and further how they perceive them. The following questions directed the planned research: Are working teachers aware of their roles? Do they identify with them? What functions do they associate with main roles? Which of the roles are the most important for them and which the least? Does their experience modify the perception of the roles? Are teachers able to fulfil all of them?

The data for this study was collected from 124 teachers of primary schools and middle schools in different towns of Silesia. The seniority of the surveyed teachers was the following: 51 teachers: 1–5 years, 32 teachers: 6–15 years, 22 teachers: 16–25 years, 19 teachers: 25 and more. 20 of them were male, 104 – female. 80 teachers declared postgraduate studies or other forms of mastering teacher competences (courses, training).

**Research results**

The introductory part of the questionnaire was to estimate if the teachers are aware of roles attributed to them by theory. When asked what teachers’ roles are, without a given list, all the teachers pointed to educating and disseminating knowledge, the third most often indicated one (more than ¾ of all the respondents) was caring. Apart
from these the teachers mentioned a list of tasks and obligations they are supposed to meet. Organizing and administrative work (n=60\(^1\)), employee obligations (n=55), controlling pupils’ work and progress (n=50) were mentioned by a significant part of the teachers. Approximately every third teacher suggested diagnosing children’s needs, abilities or disabilities (n=32) along with helping in their personal growth (n=32). Less than a quarter of the respondents pointed to the role of a therapist (n=20), leader (n=15) and advisor (n=12). A few of the teachers paid attention to specific roles such as an informer (n=10), class and school decorator (n=8), parents consultant (n=4), mediator in class (n=3). Although it is highlighted as the most important constituent of teachers’ roles, only 3 teachers pointed to the creator of the learning environment. The mentioned roles did not deplete those addressed to the teacher so most often postulated roles in pedagogical literature were listed and the respondents were asked to indicate all roles connected with the profession (Table 1).

### Table 1. Teachers’ identification of roles.

<table>
<thead>
<tr>
<th>Teachers’ roles</th>
<th>indications</th>
<th>indications %</th>
<th>most important indications</th>
<th>most important indications %</th>
</tr>
</thead>
<tbody>
<tr>
<td>educator</td>
<td>124</td>
<td>100.0%</td>
<td>70</td>
<td>56.5%</td>
</tr>
<tr>
<td>teacher</td>
<td>124</td>
<td>100.0%</td>
<td>90</td>
<td>72.6%</td>
</tr>
<tr>
<td>carer</td>
<td>100</td>
<td>80.6%</td>
<td>55</td>
<td>44.4%</td>
</tr>
<tr>
<td>leader</td>
<td>62</td>
<td>50.0%</td>
<td>13</td>
<td>10.5%</td>
</tr>
<tr>
<td>animator</td>
<td>61</td>
<td>49.2%</td>
<td>25</td>
<td>20.2%</td>
</tr>
<tr>
<td>advisor</td>
<td>59</td>
<td>47.6%</td>
<td>8</td>
<td>6.5%</td>
</tr>
<tr>
<td>therapist</td>
<td>55</td>
<td>44.4%</td>
<td>27</td>
<td>21.8%</td>
</tr>
<tr>
<td>ethicist</td>
<td>52</td>
<td>41.9%</td>
<td>11</td>
<td>8.9%</td>
</tr>
<tr>
<td>creator/researcher</td>
<td>50</td>
<td>40.3%</td>
<td>20</td>
<td>16.1%</td>
</tr>
<tr>
<td>culture promoter</td>
<td>50</td>
<td>40.3%</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>companion</td>
<td>42</td>
<td>33.9%</td>
<td>24</td>
<td>19.4%</td>
</tr>
<tr>
<td>diplomat</td>
<td>35</td>
<td>28.2%</td>
<td>10</td>
<td>8.1%</td>
</tr>
<tr>
<td>master/ guide</td>
<td>23</td>
<td>18.5%</td>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>friend</td>
<td>17</td>
<td>13.7%</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>intellectual</td>
<td>11</td>
<td>8.9%</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: own research.

\(^1\) The numbers in brackets here and in the following parts of the article refer to the number of indications in the questionnaire.
The number of choices was not limited, on average each teacher mentioned about 5 roles \((n = 5, 3)\). Tallying them down, one can notice that the surveyed group concentrated on the traditional dimensions of the teaching profession (teaching, educating, caring). Modern roles which are the reply to new individual and social needs were pointed at by a half and fewer participants of the survey (Table 1). In a knowledge society, an intellectual, creator, master/guide are claimed to be the core of a reflective practitioner. In the presented research fewer than a half of the surveyed teachers \((n = 50)\) thought that the teacher is a creator of learning environment. Even fewer identified the teacher as a master and a guide for students \((n = 18\%)\). Although the nature of teacher actions entails intellectual involvement, only 8.9\% of the respondents noticed that role. Asked to indicate 3 most substantial roles of all, the teachers habitually chose the most common ones. Apart from that, about 1/5 of the respondents indicated a therapist, animator and companion as crucial roles. Few noticed the importance of being a friend, advisor, culture promoter, master and guide, no one thought that the teacher must be an intellectual. Two participants refused to choose the most important roles, stating that they depend on who they work with.

Scheme 1 represents roles indications according to work duration. The teachers’ responses indicate that seniority impacts on their role perception. The longer they work, the more attention they pay to roles omitted or ignored by the younger teachers in the research. Such roles as: a therapist, animator, leader, advisor, creator, researcher, diplomat, master, guide, and intellectual are indicated more often by the teachers who have worked longer than 15 years. It is worth noticing that the awareness of the intellectual and social context of work is highest among the most senior teachers \((n=26\) years and more). These teachers more frequently identified themselves with an intellectual \((4\times\) more than the teachers beginning their career\), creator and researcher along with being a leader. What is also meaningful is that being a friend is not recognized as a teacher role. These findings reinforce the assertion that teacher experience modifies role identity and professional awareness.

Being a teacher directly implies educating, teaching and caring. This conviction is embedded in the traditional understanding of the role. Nowadays we assume that these roles are so complex that they may comprise other ones, but on the other hand, it seems that there are prior roles and subordinate ones. It can be supposed that the remaining 11 roles, referred to in the article, can be reduced to the “big three” conditioned teaching, educating and caring are understood broadly. Then again, the arbitrarily chosen names of the roles can be differently understood and distort the understanding of the profession. In order to dispel the doubts, in the
next part of the questionnaire the teachers were requested to explain how they understand the three roles and how they fulfil them. Data gathered in that part is interpreted qualitatively as the researcher is interested in the meaning of the roles. In Table 2 the traditional and modern understanding of teachers’ roles are shown.

### Table 2. Understanding of the roles.

<table>
<thead>
<tr>
<th>Roles</th>
<th>Traditional</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational</td>
<td>forming personality, social competences, values and identity, teacher as master</td>
<td>education as total experience, promoting personal growth which is prior to social strengthening intellectual and social potential, teacher as coach</td>
</tr>
<tr>
<td>Didactic</td>
<td>dispensing knowledge, one-answer teaching, teacher as a source of information</td>
<td>facilitators or managers of knowledge and creative thinking, teaching how to learn, teacher as tutor</td>
</tr>
<tr>
<td>Caring</td>
<td>creating safe environment, disciplining, controlling</td>
<td>not only maintaining well-being but meeting physical and psychological needs, managing student conduct</td>
</tr>
</tbody>
</table>

Source: own research.

When inquired: What do you do when educating / teaching/ taking care of your students? the teachers answered:

1. Educating means influencing personality (n=94), shaping character (n=80), inculcating values (n=80), socializing and familiarizing with social norms (n=55),
preparing for partnership (n=50), replacing parents, especially those inefficient (n=40), directing progress (n=30), diagnosing and stimulating individual potential (n=29) “showing what is good, what is wrong” (n=20), preparing for self-education (n=10), “educating students” (n=10). An educator must be a role model (n=45), parents’ assistant (n=32), authority (n=25) and should provide the best conditions for individual development (n=24).

2. The didactic role is connected with dissemination of curriculum knowledge in the easiest way (n=87), enriching vocabulary (n=60), source of different information (n=88), sharing knowledge and experience (n=54), shaping views (n=50), familiarizing with reality (n=49), developing abilities useful in adulthood (n=48), arousing interests (n=35), encouraging to learn (n=35), stimulating critical thinking (n=12) and creativity (n=9), showing how to learn (n=12) and where to seek information (n=2).

3. Caring is creating a safe environment (n=120), natural role as parents entrust their children (n=78), keeping an eye on students (n=47), “disciplining especially during breaks” (n=55), looking after younger pupils especially (n=44), winning children’s and parents’ trust (n=43), taking care of pupils’ physical and mental health (n=17), in case of any problems referring a child to a specialist (n=14).

Having skimmed the above information it can be noticed that the teachers perceived themselves in relatively conventional roles. They paid attention to their contribution to the personal and social growth of students, but pitifully they understood educating mainly as influencing, shaping, inculcating rather than providing experience. The teachers highlighting individual aspects of education were in minority. Just about a quarter of all the indications suggested that teachers should promote personal and social growth. More than a half (n=70 indications) of the teachers identified themselves with a role model and authority, the roles that should be gradually replaced with a coach, tutor, guide… For sure such an education is not a total experience.

The teachers were prone to categorize teaching as disseminating knowledge rather than creating possibilities to construct it. It is utterly visible in the most common interpretation. Only the least often indicated ones are those which explicitly treat teaching as an interactive and creative process, with the aim to develop intellectual independence. What is astonishing is that the same teachers asked about creative teaching techniques answered that they used them either every day (n=50) or a few times a week (n=74). It must be mentioned that almost all the statements were so general that once more it was difficult to state undoubtedly if, for instance, developing abilities useful in adulthood (n=48) can mean preparing for independent thinking or just conforming.
Finally, the interpretation of the caring role indicates that the teachers are prone to discipline and control. It is understandable as they are legally responsible for the children who are in their care. On the other hand, only 33 statements suggest that caring means diagnosing and meeting needs. They did not find themselves in the role of a manager of student behavior.

**Which roles do you undertake in your work?** The teachers enumerated all the roles from the list given in the previous questions. It revealed that ¾ of the teachers saw themselves mainly in the role of a teacher and educator. Taking care of children was the third most often chosen role (n=65.3%). Almost half of the participating teachers paid attention to administrative functions and employee obligations such as reporting to the headmaster, meeting his/her expectations. Many teachers declared that they often animated school and local community and undertook controlling functions. Apart from the listed roles the teachers emphasized that they “do much more”, e.g. control and keep order, inform children and parents, consult – give them advice even after work. Some thought they were moderators of class discussions as well as mediators and judges in conflict among pupils or pupils and teachers. Only 10 respondents declared that they undertook all the given responsibilities and many additional functions ensuing from the core roles.

The ensuing question is **why the respondents do not undertake some roles.** Almost half of the respondents (n=60) declared that they were neither creators or researchers nor intellectuals in their schools. 20 teachers asserted that they had not enough competences and experience to conduct research and implement innovations at work. The other 30 maintained that in their work such roles were not needed, 10 – they had too many other responsibilities that they had no time to perform the discussed roles. Referring to being an intellectual, the teachers gave similar reasons: 19 – did not feel competent, 18 – stated that they were gaining experience and were not ready yet, 17 – did not have to be an intellectual, 13 – did not understand this role, which is shown in the following quotation: “maybe it has something to do with philosophy, or being very wise”. The role of a guide is strongly advocated by modern pedeutology as one of the crucial obligations because it facilitates student learning and provides academic, social, and emotional support. But the respondents indicated that they did not have competences or authority to be a guide for their pupils (n=24) and they were expected to be teachers not guides (n=9). A comparable number of teachers did not work as therapists because they had competent school pedagogues or psychologists. The explanation concerning the remaining roles also concerns lack of competences or role uselessness. Adding up all the indications, 81 teachers found some roles difficult because they did not feel competent enough, 36 – because they were not prepared. Moreover, 50 teachers
indicated that some of the roles were useless, 21 – did not understand the roles and 20 – thought they had so many obligations connected with teaching, educating and disciplining students that they had no time to perform other, “additional” roles. Among all the surveyed teachers, 12 declared that they had got broad competences and if necessary they could fulfil all the roles and meet various expectations.

**Summary and discussion**

Teachers’ new roles are anchored in science and civilisation changes and are promoted to boost the effectiveness of education. Teachers in the knowledge society must be promoters of children’s personal growth, ambassadors to multicultural communities and promulgators of democracy. The development of teacher identity, the negotiation and establishment of roles in a given setting, and the change in perception of self and others are inextricably intertwined.

The surveyed teachers rather neglect new roles. On the one hand, all the listed roles are, in the respondents’ opinion, connected with the profession. Teaching (100%), educating (100%), caring (80.6%) and leading (50%) are most often designated. No other role was indicated as important by even a quarter of the respondents. Almost ¾ of the teachers perceived teaching as the most important role whereas none of them perceived the role of an intellectual in the same way. Furthermore, creativity was not regarded as important. The assumption appears that they pay more attention to the organizational, administrative part of their work than to the core: intellectual, creative and communicative dimensions. Taking into account the roles the teachers declared to fulfil, it can be discerned that they undertake roles personally perceived as important. On the other hand, the surveyed teachers provided more varying perspectives about the role and expected actions of the teacher based on job experience. The more experienced teachers more often indicated such roles as a therapist, creator, leader, advisor, animator, and intellectual.

The cumulative examination of data indicated that the understanding of a role in the work context is very general and superficial. Whereas the teachers were able to identify the actions defining the three main roles, the interpretations were mainly “old-fashioned”. Adopting a simplified assumption that what you think about your duties conditions what you do, the surveyed teachers are likely to work in an “oldfashioned” way.

The results are to some extent astonishing: pedagogical researchers’ and school law-makers’ expectations towards teachers are higher than teachers’. Is it ignorance, practical thinking of teaching or maybe burn-out? The gathered data, for the time
being, do not allow resolving the problem but these questions must be taken into consideration in further studies. The rather superficial and simplified interpretation of the roles, low awareness of them may be attributed either to teachers’ poor professional preparation or expectations towards teachers are exaggerated. Firstly, educational practice verifies the theoretical assumption about being a teacher and it is possible that multiplication of roles, splitting fundamental roles into functions do not act in favour of teacher professionalism. Perhaps roles “invented” by theorists do not correspond to the demands of school reality: teachers are obliged to concentrate on curricula, assess pupils’ achievements, fill in documents, school registers, do administrative work, discipline pupils, etc. Secondly, multiplicity of the roles requires advanced, high-standard competences and teachers are not prepared to meet the standards: during studies, even postgraduate, they rarely explore the ontology of the teaching profession in theory and practice. Simplifying in order to be an intellectual, creator or researcher teachers must be aware of and convinced that teaching, educating and caring must be consistent with teachers’ action ontology. In such a context, the implication of the presented research is quite pessimistic.

The research was planned as pilot research for wider range investigation concerning role beliefs and professional identification. The importance of these categories is likely to grow if we take into consideration that they impact on the effectiveness of school education. A good education can be only provided by competent teachers, reflective and creative. Consecutively, a problem with teacher professional education emerges. It is, therefore, crucial to provide high standard selection to the profession, studying based on researching, problem solving, verifying theory in practice and vice verse. Besides, engaging students (teacher-to-be) in experience early in the teacher education program, which makes them assume and discuss teachers’ roles, could contribute to their role awareness and high-standard professionalism.

**Bibliography**


Disputable Issues in Teacher Education

Abstract

The text constitutes an attempt to show a synthesis of still unsolved but essential issues concerning devising/reforming teacher education. The first part is devoted to the arguments of long tradition, the second one to the disputable issues induced by contemporary reality.

Key words: teacher education.

Introduction

Teacher education is a question which might be qualified as important and difficult to solve due to its complexity, the sources of which derive from first and foremost the violent social changes and galloping scientific and technical development, thus being a basis for the atmosphere of confusion and disorganization, exploration and a sense of temporariness. Secondly, the educational system is under a powerful influence and pressure of the general public accompanied by the criticism of the previous educational patterns as well as the rising expectations and claims. Thirdly, there is a need for efficient protection from the unilateral signs of scientism and support of the “renaissance” attitude, the existence of which is realized to a different extent¹. Lastly, in this age of information explosion, education cannot be a single and finite act².


The presented issue entails an open question whether it is possible and necessary to work out an optimum model or pattern of teacher education which would be free from positivist and ideological “bonds”, simultaneously being an answer to the mass and generally accessible education demand. This question makes it clearly visible how many difficult and controversial matters are connected with bringing up the dispute over teacher education.

“Classic” disputes over teacher education

The polemics on teacher education has a very long history. The question how to educate teachers is still valid and has not been answered even in an at least satisfactory way. Still, the most crucial problems which constitute the core of the disputes are, just to mention a few, as follows:

- the level of teachers education
- the dominant type of the cognitive process in teacher education
- the mono – or multi-specialized education (unilateral or multilateral)
- the unified or differential education

The level of teacher education

The dispute does not concern the so-called formal teacher education, i.e. the level of secondary school or bachelor and master studies and university courses. In this area consensus has been reached. It is assumed that the teacher should be a university graduate. Yet, there are various opinions on the quality of such an education.

The basis for the dispute over the quality of a certain phenomenon is an agreed on and accepted point of departure. In humanities this basis is formed by criteria whereas the quality and contents of the criteria in the realm of teacher education are dependent on the accepted concept of teacher education. Thus, in the tradition of pedeutology, which concentrates on the person of the teacher, the quality of their influence is conditioned, on the one hand, by their personal properties, and on the other, by their results of didactic and educational work as well as the quality of their education. Therefore, educating teachers aimed at pedagogical mastery was opted

---

for⁴ and nowadays this particular way of educating teachers is promoted by numerous supporters. However, this idea is contrasted with the competitive notions, i.e. "dialogical" and "interpersonal", where the "master pedagogue" is replaced by an "interpreter teacher", "creator" and "animator," which is a point of departure for the assessment of teachers’ actions⁵. Actually, the dispute referring to the quality of education might be limited to preferring different teacher skills, competences and abilities as the ones vital for reaching the highest skillfulness and efficiency in the implementation of the attributed tasks and functions. Still, Allen Pearson’s point of view on the “level” of teacher education, which is a bit different one, is worth mentioning here, as according to him “the principal problem is hidden in the relation between the conviction and action”⁶. Thus, the assessment of teachers’ efficiency is dependent on their subjective conviction that it is the right one and, in this particular situation, the best one.

Dispute over the dominant cognitive model in teacher education

The most visible divergence of the standpoints represented by scientists/researchers may be observed while trying to answer the question which cognitive model, theoretical or practical, should be the dominant one. The axis of this dispute is defined by the issue of the cognitive quality of theoretical and practical education of the future teacher. In this respect two clear views are very distinct. The supporters of the standpoint favouring the dominance of the theoretical education over the practical one, or the interpenetration of each other, opt for the humanistic or progressive concept of teacher education (just to mention a few Polish representatives, experts on pedeutology: H. Kwiatkowska, B. Kwiatkowska-Kowal, T. Lewowicki and S. Wołoszyn or the Western European ones: A.W. Combs, P. Adams and R. Rogers).

The main argument of this group is based on the principle that this type of education includes a kind of universalism which would allow the teacher to adjust

---

to any change or transformation of educational or curricular nature. It constitutes a solid basis for forming and developing teachers’ skills. It refers to the best models and examples of humanism, thus creating the foundation of “being” a teacher. Theoretical education equips the teacher not only with knowledge and skills but rather with a certain kind of “readiness” to perform this profession.

H. Broeckman, D. Fish, P. Holmes, A.T. Pearson present an opposite point of view. The kernel of their argumentation are the ideas originating from the tradition of pragmatism or philosophical utilitarianism giving superiority to the practical knowledge over the theoretical knowledge in teacher education. The representatives of this standpoint perceive the process of teacher education in terms of professionalism and above all the efficiency of pedagogical actions. According to them only practice and training show decisively and ultimately if a candidate will make a good teacher or not.

The point of the dispute is not the fact whether any of the cognitive types is better, more proper or required in teacher education but it is about proportions in the contents as well as about the initiation of theoretical or practical education. The divergence concerns the question of “what is more important in that profession: being equipped with theory or practice? Which educational model guarantees ‘being a good teacher’ socially”?

It should be noted at this point that the concept of reflexive practice advocated by D. Schoen is an attempt to overcome this dichotomy in the teacher education area. The essence of this concept is constituted by a hidden principle of “the necessity of progress in educational systems by means of an emancipated teacher who would consciously introduce the changes […] and indirectly participate in the reorganization of the whole educational system”. Thus, the teacher is expected to play two roles simultaneously: a practitioner/expert and an explorer/researcher,

---

and to reflect regularly upon their doings made on the point of them happening and after their coming into existence. Unfortunately, this sublime idea of thinking about the anticipated research and emancipation abilities of the teacher stumbles upon numerous difficulties while implementing it. The assumption that creating legal regulations making the autonomy of teachers’ actions possible as well as making teachers realize that they are entitled to explore and valorize their educational practice are going to imply that the implementation of the action research concept has turned out to be erroneous.

Unilateral or multilateral education?

In the polemics over teacher education the question that constantly arises is: to educate the teacher thoroughly, thus unilaterally (mono-specialization) or generally, multilaterally (multi-specialization)? It seems that nowadays at the time of information explosion and expansion the standpoint promoting multilateral teacher education prevails.

In the circles of Polish specialists on the matter the most favoured viewpoint is the one elaborating on the necessity of humanistic teacher education (H. Kwiatkowska, T. Lewowicki, W. Komar and many others). According to the consolidated and dominant attitude the specificity of the profession is directed towards a human being, and what follows the teacher should posses versatile general knowledge and should be equipped with various means of implementation, and these requirements can be met only by multilateral education and multi-specialization. The concept of multilateral education, assuming the necessity of education adequate to a person as an acting, recognizing and valorizing individual is presumably the closest to the model of ideal education, but at the same time it is the most difficult one in terms of implementation. An opposite view is promoted by the representatives of the West, deeply rooted in pragmatism. P. Holms, A. Pearson and M. Nielsen advocate the necessity of unilateral teacher education which would be highly specialized. According to them: “the times of universalism, the epoch of enlightenment and

---

omniscience are gone. A teacher is required to be in possession of thorough professional knowledge and full professional competence”\(^{17}\). In the times of advanced specialization only this option of unilateral specialization (mono-specialization) seems to be proper and socially justified. Still, the analysis of the rich references of the subject induces the conclusion of the unsolved argument at this point.

**Uniformity or diversity in teacher education**

In the discourse over teacher education there is a constantly returning question which cannot be omitted, namely whether teacher education should be uniformed or a diversified model of education should be improved. At this stage it is necessary to emphasize the fact that uniformity means here scientific agreement concerning the principles, directives, contents, forms and methods of teacher education. The supporters of uniformity in teacher education claim that it brings together and unites eliminating national, regional, cultural and religious barriers and allowing for internationalization of the teaching profession\(^{18}\), (in Poland this standpoint is represented by H. Kwiatkowska, W. Komar, T. Lewowicki and in the West by R. Anderson, S. Morgan and A. Stevens). The opponents of the introduction of the uniformed teacher education model, i.e. R. Grzybowski, T. Gomuła and S. Majewski, indicate that there is a danger of uncritical and non-reflexive adaptation of Western patterns without any insights into cultural and mental contexts, theoretical origin and without taking into account the rich tradition and experience of the indigenous teacher education.\(^{19}\) O. Anweiller and D. Owen share this opinion maintaining that uniformity stands in opposition to the indigenous culture, annihilating it in a sense.\(^{20}\) Also P. Hess and A. Evans are against the introduction of the standardized “norms” in teacher education, i.e. the same for all. They argue that the educational process should be synchronized with the indigenous culture, customs and tradition. According to them only differential education will allow for keeping full autonomy and precious “distinct character” of the educational reality of a given country. O. Harrit is a supporter of differential teacher education, too. He claims that uniformed education is shallow, superficial and encyclopaedic, thus it is not in a position to guarantee efficient preparation of the teacher for professional

---


functioning, but still it might deprive the teacher of “individual features” and in that sense such a way of education is not only improper but simply destructive.\textsuperscript{21}

The essence of the disputes and arguments on the unified and differential models of teacher education are the issues of the culture, pedagogy and sociology of knowledge. Resolving this debate is difficult due to the fact that it is performed only in theory as there is a lack of full applications of the selected models for educational practice.

**New areas of polemics on teacher education**

The above-mentioned disagreements and disputes might be called classic, still contemporary reality brings new ones. In this part I would include the ones concerning incommensurability present in the process of education, the axiological dimension of teacher education and teachers’ competences.

**Disproportion in the process of teacher education**

One of these disproportions is highlighted by K. Holzmann. The basic disproportion in teacher education refers to mutual proportions between historical and contemporary knowledge, with the advantage of the former. He stresses that such a situation is very unfavourable because not only does it deform the process of teacher education but it also encourages caustic and repetitive attitudes in teachers.\textsuperscript{22} “It is true,” says Holzmann, “that every lengthy field of knowledge has its own rich history and short modernity, but in the process of education the historical knowledge cannot overshadow the contemporary knowledge, as then the teacher is neither adequately prepared to fulfil the professional tasks which are presented by today’s reality nor ready to face the challenges of the future”.\textsuperscript{23} A similar standpoint is represented by W. Komar, who propagates favouring the current knowledge, empirically validated through teacher education.\textsuperscript{24}

\textsuperscript{21} O. Harritt (1992). From Teachers – Tradition and Renewal (p. 85 and the following ones). In *Teacher Education*, Ducation.
\textsuperscript{22} K. Holzmann (1994). *Mißverhältnis der Ausbildung* (p. 7). Freiburg,
\textsuperscript{24} W. Komar (2000). *Współczesność i nauczycieli – perspektywy edukacji bez dogmatów*,
only this constitutes a basis for forming independent and critical judgments about the world and a basis for bringing up emancipated students.

The analysis of the disproportion in the structure of teacher education would not be complete without noting the structural incommensurability visible in the lack of balance between educating and bringing up. Those two pillars of education determine the quality, form and durability. The contemporary educational practice is characterized by a clear imbalance with reference to the favoured specialized knowledge and the marginal treatment of general, humanistic knowledge. This may lead not only to erroneous interpretation of reality but also to dehumanization of teacher education entailing only negative outcomes for the potential recipient of these actions. That is the reason why the questions of the contents, the teacher preparation curriculum, the methods applied, the percentage of theory and practice, the proportion between the pedagogical and psychological component and the specialized one in the curriculum are widely discussed as far as teacher education is concerned.

Debate on the philosophical option in teacher education

Contemporary pedagogues in search of new educational solutions generally try to situate their “ideas” in wider philosophical contexts. In the past they referred to Marxism (in Poland in the post-war period), and after the transformation of 1989 to phenomenology, neo-Thomism, existentialism or hermeneutics. Basing on these philosophical systems they made attempts to define (by means of eidetic phenomenological reduction) the so-called constitutive features of the teacher “the implication of which is the concentration of the educational process practice around the question of self-cognition, self-awareness of the teacher; exposing the moral aspect of teacher education (personalism according to P. Foucault) or making efforts to reconcile the opposites of the objective-subjective through the hermeneutical method where the teacher should be educated in a versatile way, but still within the frames of their specialization.

Many suggested changes in teacher education were put forward in compliance with existential philosophy. First and foremost the emphasis was put on the

\[Który\ę\ d\ ą\ w\ y\ ć\ x\ sz\ t\ a\ ć\ ę\ ś\ a\ łt\ y\ ch\ o\ razy\ n\ i\ e\ z\ a\ łą\ ę\ n\ i\ m\ y\ ści\ ą\ c\ y\ c\ h\ n\ a\ u\ c\ z\ c\ y\ ć\ i\ :\ b\ l\ o\ k\ a\ d\ y\ i\ s\ z\ a\ n\ s\ e?\ ,\ W\ a\ r\ s\ z\ a\ w\ a:\ W\ y\ d\ a\ w\ n\ i\ c\ t\ w\ o\ A\ k\ a\ d\ e\ m\ icki\ w\ “Ża\ k” .\ ]

dihedral relation of the subject to the rest of the world as a person functions in two beings; the recognizing I and the existing I which are autonomous, but in the process of education man endeavors to unite them. Thus, according to K. Jaspers, education is not a mere act of acquisition of the knowledge of the world, but an act or art of improving human existence.\(^{27}\) The debate is the most aptly illustrated by the words of A. Folkierska: “the subject of my considerations is the question of arguments justifying the sensibleness of today’s philosophical teacher education as well as the ones denying this sensibleness […] I hope to answer the question if the contemporary teacher […] needs philosophy at all”.\(^{28}\) However, pedagogues are in accord as to the necessity of philosophical teacher education, they are not unanimous in terms of the choice of the “kind” of the proper philosophy.

**Debate on the axiological aspect in teacher education**

The increase in the interest in Socratic philosophy is the growing sense of helplessness towards the accumulating menaces of the contemporary civilization, which according to J. Lipiec breeds the need to reread the values in life, and particularly in education.\(^{29}\) Basically in teacher education the phenomenological system of values, set out by M. Scheler, R. Ingarden and M. Gołaszewska, is preferred, which highlights mainly the constitutive values deciding about the human being.\(^{30}\) Still, due to the attempts at application of various systems in reference with the practice of teacher education many new arguments arise. Their source is a different understanding of the world of values and different criteria of putting them in a hierarchy. The argument is about the range of axiosphere (R. Ingarden, A. Stróżewski, J. Lipiec). Accepting various axiological perspectives allows for creating instrumental ethics, e.g. Christian ethics, medical ethics, etc. There arises a question whether combining ethics with different attributes is appropriate or ethics should remain impartial, which entails another issue, still open, if the teacher should be educated ethically and universally or ethically and in a teacher-oriented way.


\(^{29}\) J. Lipiec, *W przestrzeni wartości* (p. 6), Kraków 1995.

Axis of the dispute vs. teachers’ competences

The essentials of the dispute over teachers’ competences is well illustrated by the comment made by R. Kwaśnica: “[…] the complexity of the teaching profession and the multitude of teaching specializations (as there are kindergarten teachers, early school education teachers, subject teachers and vocation teachers differentiated due to the type of school and the level of education) make it impossible to describe profoundly and in an exhaustive way the outline of the competences of this profession”. A similar standpoint is represented by H. Kwiatkowska, who situates the dispute over the competences in the area of two different directions in education: technological and humanistic. The first one limits the process of teacher education to training technical and methodological skills, whereas the other emphasizes the personal aspect of teachers’ qualifications. In both of them one can isolate numerous minor streams. If the two educational systems organized according to the mentioned directions were analyzed, it would become clear that the main dispute is set upon the opposition of technical and humanistic issues. In the countries where teacher education is directed pragmatically (the USA, Denmark, Sweden and Germany), the need for changing the way of thinking in forming teachers’ professional preparation is stressed more and more frequently (A Report of the Holms Group). It emphasizes the need for academic issues and the importance of the teacher’s broad intellectual horizons. While in other countries, e.g. in Poland where teachers’ educational practice is based on academic traditions, the aspirations for its pragmatism are more and more overt. Despite the distinct tendencies one can observe the constancy of the arguments for two reasons: firstly, the cognitive output does not disturb extensively the imprinted and deeply rooted models of teacher education; secondly, the complete characteristics of teachers’ professional actions/functions have not been worked out yet and thus the process of teacher education is programmed in such a way that these aspects are omitted.

The dispute refers then to what teachers’ competences are, which should be recognized as a priority. Therefore “the supporters of the critical and hermeneutical direction in pedagogy prefer stimulating parallel development (in a mutual relation) of the competences going beyond technology, i.e. communicative, interpretive, moral and auto-creative, as they adequately “adhere to” the specificity of the

32 Quoted in: H. Kwiatkowska, Pedeutologia… p. 137.
teaching profession [...]. On the other hand, the supporters of the technical and instrumental direction [...] are bound to overestimate the technical competences [...] because they ensure the implementation of the assumed goals, thus, the efficiency of teaching. However, this direction postulates innovative actions, mainly in terms of methods and means of teaching aimed at the improvement of the development of the didactic and educational process”.

Conclusions

The outlined map of the controversial issues of teacher education, which is by necessity shortened and incomplete, suggests questions concerning the possibilities of solving the disagreement. Assisted by the knowledge of the science methodology, which finds the problem inconclusive when it lacks positive and sensible solutions or when it is not sufficiently defined, it has to be assumed that the presented polemics are impossible to settle and so they remain inconclusive and all the actions aimed at settling them will be limited to arbitrary adjustments. In my opinion, one clear answer cannot be given to the following questions on:

- the single or the most appropriate philosophical foundation of teacher education;
- the cultural properties which are constitutive for creating the concept of teacher education
- the only one or the most appropriate axiological system in teacher education.

It also seems to be worth bearing in mind that the truth makes sense in terms of being “current” not of the “universalism” nature. Thus, there is no absolute knowledge which is settled “once and forever”. Such a state enforces a kind of temporariness in education, especially in teacher education. The only certain thing is that each answer referring to the issue of the shape of teacher education will generate consecutive, controversial and difficult questions.

33 B. Żechowska, quoted in B. Pitula, Postrzeganie nauczyciela … pp. 34–35.


Research on Professional Values of Primary Student Teachers – Results of Mixed Model Research

Abstract

This report summarizes the results of mixed model research on the professional values of primary student teachers. The aim of this project was to: 1. Analyse the work values of primary student teachers in terms of intrinsic and extrinsic values, 2. Learn the student opinions about the most important features of the teaching profession. A standardized questionnaire, Work Values Inventory (Super, 1970), was used in the quantitative part of the research. The results showed that the most important work values stated by the students were: achievement, altruism and way of life. The qualitative analysis data were gathered with the use of the CREDO MEM method. This method was supplemented with in-depth interviews. The aspects from which the importance of the teaching profession stems are: meaning, love and attitude towards children, moral values, education and teaching, professional competence. This research provides data concerning the values, motives and needs of student teachers.

Key words: professional values, work values, primary student teachers, extrinsic values, intrinsic values.

1. Introduction

Professional values as preferences, attitudes, thoughts, and opinions influencing behaviour, acting, and professional choices are considered integral elements of the teacher’s professionalization.

Professional values comprise a special complex of human values. In terms of the
teaching profession characteristics, the professional values are considered as an inseparable feature of the teacher’s professionalization and competent professional practice. Those are exactly the values forming the fundamental part of the teacher’s competent professional practice (Arthur, Davison, Lewis, 2005). For a teacher, the professional values represent a cornerstone for building his/her professional identity as they have an impact on his/her decision making, effectiveness, and quality of his/her professional activities. And thus, the professional values analysis is regarded as a necessary and integral part of vocational preparation of future teachers.

2. Theoretical basis

There is no clearly accepted definition of a value. Values are a subject of pursuit, they are what holds for. It is a measure in our choices, something that gives meaning to the world and to human beings. Values express the relation of an individual to other people and to the world. Also, moral requirements with their imperative nature, commands, norms, are the basis of values. A value is realized in personal identity; thus it is not real without a person's existence. A person realizes values by implementing them, by serving them. “Values in a strong meaning do not originate and act essentially in merely ordinary operation, in arranging our matters, but only in the reflection to the life process and in a distance from it.” (Pešková, J., Schücková, L., 1991, p. 36).

Values represent valid meanings recognized by humans, which determine or co-determine an individual's directivity in his/her activity orientation, determine or co-determine a person's activity and his/her relation to the world. Values, mostly objects, thoughts (ideas), deeds, intentions or only our imaginations, are called that gain from the point of view of some human (or group, society, nation) interest or need a required, expected or wanted meaning. Usually, in delineating the concept of a value, three features are mentioned:

- values related to human need and interests - they are a subject of pursuit for humans, they are what holds for;
- values related to making decision on how to act - they are a measure in our choices, something that gives a sense to the world and human beings. Values express the relation of an individual to people and the world.
- values related to norms - also moral requirements with their imperative nature, commands, standards have their basis in values (Göbelová, T., 2006). Values are a significant part of a person's personal and social identity; they
represent “mental entities that are a motive or cause of human social, (economic, environmental, etc.) behavior and conduct” (Fajkus, 2005, p. 301).

For this study, we drew on the concept of work and professional values stemming from general values, i.e., personal values of an individual. In spite of various working value typologies, the image of “an attitude towards work or orientation in relation to work” represents the central factor of each interpretation. For an individual, the working values stand for the specific goals which are largely important and which they try to achieve in their working environment.

In terms of work value typology, we distinguish between intrinsic and extrinsic values (Nord et al., 1990). The intrinsic working values reflect results reached by work or work activities and deduced from the job content. These values concern a specific interest, or represent a gauge for measuring the work contribution to society. The extrinsic values present outer characteristics – they relate to favorable conditions as part of a job, including, e.g., the wage possibilities, etc. Ginzberg, et al. (1951) has suggested a third dimension (Figure 1). This third dimension is named social/environmental values referring to relations with co-workers and the work environment itself (In Uçanok, 2008).

By professional values we mean the complex sets of beliefs considered positive and appropriate for teachers to hold, and the actions by which those beliefs may be communicated to pupils (Arthur, Davison, Lewis, 2005, p. 5). At the same time, professional values have a function of certain gauges by which people explain to themselves their working experience and which define the meaning they ascribe to their job, occupation, organizations, particular events and conditions (In Uçanok, 2008). Professional values are closely related to attitudes and motives and represent desirable results delimiting work preferences of each individual.
3. Research design

3.1. Research problem
Analyze the area of professional values in primary student teachers. The component goals of research are divided into two categories:
1. To analyse work values in terms of the intrinsic and extrinsic values category.
   - To propose and test a questionnaire method for work values analysis in terms of intrinsic and extrinsic values.
2. To find out the teachers’ opinions about the most important aspects of their job.
   - To project a quantitative method of open statements supplemented with a method of in-depth interviews with the primary student teachers.

3.2. Research model
In consideration of the professional values specific features, a mixed model of research was realized with the use of a sequential quantitative and qualitative phase.

Table 1. Factor analysis for two factors

![Component Plot in Rotated Spaces](image-url)
3.3. Research methods:

For the quantitative method, the Work Values Inventory, WVI, questionnaire (Super, 1970 and its modifications) was used. For the second research sequence, i.e., the qualitative phase, the CREDO MEM method supplemented with in-depth interviews was used.

For the purpose of the questionnaire data analysis and the analysis of validity and reliability we used the following tests: within the project, the Super Work Values questionnaire reliability (inner consistence and reliability) was tested by Cronbach’s α test for reliability. Two factors were then extracted using the factor analysis. (Table 1).

The two factors are separated by a referential line in this diagram. The first constituent may be apprehended as external or extrinsically oriented, the other one then as oriented on the internal, intrinsic field of work values. In the two factors model, both factors (extrinsic and intrinsic) were also exposed to a statistical test of reliability. In the intrinsic factor reliability – Cronbach’s α = 0.732 – none of the items degraded reliability. (Cronbach’s α is always below the full value of 0.732). Extrinsic factor reliability – Cronbach’s α = 0.832.

3.4. Control sample

114 students of Teaching for Primary Schools of the University of Ostrava took part in the quantitative part of the research. The sample comprised students of the 1st, 2nd, and 4th year of full-time and combined studies (75 students attending the full-time and 39 the combined studies).

Another 84 students of the 1st, 2nd, and 4th year attending the combined and full-time Teaching for Primary Schools studies took part in the qualitative part of the research using the CREDO MEM method. The in-depth interviews method was carried out with the help of three students attending the full-time studies and another three attending the combined studies.

4. Results analysis

4.1. Quantitative survey results

For the quantitative method we used the standard Work Values Inventory questionnaire (Super, 1970) containing 15 types of work values (subsumed into 45 items).

1. Creativity: work which enables one to invent new things, design new products, or develop new ideas.
2. Management: work which enables one to plan and lay out work for others.
3. Achievement: work which gives one the feeling of accomplishment in doing a job well.
4. Surroundings: work which is carried out under pleasant conditions: not too hot or too cold, noisy, dirty, etc.
5. Supervisory relationships: work which is carried out under a supervisor who is fair and with whom one can get along.
6. Way of life: work that enables one to live the kind of life he/she chooses and to be the type of person he/she wishes to be.
7. Security: work which provides one with the certainty of having a job even in hard times.
8. Associates: work which brings one into contact with fellow workers whom you like.
9. Aesthetic: work which enables one to make beautiful things and to contribute beauty to the world.
10. Prestige: work which gives one standing in the public eye and evokes respect.
11. Independence: work which enables one to work in his/her own way, as fast or slow as he/she wishes.
12. Variety: work which provides an opportunity to do different types of tasks.
13. Economic return: work which pays well and enables one to have the things he/she wants.
14. Altruism: work which enables one to contribute to the welfare of others.
15. Intellectual stimulation: work which provides an opportunity for independent thinking and for learning how and why things work.

The respondents decided, in each item, on the importance level of individual work values. We used a five-grade assessment scale.

Table 2 represents the data as a final score for each of the work values.

On the basis of a two-factor analysis, dividing the work values into intrinsic and extrinsic ones, the extrinsic value achievement (work which gives one the feeling of accomplishment in doing a job well), intrinsic value of altruism (work which enables one to contribute to the welfare of others), and yet another extrinsic value of the way of life (work that enables one to live the kind of life he/she chooses and to be the type of person he/she wishes to be).

Let us focus on the work value of intellectual stimulation (a job which gives people a space for free thinking and learning how and why things work) from the pedagogical work specific point of view. Regarding the educational reform now in progress and its stress on proactive teaching and critical thinking development,
Research on Professional Values...

this value ought to be largely represented. Nevertheless, the stimulation of intellect is considered as highly important only by 25 respondents.

Another work value which could be put down as one of the crucial ones for the pedagogical work is creativity (work which enables one to invent new things, design new products, or develop new ideas). 48 respondents consider it as a highly important value.

Aesthetics (work which enables one to make beautiful things and to contribute beauty to the word) is, as a work value, perceived as barely important by 9 students, only 12 students consider this value as very important.

Interesting are the results concerning the importance of the work value of management (work which enables one to plan and lay out work for others). As for importance, this one was ranked by the respondents in the last position, which is surprising taking into account the teaching profession characteristics – to lead, organize, and facilitate pupils’ learning activities is its inseparable part.

As the diagrams indicates, there are no significant differences in the work values between the students of pedagogy and non-qualified teachers in the pedagogy practice.

**4.2. Qualitative survey results**

The students were given a written task, using the qualitative method CREDO MEM (Kouzes, Poster, 1998, in Křivohlavý, 2006, p. 65), to answer the question

<table>
<thead>
<tr>
<th>Table 2. Importance of work values</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Importance of Work Values</td>
</tr>
<tr>
<td>Work Values</td>
</tr>
<tr>
<td>Supervise relationships</td>
</tr>
<tr>
<td>Associates</td>
</tr>
<tr>
<td>Creativity</td>
</tr>
<tr>
<td>Independence</td>
</tr>
<tr>
<td>Security</td>
</tr>
<tr>
<td>Prestige</td>
</tr>
<tr>
<td>Variety</td>
</tr>
<tr>
<td>Economic return</td>
</tr>
<tr>
<td>Aesthetic</td>
</tr>
<tr>
<td>Management</td>
</tr>
<tr>
<td>Achievement</td>
</tr>
<tr>
<td>Altruism</td>
</tr>
<tr>
<td>Way of live</td>
</tr>
<tr>
<td>Intellectual stimulation</td>
</tr>
<tr>
<td>Prestige</td>
</tr>
<tr>
<td>Variety</td>
</tr>
<tr>
<td>Economic return</td>
</tr>
<tr>
<td>Aesthetic</td>
</tr>
<tr>
<td>Management</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Very important</th>
<th>Important</th>
<th>Moderately important</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The students were given a written task, using the qualitative method CREDO MEM (Kouzes, Poster, 1998, in Křivohlavý, 2006, p. 65), to answer the question
“What do you think is the most important aspect of the teaching profession?” In this phase of the research, 84 respondents gave an answer to this open question. This helped to gather richer and more detailed information about what the students consider as the most important aspect of the teaching profession. The CREDO MEM method was supplemented with an in-depth interview.

The conception of value subsumes also other conceptions concerning people’s dynamic and social features; those are, e.g., aims, preferences, motives, and ideals. This also appeared among the written answers and interviews with the students.

On the grounds of open coding, these features were defined as essential in the teaching profession:

- **meaning** ("to see meaning in their job; it is most important for teachers to realize why they are doing it; the will and belief to help and teach is crucial; to perceive their job as a mission")
- **love and attitude towards children** ("teachers ought to be positive, considerate, kind; to have a good attitude to children, tolerance; empathy; ability to listen; ability to empathize; to have a stance based upon understanding and trust; to be ready to share problems with others")
- **moral values** ("fairness; self-sacrifice; responsibility")
- **creativity** ("to use creativity and imagination in teaching; to be able to improvise; to be open-minded; to try new approaches and progress in teaching")
- **education, teaching** ("to teach; to disseminate knowledge; to cultivate personality; to teach basic skills for life")
- **professional competence** ("to be a good pedagogue; to be able to deal with behavioural topics; to teach in such a way that children are able to grasp and comprehend the matter; to have sufficient knowledge and skills for this profession").

The largest part of the answers, from both the pedagogy students without experience and the experienced pedagogy students (non-qualified teachers), comprised the **meaning** and **love and attitude towards children**. The qualitative survey showed that, in terms of the work values, the respondents consider the intrinsic (self-actualization) values as important.

### 5. Conclusion

The research issue headed towards the fifth dimension of new teaching roles ("Learning Teachers Network") in the sphere of "securing values, creating visions and relevant vocations for the teaching profession" (Rýdl, 2008).
In terms of reaching the component research goals, the questionnaire method for the work values analysis related to the Teaching for Primary Schools students for the categories of intrinsic and extrinsic values – Work Values Inventory (Super, 1970) – was translated and tested. This questionnaire method, supplemented with the CREDO MEM qualitative method and with in-depth interviews, focused on the important aspects of the teaching profession, enables to reflect separate professional values of primary student teachers.

Professional values embody teachers' professional development and cultivation of personal and moral qualities. The value structure recognition in the sphere of professional values may be utilized in the following manners: as a source of information about the form of social and cultural fund in the teaching profession. To give information about teachers’ motives and needs in relation to the educational reform now in progress (extrinsic and intrinsic values analysis). For the education of primary student teachers, the outcomes of this research serve as a basis for self-reflection in building their professional identity. The results may contribute to development of teachers’ professionalism at the structural level (requirements for professional roles), but mainly at the attitude level (vocations for the teaching profession, the student’s self conception).

Acknowledgements
This work was supported by Slovak Research and Development Agency under the contract No. APVV-0026–07 and by The University of Ostrava, under the contract SGS9/PdF/2010, No 45/6104.

Bibliography

Abstract

The aim of the paper is to examine application of the scientific method in the integrated science teaching, and analyze teachers’ attitudes toward their further education in the field of application of both the scientific method and teaching methods of integrated science. The research includes 480 teachers. The method of the research is analytical-descriptive. The teachers did not study the application of the scientific method during their initial education, but in seminars. The level of acquired knowledge is not satisfactory, which results in little application of scientific methods in teaching. The teachers want to continue their education within organized professional development.

**Key words:** teachers, application of the scientific method, children, early age, nature.

In order for children to develop their curiosity, understand simple cause and effect relationships, and comprehend the concepts and models, it is necessary to apply the scientific method in the integrated science teaching. The scientific method does not exclude other forms of learning (Wheatley, 1991). Its application in the integrated science teaching consists of the following phases: defining a research topic (a problem, or topics for project elaboration); finding solution principles, stating a hypothesis; decomposing a research task; formulating sub – hypotheses; the process of solving research problems and tasks (collecting data, sorting data, quantitative analysis, qualitative analysis); drawing conclusions and responses to the sub – hypotheses; important conclusions and a response to the main hypoth-...
esis; general conclusion, application of findings to new situations; evaluation of activities. The scientific method is applied in problem-solutions, in research in order to obtain new information, and in project elaboration. Experiments play an important role in the implementation of the scientific method (Ellen, 2010.). Through the scientific method, children learn how to carry out research and how to interpret it. Like a researcher in the laboratory, children carry out research, freely discuss research topic, and progress, without having an idea what they are going to find. Obviously, this analogy has its limits. Children do not have knowledge or skills of researchers, especially an ability to anticipate, which allows the researcher to have at least an approximate idea of what they search for, or at least the intuition of what they need to find (Alsop, 2001.).

By applying the scientific method, children learn to discuss and explain. They talk, explain, try and at the same time prove, draw, interpret, communicate, and discuss with others from their point of view (Franklin, 2009). In this way, they go through four important moments in the construction of knowledge: to formulate the most appropriate question, to carry out research, to answer questions, and to report on what they see or think (Church, 2003). Children are taught how to communicate their views without quarreling, giving arguments that support one hypothesis and reject other hypotheses (Roth, 2005). They learn to communicate accurately, to discuss the function of things which they hear from somebody else, taking into account criticism in order to achieve the most accurate position. Through the scientific method, children learn that finding the truth includes finding the way which leads to the truth. A genuine didactic and methodical way of the development of the scientific method in children of lower early school age is to point out that all the terms related to nature should be perceived, understood, and built on images, objects, and phenomena from the concrete world.

**The Research Methodology**

*The subject and the problem of the research:* In order to apply the scientific method, teachers should have professional and methodological knowledge. Therefore, it is necessary to determine the prevalence of the scientific method in the teacher’s work, as well as the impact of the teacher’s knowledge on the scientific method of its application.

*Objectives:* Examination of the application of the scientific method in the implementation of the integrated science contents and teachers’ attitudes toward their further education. The task of the research is to analyze:
• the frequency of application of the scientific method in the teacher’s work,
• the age of children with whom teachers start to implement the scientific method, and application of differentiation in the performance of the scientific method,
• application of the scientific method in research, project teaching, and in resolving problem situations,
• teachers’ attitudes toward their further education in science, teaching methods of integrated science and application of the scientific method.

The hypothesis, methods, techniques of the research and the research sample: The basic hypothesis is the following: Teachers apply the scientific method in the implementation of the integrated science contents. They want to deepen the existing knowledge and create new knowledge. The research was carried out by using the analytical descriptive method, the research technique was questioning, and the research instrument was a questionnaire designed on the basis of the set objective and tasks of the research. The questionnaire consisted of 56 items. The items were of either open or closed type, divided into three blocks. They tested the knowledge of teachers for the application of the scientific method; the application of the scientific method in the work of teachers and attitudes. \( \chi^2 \) test was used to determine differences among the respondents’ answers and the uniform distribution, as well as to determine differences in the application of the scientific method depending on the level of knowledge. The sample included 480 teachers from Serbia. The research was implemented in the school year 2010/2011.

Results and Discussion

This research involved teachers who had at least 5 years of teaching experience, since in Serbia teachers can receive a license only after five years of teaching. The average length of service of the surveyed teachers was 15 years. All the surveyed teachers completed the Teacher Faculty, but they did not study the scientific method during their initial education. Most of the surveyed teachers (66.2%) did not have an opportunity to attend training seminars for application of the scientific method more than once. In most teachers (82.3%) there was no clear awareness of self-education as a means of deepening and acquiring new knowledge. All these point to the fact that the majority of the teachers showed an unsatisfactory level of knowledge of the scientific method. In the first part of the questionnaire they answered the questions related to knowledge: in relation to the definition of the scientific concept, phases of its implementation, applica-
tion of the scientific method in problem-solving, research, and project teaching; concerning disadvantages and advantages of the scientific method, and evaluation of children’s work during implementation of the scientific method. Based on the obtained results, the teachers were divided into three categories of knowledge: high, average and low level of knowledge. Only 33.8% of them had a high level of knowledge of the scientific method. These were the teachers who had attended seminars more than once, which confirms a positive effect of the seminars on their knowledge (Table 1). 12.2% of the teachers had an average level of knowledge (they knew what the scientific method is, they knew the phases of its implementation, but they had little knowledge about its application, especially in project and research teaching).

With regard to the application of the integrated science contents, 2.9% of the teachers said that they always applied the scientific method, 30% of them applied it occasionally, 56.5% of them applied it rarely, and 10.6% applied it very rarely. In the set of items dealing with the impact of acquired knowledge on the scientific method and its application in the teachers’ work, the teachers with the average and low level of knowledge answered affirmatively and concluded that they would have applied it more if they had had more knowledge. The teachers of higher knowledge of the scientific method expressed the opinion that they would have applied the scientific method more if they had had better technical conditions at work. Parents should supplement the teacher’s work with their attention, when applying the scientific method in the acquisition of children’s knowledge about nature. Parents can help children when carrying out experiments, control their notebooks in which they write the results obtained by application of the scientific method, assist them when purchasing materials, equipment, etc. The teachers neither involve parents in the implementation of the scientific method, nor inform them about it. Considering the items related to preparations for the implementation of the scientific method, it was concluded that the teachers insufficiently cooperate with their colleagues who teach science, i.e. they do not seek any help from each other.

Children in Serbia have little knowledge of science, which is confirmed by the results of the PISA test. One of the main reasons for the low achievement of children is the absence of functional, applicable knowledge (Trivić, 2006). Therefore, the scientific method should be introduced already in the pre-school period (Gelman, 2004). Most teachers introduce the scientific method only in the second grade (60.4%), considering that children in the first grade are small, and that they are not able to understand all the phases in the implementation of the scientific method. Teachers who have high knowledge of the scientific method have properly understood its importance in children’s acquisition of knowledge about
nature, and therefore they immediately introduce the method in the first grade. In the implementation of the scientific method it is necessary to apply different types of experiments. Teachers are supposed to indicate what types of children's experiments are used in the implementation of the scientific method. 24.8% of the surveyed teachers most often apply the research experiment, 65.6% of them apply the heuristic experiment, 6.9% of them apply the quantitative experiment, and 13 2.7% of them apply the induction experiment. Teachers with a low level of knowledge mostly use induction and heuristic experiments, while teachers with average and high levels of knowledge mostly use quantitative and research experiments.

**Table 1.** Statistically significant differences in the responses of different levels of teachers concerning the application of the scientific method

<table>
<thead>
<tr>
<th>Item</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>You apply the scientific method</td>
<td>96.620</td>
<td>6</td>
<td>0.000</td>
</tr>
<tr>
<td>You apply the scientific method when pupils need to solve a problem</td>
<td>258.821</td>
<td>6</td>
<td>0.000</td>
</tr>
<tr>
<td>You apply the scientific method when you set tasks to children in</td>
<td>253.871</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>which they need to examine nature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In which grade do you start to apply the scientific method?</td>
<td>36.754</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>Do you make differentiation when applying the scientific method?</td>
<td>27.032</td>
<td>6</td>
<td>0.000</td>
</tr>
<tr>
<td>Do you require from children to present results in different ways</td>
<td>28.741</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>when you present results?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you apply project teaching?</td>
<td>34.319</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>Which type of project do you prefer to apply concerning the work</td>
<td>9.047</td>
<td>2</td>
<td>0.011</td>
</tr>
<tr>
<td>methods?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When solving a problem you most often organize…</td>
<td>17.004</td>
<td>4</td>
<td>0.002</td>
</tr>
<tr>
<td>Which type/types of experiments do you most often use within</td>
<td>13.924</td>
<td>3</td>
<td>0.003</td>
</tr>
<tr>
<td>application of the scientific method?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When creating a problem situation you most often use…</td>
<td>73.530</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>When evaluating children's work and knowledge acquired by the</td>
<td>58.023</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>scientific method, you evaluate …</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Differentiated teaching should be achieved through application of the scientific method. The differentiation is most often made in integrated science teaching at three levels of complexity. Such teaching does not result in complete individualization, but in partial individualization. A small number of the teachers (9.8%) perform differentiation, which suggests that the teachers do not take enough care about the individual abilities of children. An important phase of the
scientific method is to record and present results. Application of the scientific method should allow children to learn a particular way of recording. They should gradually learn how to keep the obtained data, how to process and transform data in order to get their interpretation. A research report implies articulation among texts, drawings, simple charts, tables, etc. Notebooks in which children record their findings are an important tool in enhancing the child's knowledge. When children re-read their notebooks they can notice their progress, criticism, and emerge after the exchange of the opinion with friends. They notice the importance of accuracy of obtained results presentation. Every child should have a special notebook in which he/she would record all the results of his/her research for the period of 4 years. It would enable the teacher to discover the child’s learning pace and adapt to it in an appropriate manner. The majority of the teachers (90.6%) do not require from children to have a special notebook to record results, nor do they require from children taking notes to comply with rules and sequence during the recording.

Children should gradually learn different ways of graphical presentation of results (drawings, tables, mind maps and sketches) appropriate to their abilities, not only in the form of a text. In this way they are trained for clear and accurate presentation of results. 90.6% of the teachers use more ways to present results. The teachers with low and average levels of knowledge mostly use drawings, while the teachers with a high level of knowledge use tables. Most teachers require from children to use tables, which is another way to present results. The teachers make insufficient use of mind maps and sketches. The teachers with an average level of knowledge mostly use mind maps as the third way of displaying results, while the teachers with low and high levels of knowledge use sketches. Contemporary teaching implies children's understanding of the evaluation criteria of their work. By evaluating their own work, children classify ideas and decide on further actions. Regarding the evaluation of the application of the scientific method, it is important that teachers together with children evaluate each phase of their work. It is necessary to evaluate not only effects but also the process of obtaining results. Most teachers (82.3%) do not include children in the evaluation of their knowledge when they make evaluation. None of the teachers evaluates all phases in the application of the scientific method. The largest number of the teachers (78.8%) evaluate the following: elaboration of a research plan, research itself, and research results. It shows that the teachers have a traditional approach to evaluation of children's knowledge. They do not have sufficient knowledge of the ways of children evaluation when applying the scientific method in problem-solving, investigating and elaborating simple mini-projects. The teachers do not evaluate children's motivation as an
important component of evaluation because they do not value children's desires, needs or interests.

An important aspect of integrated science teaching is that children solve problems in such a way as to find similarities and differences among things, events, processes, living beings, etc (Chalufour, 2003). Their approach to problems must be concrete. The scientific method plays an important role in problem-solving. 9.8% of the surveyed teachers still apply the scientific method when pupils have to solve problems, 32.3% of them apply it occasionally, 47.1% of them rarely apply it, and 10.8% of them apply it very rarely. For successful setting of problems, it is necessary to create a problem situation well. It can be created either through a verbal or a demonstration method. The demonstration method is better than the verbal one, since the pupil can see and experience a situation that will become a problem situation. The problem situation results in setting a problem question (the task). 48.3% of the teachers most commonly apply the verbal method in creating a problem situation, while 51.7% of them apply the demonstration method. The teachers with low and average levels of knowledge apply the verbal method in creating a problem situation, while the teachers with a high level of knowledge apply the demonstration method. When creating a problem item special attention should be paid to its formulation. Most teachers (85.4%) start with questions which require from children only to memorize facts. It means that the questions start with words like what, who, where, instead of using words such as: how, why, explain, note, monitor, conclude, etc. According to the obtained responses related to the application of the scientific method in research teaching, it can be concluded that the teachers have little or no knowledge of the application of the scientific method in research teaching. Namely, only 14% of the respondents always apply it, 31% of them occasionally apply it, and 55% of them rarely apply it. This leads to the conclusion that the teachers insufficiently stimulate children to independently gather information by practical activities in their direct environment, in order to gain permanent knowledge based on experiential learning. In this way, the teachers neither place children in the centre of integrated science teaching, nor motivate them to learn about nature, blocking their curiosity, which is characteristic of this age group.

Children's simple mini-projects enable children to learn through discovery and gain different skills (Pedretti, 1996). A project is a complex task based on challenging and interesting issues or problems, which makes children set up research, explore the problem, seek solutions over a long period of time and make the final product, which is presented publicly. Presentation of project results is followed by discussion in class (Popov, 2006), where the teacher gets an insight into how
deeply the children mastered the subject. 6.9% of the surveyed teachers occasionally apply project teaching, 85.5% of them rarely apply it, and 34.6% of them apply it very rarely. Projects with different duration should be applied early. 51.6% of the teachers state that they mostly apply projects which last one day, while 48.4% of them apply projects which last for a week. The teachers with a high level of knowledge more usually apply projects which last a day, so do the teachers with a low level of knowledge. None of the teachers applies projects lasting one or two lessons, which points to the fact that the teachers are insufficiently qualified and methodologically trained to implement mini-projects. The teachers with average and high levels of knowledge mostly apply projects in which children need to do appropriate experiments, while the teachers with a low level of knowledge apply projects in which children explore on the basis of a text in a textbook and some other literature. Based on the obtained responses to the questions regarding the application of a particular form of work in realizing children’s mini-projects, it is concluded that the teachers with a low level of knowledge and the teachers with a high level of knowledge mostly apply projects involving all pupils in the class, while the teachers with an average level of knowledge apply projects which make use of group work.

To successfully apply the scientific method in integrated science teaching, teachers should have the necessary knowledge of science, teaching methods of integrated science and application of the scientific method. They should be fully aware of the standards of education in science, as well as of mental and physical capabilities of their children. Most teachers (65.2%) are partially familiar with the standards of education in science, especially in elementary teaching. These results are consistent with the fact that in Serbia there are no clearly defined standards of education in science. Most teachers (85.5%) think that they are not fully qualified for the application of the scientific methods in integrated science teaching. The teachers’ attitudes are consistent with their knowledge of the scientific method. 95% of the teachers think that they should continue expanding their knowledge of science, teaching methods of integrated science, and application of the scientific method, and they would like to continue their education.

**Conclusion**

Teachers do not have sufficient knowledge on the scientific method, and therefore they do not apply it sufficiently. There is little application of the scientific method in problem-solving and research teaching, as well as in application of
children’s simple mini-projects. Teachers are aware of their need for further education in science and the teaching methods of integrated science, and they are ready for further education. The higher interest is displayed by the teachers with a high level of knowledge of the scientific method. Within the improvement strategy of teacher education in Serbia it is necessary to define clear standards for children education in the field of integrated science, as well as to create a model dealing with teacher education concerning the application of the scientific method. The model contents include extension of knowledge in the fields of biology, chemistry and physics; techniques and technology; teaching methods of the application of experiments at an early age; organization of the scientific method; differentiation and individualization of teaching; application of the scientific method in children’s problem-solving, researching into nature and children’s simple mini-projects; recording and presenting children’s results obtained by the application of the scientific method; evaluation of children’s knowledge of the application of the scientific method. Within the model, teachers should be encouraged to satisfy their need and desire for self-education.

**Bibliography**


School Gentrification in the Open Network Society (The Critical Perspective)

Abstract

This text presents one of the aspects of changes in education which are generated by the expanding range of technical possibilities and contents of the environment networks, namely school gentrification. For the purposes of this text, the term “gentrification” means external to the ennobled object (in this case, schools and education) act of giving it the new features, according to being developed under projects from the outside. This is done through the repair and improvement schemes formulated by professionals who perform interests of payers, but not the actual needs of “ennobled” objects. At the beginning of this article there is a brief outline of the properties of the open network society. Subsequently, the process of gentrification is presented as a process of school improvement towards being “ennobled”, the material conditions of this process in the Polish school, the conditions and opportunities of edutainment and stages of gentrification through computerization. Finally, questions are asked about the chances for a change in education through the new types of the media and communication and about the possibility of emancipation of education and through education without going through the processes of “gentrification” (in the meaning presented in this text).

Key words: gentrification, improvement of education, computerization, edutainment.
Introductory remarks

Diagnosis and social projects for the beginning of the second decade of the 21st century are embedded in the analysis and interpretations of past and current events. This also applies to education. Their incompleteness and inaccuracy is a consequence of the dynamics and scope of change, which Zygmunt Bauman calls the “permanent revolution” and “generational breakthrough” (Bauman, 2008). This revolution, called “digital”, generates new hopes as well as new personal and collective challenges, new social movements and cultural patterns, lifestyles and social relationships, transformation of community and individual identity, implementation of values and personal self-realization. As a result of this revolution there arises a new type of society, known as “network society”, and the new order of communication. Both communication and social order in the digital age require new competencies, but also new ways of moulding them.

The specificity of the open network society is, in addition to the possibility of making choices and free use of a wide range of information, a possibility of establishing and maintaining attractive cognitive and emotionally social bonds through communication via digital media. The technical efficiency of these media (a mobile phone, the Internet, digital television, …) enables close interpersonal relationships regardless of the physical conditions of space. Thanks to networks the boundary between obligatory and free activities disappear. “The hours spent in front of the computer, surfing web pages – what are they? work or entertainment? effort or pleasure?,” asks Zygmunt Bauman in his book The Art of Life (2008). The universality and power of that kind of experience makes modern education to a higher degree an education through the media. This is reflected not only in the formal organization of education and training and in the choice of the means of education, but also in the informal use of the media for fostering, shaping and meeting cognitive needs and social contacts.

Engaging the potential of digital media to achieve individual and collective objectives becomes a daily experience in every sphere and dimension of life (personal, political, economic, etc). Network Media and ICT become a special place “to live” for individuals and groups, creating designs and fashions, negotiating meanings and dissemination of systems of values. It is the place where one might come across a sage and a dilettante, honesty and manipulation, experience kindness and aggression, as well as safety threats. As a result, this is the place where one can learn to make choices, manifest one’s own power, focus on the realization of values and accountability (by recognizing or rejecting them). This is a specific medium and agent of social capital. It is a modern “agora,” which is accessible for those who
School Gentrification in the Open Network Society

meet the criteria of “being the network’s citizen”? In contrast to the ancient Agora, voting rights are owned not only by the citizens of polis, an adult, free man, as well as a mentally healthy person, but everyone who has access to technical tools of the network. What really happens on the modern “agora” depends on the “civil competences”, specific behavior of a modern person and one’s technical equipment. It is worth asking where in that area a traditional educational institution – the school – is located?

Unfortunately, modern pedagogy is more involved in looking for methods of school functioning in defined and specified conditions, and in managing educational processes than in making an effort to indicate its functions in the rapidly changing reality. As a result, this kind of activity can be seen as incidental, uncoordinated initiatives which are simple reactions to current events, called “remedial programs”. That means that the projects and programs of operating schools and education are reactive and not active. The educational politicians seem to ignore the signs of the times, such as: the pace and extent of the changes, the dynamic development of new, previously unknown means of training, education and self-development, the mechanisms governing the processes of learning, including the phenomenon of mass communication and learning from others as well as the importance of the joy of learning.

All of this cannot be justified by such characteristics of the modern world as flickering of meanings, fluidity, dynamics of change and other features of the social order. It is not enough to explain it through the theory of the collapse of “great narratives,” which cannot be defended any more. One could rather speak of “the crisis in the great narratives”. Although some have declined, others take place: globalization, consumerism, computerization, … These new big stories bring new promises. Promises of heaven and happiness. They create certain new features and new social formations. They become new and great revealed religions. This means that there are new myths, illusions, ideologies that generate and justify efforts aimed at achieving the new value indicated by these narrations. They evoke the dream of “ennobling” the various dimensions of individual and collective life. All of this does not omit education and schools.

The essence of ennobling

Opinions concerning school, both published in the scientific literature and journalistic texts, indicate the scale of the threats to it and because of it. There were demands of de-schooling in the mid-seventies of the 20th century, the widely argued
waiver of the maintenance of schools. The worldwide success of homeschooling had encouraged education reformers in Poland to its statutory authorization in the Polish practice (press information of 28/08/2008 r.). This does not mean, however, the twilight of a public school. N. Postman writes: “schools are expensive. They are not doing what is expected from them. Their functions can be fulfilled by the technology of the 21st century. Anyone who wants to deliver its opinions on this subject will find attentive listeners. (…). I am convinced that the school will survive until it finds a better way of preparing young people for the world of learning” (Postman, 1996). Thus, it is important to continue improving the school as an educational and social center and as a means of introducing into culture, especially into high culture and the implementation of responsible participation in the world. This may take the form of spontaneous, subjective changes or external improving influences – gentrification.

It should be added that the notion “gentrification” was introduced to the language of social science by the British sociologist Ruth Glass in 1964. It was used to name the process of the influx of rich people to urban areas which were inhabited by the poor. Consequently, it led to a rise in living standards and changes in value systems as well as behavioral patterns. The changes in the 1960s in Islington (London) illustrate this process, where the working-class apartments were occupied by the middle class. Squalid, small outbuildings and terraced houses (two rooms downstairs, two upstairs), were transformed into magnificent, elegant, expensive residences. The process proceeded rapidly and completely changed not only the architectural, but also the social character of this part of the city.

It should be emphasized that gentrification is a process of creating new conditions according to projects developed by the outside environment. This is done through repair and improvement schemes, which are formulated by professionals who realize customers’ requirements, but not for the sake of the needs of the current residents/users. It is understood by the fact that “they” (current inhabitants) are unable to carry out repair, transformation in their communities. The use of the term “gentrification” is not a simple rhetorical procedure. I aim to describe the process of change in education, which, instead of improving, upgrading the existing conditions for the functioning of the existing institutions and structures, results in a situation that forces the current users (teachers, pupils and parents) to change their habits (leaving the places which they felt familiar with). Gentrification is a phenomenon specific to urban areas (this phenomenon occurs only in cities, while in villages open-air museums are created). In fact, gentrification is a process of development of the neglected areas of the environment which, thanks to luxurious and fashionable changes, generates exclusivity, ceases to be associated with
slums and poverty. This is not simple “revitalization” of the environment, but its radical change, closing it for the existing users. This is the change from the enclaves of poverty to the enclaves of millionaires.

Gentrification is the creation of ghettos for the well-off. Therefore, this concept is stigmatized with a negative connotation. Hence, the term usually occurs in such phrases as “a threat of gentrification”, “protests against gentrification”. With respect to gentrification by computerization, that attitude can be seen, inter alia, in the form of the “neo-Luddite” movement, which not only bans the use of digital resources in education, but actively indicates their harmfulness to individual and collective life. I call them “neo-Luddites” because their behavior can be compared to the movement of Luddites – the movement of the early 19th-century English workmen that attempted to prevent the use of labor-saving machinery by destroying it. They are resistant to many reasons, including, inter alia, the views expressed by Benedict XVI in his message on the XLIII World Communications Day:

“In this context, we should be glad that digital networks, which strive to proliferate human solidarity, peace and justice, human rights, respect for life and beauty of creation, come into being. Such networks can facilitate cooperation between nations within different geographical and cultural contexts, allowing them to deepen the sense of human community and shared responsibility for the goodness of all. However, it needs to be taken care of that the digital world, which can create such a network, should be really accessible to all. It would be a serious detriment to the future of the human family, if the new communication tools, allowing for faster and more effective sharing of knowledge and information were not available to people already marginalized socially and economically, and contribute only to deepen the separation of the poor from the new networks of information and human socialization”. (XLIII Message for World Communications Day, 24 January 2009, www.famvin.org, retrieved 03/01/2010).

Improving education through information technology, integrating it in the system of public schools in the network is today mostly the process of gentrification. Initiatives in this area originate from the outside of school, and even from a non-indigenous educational policy. Arguments come from the European legislation. According to the new EU Audiovisual Directive of 2007: “Media literacy should be promoted in all social groups, and the development of these skills should be closely monitored”.

Some of the projects and programs of improving education and of improvement through education are in fact programs of gentrification. This, in turn, launches the intra – and extra-school mechanisms of segregation by which “the education system contributes to the fixation and even deepening of educational inequalities,
including the impairment of children from poverty backgrounds, since various forms of segregation coincide with the social positions and the level of prosperity of the parents of students” (Tarkowska, 2008). It is a fact that “in the Polish school there are many mechanisms and solutions that deepen differences instead of working for equal educational opportunities, divide and exclude rather than integrate” (Tarkowska, 2008). One of them is access to the open network society. Therefore, the school becomes an agent and medium of differentiation. Actually, it is the real place of social fragmentation and stratification of cultural capital. The scale of this phenomenon is illustrated, inter alia, by the data on the technical preparation of schools not only to achieve the above-mentioned EU directive, but above all to fulfill its education tasks in contemporary society.

**Technical conditions of gentrification of Polish school through introduction of information technology**

Introduction to the open network society is a process which requires a lot of effort and means. I shall omit at this point the role of organizers’ motivation in this process, and I will focus only on the technical conditions which are specific to the Polish schools in the process of competence development of citizens in the open network society. The following figures illustrate this.

**Table 1. Schools’ equipment with computers in the school year 2007/2008**

<table>
<thead>
<tr>
<th>Type of school</th>
<th>Average number of computers in the school</th>
<th>Average number of computers with access to the Internet in 07/08</th>
<th>Number of pupils for 1 computer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>School year 2006/2007</td>
<td>School year 2007/2008</td>
<td>total</td>
</tr>
<tr>
<td>Primary school</td>
<td>12.3</td>
<td>14.2</td>
<td>12.0</td>
</tr>
<tr>
<td>Middle school</td>
<td>13.7</td>
<td>15.2</td>
<td>14.5</td>
</tr>
<tr>
<td>General secondary school</td>
<td>21.5</td>
<td>24.5</td>
<td>23.7</td>
</tr>
<tr>
<td>Vocational school</td>
<td>9.7</td>
<td>14.2</td>
<td>13.3</td>
</tr>
</tbody>
</table>
Although the number of computers and level of Internet access is a bit higher in schools in the city, due to the smaller number of pupils in rural schools fewer of them are assigned to one computer. However, one should not be under the illusion that the situation is favourable for students in rural schools. For them, in many cases, contact with the computer in school is the only option for accessing this medium. Another worrying phenomenon is the deprivation of vocational school students (technicians and basic vocational school) of the access to education through computers and network resources. This may lead to the exclusion of young people from participation in the open network society.

The data shown in Table 1 reveals how much has to be done to improve the material conditions of the Polish school so that it could become a place for the extension of access to participation in democratic life. According to a document drawn up in the former Ministry of Science and Information Technology in June 2005, one of the main objectives of computerization is to provide the conditions for responsible participation in democracy: “Important decisions in a democratic state should be consulted in a wide public sphere. (...). Society of e-Democracy requires accurately targeted education. Therefore, it is expected that in school curricula teaching an active citizen in society with the use of available tools and methods of communication will be enclosed“.

Weakness of schools is partially compensated by the activities of pupils in their free time. According to the data from the report “School without Violence 2009,” 96% of school children, slightly more girls (97%) than boys (95%) declared that they used the Internet. A year earlier, Internet users were slightly fewer (93%). Most of them used the Internet at home (88%, in 2008–81%). This applies mainly to children from urban schools.

**Reasons for and opportunities of edutainment in the Polish school**

Cognitive needs are among the natural human needs There is a situation in which everybody likes to learn, but only few like to attend school. One reason for that is undoubtedly the low attractiveness of the school activities. According to the report, “2009 Study of Parents”, the attitudes of students towards school is deteriorating from grade to grade: 40% of primary school pupils and only 20% of secondary school students say that lessons at school are interesting for them! Two-thirds of secondary school students do not like going to school. In the years 2007–2009 the percentage of students who were bored in the classroom increased
significantly. Also in comparison to the previous year, the proportion of pupils for whom lessons were interesting decreased (“Szkoła bez przemocy” /School without violence/, 2009). Among the reasons for such an opinion, a discrepancy between pupils’ cognitive needs and interests, and the traditional seriousness as a characteristic feature of school education can be identified. It is possible that the root of such attitudes towards the school in teachers, parents and pupils is the belief that there is a contradiction between learning and fun, and that these two activities should be separated. As a result, in formal education there is no chance of exploitation of the potential of computer networks, which would contribute to the disappearance of the boundary between the obligatory activities and fun. But learning does not only have to be serious. It is demonstrated by the growth of the ideas and practices of edutainment, i.e. the integration of education and entertainment.

Creating a school where pupils are happy is possible and necessary. To the question: “What changes in training programs should be made?” Paulo Freire answered that it “cannot be boring. Seriousness cannot be exaggerated, on the contrary, the joy and fun in the learning process – learning should be accompanied by daily interactions of teachers and students” (Freire, 1993). And, as Pierre Bourdieu writes, school learning, which may be called “serious entertainment” is a selfless playful action. “It (is) carried in the mode of ’pretending’ without real (economic) interest” (Bourdieu, 2006). It is an opportunity to obtain what is expected immediately. It implies a surplus of something important, both positive and negative, as revealed in natural circumstances. There is no question that an experience in learning from signs being more playful are part of human behavior. This means that they are used in other situations, including serious ones. Through joy and fun in the process of learning a peculiar habit of learning develops. Change in school, thus, refers to the philosophy of learning, namely the transition from duty and constraint to autonomy and satisfaction.

In countries with advanced information technologies computer games on an even larger scale are used as teaching aids. The belief that games are among the most effective educational tools is widespread. Some of them, such as “Dimension M” (the game has been developed by Tabula Digita, which specializes in video games combining fun with learning mathematics), have already proved a spectacular success as a medium of education. In Poland, still these tools are more fun than learning. Children and young people play them in their leisure time, despite bans, often in secret from adults. However, it should be added that adults’ knowledge about education and learning is largely incomplete and often false. Therefore, aversion to games and a lack of them in the process of school education are not surprising.
It should be noted that edutainment, as a combination of education and entertainment, is not only games. It is the whole extensive range of media training and education. This applies particularly to media which are characterized by interactivity. They have a special educational value in favoring the formation of interpersonal and cooperative skills, as well as being a source of competences necessary in the open network society. Actually, ennobling of schools is expressed in integration of the resources of educational recreation. However, in the gaps in the technical sphere, and above all because of the deeply rooted traditional concepts of education and training in the mentality of teachers and students, edutainment in Polish schools is at a very early development stage.

Stages of school gentrification through computerization

Even the most sketchy analysis of projects of changes in Polish school shows such specific features of gentrification as:

a) urbanity, i.e. the process of being focused on the urban environment: the reform programs are constructed in such a manner that they can be implemented mainly in urban schools. The very process of organizing middle schools had signs of gentrification – often their location was accompanied by protests from parents. The process of gentrification at this level of the school system is still ongoing. It consists in the fact that in the school by the definition of the Act of universal education, profiles and admission criteria are introduced. In consequence, schools are the intellectual and social enclaves. It should be noted that this phenomenon is specific to the cities in which, at the lower secondary level, there are opportunities for social stratification and differentiation conditions for the development of intellectual capital. Similar focus on urban schools can be seen in the latest (i.e. 2008) projects of improving education, such as the widespread introduction of pre-school education and English language teaching from the beginning of the school (starting in the first grade). These very important changes are designed to neglect the possibility of their implementation in rural environments. This does not mean that there should be a withdrawal from their implementation, but it requires additional effort and resources.

b) an external management, as well as revitalization projects of metropolitan areas, the big amount of initiatives to improve the school are created beyond its walls. Some of them come from the central administration. Decisions are taken by the Ministry and the concern of schools throughout the country.
Others are the result of decisions of local authorities. Their decrees require what schools are obliged to do, what is the best (for schools). The ennobling of schools by decrees is also of formal commitment to creating spaces and conditions for the implementation of human rights and respect for the personal dignity of teachers, pupils and parents.

c) exclusivity, i.e. the creation of enclaves of education, which are elite schools, leading to arising of a new type of sense of identity of young people and their self-definition – happy, wealthy, elegant, starting the day with the exchange of information with the residents of different parts of the globe. This creates social groups of educational well-being (in the broadest sense – material, emotional, intellectual), forming elite social circles. This factor of social stratification plays a major role in the daily life of students. Young people attending these “gentrified” schools are equipped with the latest technology, which is used both at school and at home.

In 1961, M. McLuhan wrote: “Computer programming requires a degree of human knowledge about the media and ourselves, which has not yet been reached” and in 1973: “Computers are still only sustaining the effects of pre-construction”. Despite the passage of time, access to modern media and communications in educational situations is not widespread among students and teachers. Just like in gentrification in urban areas, the following stages of education can be distinguished:

a) Marginal “ennobling” consisting of improvement of selected aspects and areas of operation of the school according to the existing patterns of operation. This is often carried out by applying segregationist policies – the creation of a closed lab, where computer classes are conducted. Such actions are usually justified by students’ interests. “For their own good” there is diversification of education due to students’ upstream, arbitrarily identified needs and capabilities. The practice in some lower secondary schools – the division of classes into groups based on gender on science lessons – is an example of this situation. At this stage of school gentrification, the basic ICT equipment and tools that are used solely to achieve program tasks during IT lessons are present. Network access is also limited to IT lessons;

b) the early stage of “ennobling” is in fact the internal stratification in the school (e.g., organization of classrooms/laboratories for selected subjects equipped with digital devices: computers, interactive boards, etc., and engaging very well-prepared teachers in lessons organizing extra-school activities in preparation for IT contests). For students and teachers who are not able to meet the demands of the school there are suggestions to go to different schools. It is a kind of “natural” way of remaining in the ennobled environment of
those who can afford it. As a consequence, there are “purified” schools, with students and teachers who are unable to meet their criteria. School facilities provide students and teachers with ICT not only in IT lessons, but also for hobbies and interests, in the school library and reading room. It is permissible to use network resources in carrying out certain homework tasks;

c) proper gentrification, involving acceptance of the use of equipment and computer facilities in school during daily activities. The occurrence of the phenomenon of gentrification evidenced by the fact that the fulfillment of educational tasks at school and at home is performed with using digital tools. However, additional admission criteria for pupils make certain schools available only to those who can afford them (usually because of the potential intellectual or material conditions which guarantee access to ICT tools outside school);

d) advanced gentrification occurs in the form of high expectations towards students and their families, and the quality of ICT tools. Teachers, pupils and parents have an obligation to have a high level of competence in ICT. Parents must participate in school life and the education of their children. Only under this condition their children can be students of a certain school. In the process of teaching and education computers are used not only for “serious” educational programs, but also games and social networking portals. At this stage of gentrification, the school can be seen as a place of reproduction of cultural capital and blurring of inter-generation differences (in terms of age). This school is becoming an exclusive institution. This is a place only for those who can afford it.

The above-mentioned stages of the process of school gentrification in the open network society are only an attempt at showing the mythologization, which steers this process and controls it from the outside, mainly by taking into account the possibility of the material and the human potential of urban schools. Rural schools are very far from that process of “ennobling”.

**Concluding remarks**

Such “ennobling” leads to fixation, and even deepens inequalities, produces a sort of political order, namely a society state. This category, used to describe the feudal society, demonstrates petrification of social structures through gentrification in education. It means that education plays an important role in consolidation (in the literal sense) of belonging to a certain social class (of status). It indicates that there are different opportunities to participate in the open network society for people
of different backgrounds. Adopting the above concept, in which the membership of a generation is not determined by age, but the experience and sort of activities that reveal the role of integration of formal and informal education in the development of citizens’ competences network of the open society. Modern “symbols of nobility,” – i.e. diplomas of schools and universities attesting to the membership of the educated strata, unfortunately, do not fully certify the preparation for this role. Remaining in the style of the narration of “feudal order”, we can say that in many cases people have to wait for their real ennobling – the next generation might achieve full status designated by a diploma. However, this requires a radical change in the concept of education using ICT tools.

The implementation of such ideas as human rights, civil society, the open society of knowledge and information are still at the level of projects and demands. This does not mean that school managers do not see the consequences of what is happening in these domains of life. One can even dare to say that the modern school “irretrievably lost its left-handedness” (I use the title of the book by Jerzy Pilch: Bezprowotnie utracona leworęczność). New forms of communication with parents (e-mail, text message), electronic diaries, e-books, etc., on the one hand, and the widespread usage of English on the other, accompanied by a competitive and strong attitude towards measurable effects, are only some phenomena from which there is no return. It will not be helpful to hold on to the belief that proven means and media are still good enough to achieve one’s objectives.

Bibliography

Freire P., (1993), Education: The Practice of Freedom (pp. 32–33). London: Writers and Readers Publ,
Szkoła bez przemocy, (2009), Warszawa, p. 81
Abstract

Computer games are now a common way of using leisure time, and therefore worth examining how much time young people devote to them. From the educational point of view it is important what kind of games young people play and what are the functions of computer games they play in their lives. Content analysis of games available on the market shows that most of them (about 80–85%) involve acts of extreme violence and cruelty. The increasing use of computer games has an impact on the psyche of the child. In computer games, in addition to the above-mentioned, there is other violence threatening the orderly development of children. It is, among others, the presence in many games of images and animations of the erotic and pornographic. Therefore, an essential question is what kind of games prevails among users of computer games. The article shows what kind of games adolescents play and what the differences are in the preferences of games by girls and boys.

Introduction

Globalization, mobility, breaking up with tradition, individualization as well as social and technological changes are the features of developed society. They are being rapidly included in the life of modern family. Nowadays family life is different from what it used to be some years ago, family ties are becoming increasingly weaker, and the media have already become part of every home for good. Children born after 1980 are called digital natives because they have been growing
up within the news society and the media have a strong influence on their socialization. J. Holtkamp (2010, p. 33) writes about the present generation as ‘the thumb children,’ who are able to send out text messages within seconds, listen to songs in the MP3 format with one ear and the mobile caller with the other. The (media) society is not adjusted to such youth because it is the first generation socialized by the media. It is connected with the fact the Internet has developed and become popular within society faster than other media ever. Today not only American kids and youth are growing up surrounded by the media at home and school, but the possibility of carrying electronic equipment thanks to its miniaturization enables its users to enjoy digital media almost everywhere. Laptops, mobile phones, portable internet devices usually become basic electronic equipment for today’s youth. Together with the increase in the access to the media by young people the content of the messages addressed to them also changed (Roberts & Foehr, 2010). Nowadays a significant part of the media is devoted to creating and distributing the contents that are clearly addressed to children and youth.

What do young people do on the Internet? Numerous studies show that the first thing they do is search for information, mostly about the topics which absorb them individually as well as the news needed for school. One-third of children and young people can send and receive e-mails and use the Internet to communicate with others. About 40% of all children individually play games on-line, almost 25% of them play games with other children (J. Holtkamp 2010, p.310). Computer games seem to be a competition for ‘old’ forms of spending leisure time and slowly start to replace them, which often results in a decrease in traditional reading popularity. Computer and video games unquestionably become one of the dominant forms of electronic entertainment for both adults and children all over the world. For many children a game becomes an indispensable playmate of mental processes in their adolescence and also in their ethical and aesthetic initiation of forming ways of participation in communities. The world of virtual reality more and more accurately imitates ‘out-of-the-window reality’. It is, undoubtedly, an upside but at the same time a great danger – the line between those two worlds has been slowly wearing away, for players virtual realities are more attractive. Games give an impression of safety and comfort, apparent fulfillment of one’s needs. In contrast to the real world, a failure in a computer game does not bring dangerous consequences, in the worst case the player can only be back at the previous level or just start the game from the beginning.

However, games – especially the computer ones – usually have a bad reputation. They are blamed for corrupting young minds by propagating violence, creating a distorted picture of the world or by giving negative patterns of behavior, etc.
Subtler charges concern weakening the contacts with reality, restricting imagination, lowering the ability of discursive thinking and transforming intelligent people into automatons mindlessly reacting to simple stimuli. However, more and more studies disprove those opinions, because they give a lot of proofs of a positive influence of games. Some games, so-called educational ones, are used constantly within school teaching programs. Before I start to analyze the findings that concern playing computer games I would like to present some opinions concerning the effects of using computer games. Although games happen in reality which does not create a real danger they carry with them an authentic feeling of success or failure. They are also a great tool of self-recognition, a conscious choice for expressing what is good and beautiful in humans, as well as what is bad. Moreover, computer games are unusually attractive because they stimulate both individual and group activities. They also reveal an active part of human nature. Therefore, one cannot evaluate them too fast and too simply. This is a new world, which apart from some risk can also carry great possibilities.

Gee, the author of some books describing the advantages of computer games (Gee 2003, 2005, 2007), claims the market makes programmers find solutions in games in order to create ones which are in a way an adventure for a player, and in which he must solve different problems. For instance, he should know how to carry on negotiations with other players to get essential information and finally win, after coping with more and more complicated problems. Indeed, while playing a game every player has to tackle his new roles. He learns how to act and think as an engineer, a pilot, a mayor or a soldier. In better games problems may be solved thanks to having special knowledge, through cooperation with other players or by making attempts and errors. All those ways of solving problems in games are just tasks used for good teaching. Gee defines 36 features that are included in many good computer and video games. He claims that teachers should use the patterns contained in games as models for studying in the 21st century.

Computer games also seem to be responsible for developing spatial imagination. That regularity was noticed by Ulrich Neisser (1997), a psychologist of cognition at Cornell University, New York. He observed a visible increase in IQ while solving spatial tasks and picture analyzing, whereas Peter Frensch of the University of Humboldt, Berlin, confirmed a significant improvement in spatial imagination in children who concentrated on shifting bricks in Game Boy for six hours. So, the above research clearly shows that children who play computer games develop some efficiency in a better way than their peers not playing computer games at all. Researchers also think that it is not possible to clearly state, against some popular beliefs, that non-educational games warp children's development.
Games are mostly a skill improvement, self-testing, competition. The computer technique extracted those game features at an unattainable level, which had been impossible before. Especially team-games played on-line became a favourite attraction. The legendary Ultima as well as Quake, Age of Empires, Total Annihilation, Doom, Aliens, Godzilla seize both the minds and emotions. They rush into the real space, at the same time forming specific subcultures of players respecting their inner ethical code, lifestyle and look. Some of the well-known ones are Bractwo Krwi (Blood Wars) on Catskills or Białe Orły (White Eagles), the largest Ultima Clan in Poland. Virtual worlds – settled by virtual citizens, who fight together, work together and finalize different deals – are becoming more and more accurate reflection of the real world (Ultima) or its different aspects. Although that reflection is not a direct copy, because it happens in unreal scenery embodying romantic dreams of unusual adventures of common people – lumberjacks, fishermen or cooks – it also makes it possible to impersonate warriors, magicians, healers.

Like in real life, also in every game the care of somebody’s own business or a threat on an enemy’s part make players form different unions, pacts, agreements – and fight. Thus, games teach to cope with problems, admittedly in a fabulous scenery, but with everyday social problems as well as psychological, economic or cultural ones. They may have a beneficial influence on the development of communication or leading skills and improve strategic planning. Some psychologists even maintain that ‘bloody’ games are not a serious danger for young minds either. They may assume the shape of not very subtle forms (and often do), and their main aim is to destroy an enemy, but their essence is fight against evil. I think we cannot agree with such a thesis.

In the child’s education personal experiences play an important role. They are a sort of material which is used by the child to form terms and abilities. During processing the gained experiences the child should speak – it enriches his/her active vocabulary with new terms. Naming objects and doing some actions is favorable to concentration and also helps the child notice what is important. Learning by playing computer and didactic games arouses curiosity and cognitive interests, intensely motivates to doing school exercises and affects both creative thinking and acting (Gee, J.P. 2002, Prensky, M. 2003). By playing a pupil may tackle lots of practical skills, and he/she does it by acting. Creative plays have significant meaning for social feelings, thus they strongly influence the whole socialization of the child. In specialist literature one can find many arguments that indicate harmfulness of computer games, especially those full of violence. Such games raise reasonable anxiety of educators, psychologists, pedagogues as to the negative influence of their plot on the child’s development. The largest number of acts of violence with great
cruelty appears in manual games, so-called ‘shooting’, ‘fighting’, ‘punching’ games. The only aim of such games is to smash everything that stands in the way, and the best fun is when you can fight against different characters – men, animals or fantasy creatures. Different kinds of weapon are used in combat: spears, revolvers, chain saws, maces, laser weapon. Games are usually constructed in such way that in the field of vision a player can see his opponents and also his arm holding the weapon, e.g. a revolver, chain saw. Depending on the technical equipment of computers and the kind of game, the computer graphics is varied, from simple, like in animated cartoons, to realistic including film stars. The mood is often stressed by appropriately selected sound: music, shouts, groans, explosions, etc. Extensive literature on violence on TV, based on much research, showed the influence of watching brutal scenes on the increase in children aggressiveness. There is also a common opinion that children playing brutal computer games may lack empathy for real victims. In computer games, besides giving and copying some patterns (like on TV), training also plays an important role – repetition of independently executed behaviors. A frequently repeated activity becomes easier and is executed skillfully, almost automatically. In computer games every player makes aggressive acts himself (Ferguson, C.J. 2007, Gentile, D.A. & Stone, W. 2005, Griffiths, M.D., Davies, M.N.O. & Chappell, D. 2004, Ulfik-Jaworska I. 2001).

Computer games may also have certain health effects.

Doctors of different specializations warn about harmful consequences of habitual playing computer games, such as:

- auditory hallucinations;
- wrist strain;
- neck ailments;
- elbow pains;
- tendon inflammation;
- ischemic neuropathy;
- obesity (connected with lack of exercise);
- epilepsy in persons sensitive to light;
- increased risk of acute lymphoblastic leukemia occurrence

(M. Griffiths, 2004)

In computer games pornographic pictures and animations appear very often. They are usually supplements to games or a form of bonus for passing to the next stage. There are also porno games based on the rules of ‘a cyber date’ in which the main aim is to mash with a virtual partner in order to bring him/her to a sexual coexistence and in that way fulfill one’s erotic fantasies (Łukasz 1998, p. 53).
Another worrying aspect of computer games is using in their plots the elements with obviously satanic character (Doom, Quake, Heretic, Hexen, Diablo, 666). This is the best way to make children used to satanic symbolism. After some time children may read it as a positive element because concrete satanic symbols (like pentagram, a goat’s head, a cross turned over) often mark the places in which there are secret passages, hiding-places where weapon and other ‘goods’ are kept. On the other hand, Christian values are usually mocked. The signalized problems are not known enough because negative aspects of computer games are mostly taken into account in the context of omnipresent violence and cruelty in games.

More and more often computer games are becoming advertisement carriers. Their breeding value on the world market is rising fast – according to the economic prognosis in 2011 it will reach two million dollars. Every year players become an increasingly attractive group for advertisers. They are active, they have money and games are for them a sort of relaxation. In the United States the game market (computer, RPG and on-line ones) is estimated at $ 10.5 billion. That is much but in Europe people spend half a billion dollars more, in Asia and ACP countries over $ 3.5 billion. Every year that difference is going to be more and more visible.

According to Pricewaterhouse Coopers’ estimate, in 2011 Americans will spend $ 12.5 billion on games, Europeans 3 billion more, and total outcomes of the inhabitants of Asia and the Pacific Region will amount to almost $ 19 billion.

Although there is a stereotype that the average player is a teenager who cannot see anything but a computer, it is becoming a less and less common opinion. Research showed that the average age of players is over 20, but in that group children and youth are a great number of players. Here we should remind that advertisements and TV spots are the only ones that do not have any educational purpose, but only a consumer one.

Review of foreign literature showed that out of concern for Polish children and their development we should take a look at computer games and think about the influence of that new form of entertainment on our wards’ development.

**Method**

The key purpose of the article is the reflection on new social phenomena of present communication stage – computer games used by children and youth.

374 children and youth participated in the research carried out in April and May, 2011 in Wroclaw.
Due to the fact that the change from childhood into adolescence and adulthood is fluent, and the boundaries between them rather hard to identify, young people in their adolescence were invited to our research. E.B. Hurlok (1965, p.13) divides that period into three stages:

- preadolescence: 10–12 years of age,
- early adolescence: 13–16 years of age,
- late adolescence: 17–21.

In the above research young people in their early adolescence and preadolescence were taken into account.

The research into youth at the age of 13–16 was carried out using the method of a diagnostic survey, with the use of an inquiry form as a research technique. Two kinds of surveys were used: one was done directly among the pupils at two schools and the second one on the Internet. 197 young people participated in the research. Younger children filled in *Daily Diaries*, where they noted down different activities during the day as well as answering questions about computer users, 98 children. Other children in the period of adolescence (79) were surveyed by spontaneous conversations in their classrooms.

The theoretical basis for the research was literature concerning the use of computer games by children and youth. For the theories explaining the researched phenomenon two theories in the scope of media pedagogy were used. First of them – the theory of ‘uses and gratifications’ is based on an assumption that it is not a recipient group ‘used’ by the mass media but quite the opposite – the recipients use them for their own aims depending on their needs and interests. The ways of using contents offered by broadcasts are mostly formed by the recipients’ expectations. A large part of the audience use the mass media in a purposeful way, they ‘use’ them for their own advantage. Moreover – apart from the mass media – there are other sources and ways of satisfying one’s needs. Therefore, we cannot overestimate the influence of the media on people’s attitudes and behavior. The second theory is based on the ‘socializing concept of the mass media function’. Here, socialization may be doubly comprehended: as the process taking place beyond an individual or in it, so man being under the influence of socialization factors will internalize – embed his own norms, attitudes and social values. Here we think of socialization in the second meaning – how an individual reacts to the socializing acts of the media, whose socializing function is usually considered in four aspects:

a) quantity of time spent receiving mass media programs at all, and usage of particular types of broadcast,

b) social roles performed by the recipients,
c) motives of broadcast selections (it is about the motives of specified contents and media receiving). At that point the socializing concept converges with the research concept of ‘usage and advantages’,

d) trust in particular media; it is about a trust grade for a broadcaster and recipients’ attitudes to the content of broadcast.

Each of the research fields enumerated here is examined in variable demographic categories like age or sex, and variable social categories such as: occupation, social and material position or educational background (J. Gajda, 1988, p. 21).

The results

The review of computer games young people play shows they are games of various kinds. The most popular are:

1. Action games (also called platform games) – They are fast reaction-based games; most of the first generation games are action games.
2. Adventure games – The player is to solve a number of tests in order to progress through a virtual world, such games have a well-developed and usually complex plot.
3. Fighting games – These games involve fighting against computer-controlled characters or ones controlled by other players. They are a computer version of feature games, so-called role-playing games (the term will be explained later), where players assume the figures of knights, magicians or representatives of other typical professions envisaged in games due to a team of heroes wandering a fantastic and usually well-developed world, doing acts of courage or spreading terror.
4. RPG – Human players assume the characteristic of some persons or creatures like knights, magicians, etc. The goal of the play is to achieve next levels by solving some tests or by killing monsters.
5. Simulations – The player has to succeed within some simplified recreation of a place or situation to achieve a particular goal. Such games have four basic features: set competition, simulation (unreality copying reality), ludic character (very often it is about having great fun in the games). The player has some goals to achieve. The games are based on simulation within a real world (cars and aircrafts) or imaginary one (spaceships).
6. Sports games – These games are based on sports like basketball, volleyball, soccer, hockey, etc. Sometimes the player is a manager, a player or sometimes
both of them. Action is based on playing sports competitions not existing in the real world.

7. Strategy games – These games help recreate historical or fictional situations to allow the player to devise an appropriate strategy to achieve a goal. The strategy games are simulations of real or imaginary warfare, or certain situations from some nations’ history.

8. Erotic games – Some of them are erotic, but usually they are evidently pornographic games.

The above studies show that 63% of the boys at the age of 10–12 prefer action and strategy games, e.g.: Icy Tower, Monopoly Mini-Game, over 40% prefer adventure games like Versus or Megaventure; sports games like Snowboarding, 30% of the surveyed children play simulations – Colin McRea Rally 2.0). The girls usually choose educational games, 47% of them – Brain Racer, Word Search Gameplay as well as adventure and action games. Board games, like Flash Ludo, are also popular among the girls. They also like games in which they can dress or make-up some persons (Cosmoangel: Fashion, Dark Lipstick Makeup, Farm Makeup), and also games where one can look after pets. Pet Party is the most popular game among a million of users. On the social portal naszaklasa.pl there is even a forum for the game that unites many Pet Part fans. Another famous game among young players is The Sims (series). That game is usually played by the girls (33%). The youngest children play kids games such as: Fight of the Hamsters, Scooby Doo, Kung fu Panda 2, Puzzle, Barbie, Fashion Boutique, BobiBobi Car.

The diagram below (no.1) illustrates the percentage arrangement of games used by younger children.

Youth at the age of 13–16 play similar games, but they usually choose games with a more complex plot and including more aggressive elements. Among them there are games full of aggression and vandalizing. Over 60% of the surveyed boys play action and strategy games or like fighting games and RPG ones. The most popular are: Nemexia, Mortal Kombat Karnage, Dragon Age Legends Remix 01, Ghosts and Grenades, Cold Justice, Armored Fighter New War, Eye of the Beholder, Darklands, Betrayal at Krondor. A Polish game, The Witcher, is very popular, too. Unfortunately, about 11% of the boys aged 15–16 play Quake, Wolfenstein, Doom, which are the synonyms of everything evil in computer games. For example, Quake moves a player to a dark, gloomy, and at the same time probably best designed world for the needs of action game ever. It is fully three-dimensional, the perfectly made setting is a dark and mysterious background for wandering in search of the sources of evil. The boys also like playing sports games and car rallies. (Football Lob Master, Urban Basketball, Snow Boarding, Smart Socccera0,
Grand Prix Go, Farm Express). These are mostly on-line games. There are four types on the Internet, professionals – for them the most important is aim, score etc.; explorers – interested in the technical aspect of a game; company seekers and assassins – those who persecute others. The surveyed boys declared belonging to the group of seekers and assassins.

The research also showed sex-differences concerning the sort of games preferred by the boys and girls. The girls more often choose skill and adventure games (Croc, Super Mario, Tomb Raider) and also educational ones, e.g.: Matma jest super, Dookola Świata or Brain Racer, and they do not prefer stressing, warlike games and those which do not have any defined aims. They rather like the titles aimed at easy and undemanding enjoyment. They like board games, quizzes, puzzle and games connected with fashion and make-up. In such games girls may show off with their imagination or creativity. Ideal games include those in which it is possible to manage other people’s lives, or to take care of somebody – a doll house. Obviously, there are exceptions because some girls sitting in front of computer screens often play shooter or fighting games. Wiejskie Życie wins recognition both among the boys and girls, the game is available on the social portal naszaklasa.pl.

The research also revealed that 6% of the boys and 3% of the girls choose to play some erotic games, usually on-line ones like Amor Caliente, Sexy-Snake, Pretty Girl, Seasons of Sakura, Divi Dead. It is regrettable that such contents reach young people, because they unnecessarily arouse children’s imagination, which in the

![Diagram 1. Games children aged 10–12 play most willingly](image-url)
future may influence their subjective treatment of the opposite sex, not to mention so-called higher emotions – their attitude to love, care, delight in beauty, etc.

People form virtual societies and quite often organize conventions where thousands of fans of various games arrive. On-line games fans form two kinds of virtual societies. One is available only on the Internet, in an entirely unreal world. Members of those societies communicate only by computers, there is no other way, they do not meet in reality. The other group transfers the contacts established while playing games to the off-line world. Meetings and symposiums they arrange enable them to meet one another and exchange their own observations and experiences gained during playing games. Both forms give the members a sense of acceptance, however they enforce norms and values that are predominant in such a virtual society.

The researched youth (5%), mostly 15 and 16-year-old ones, belonged to the fan club of Arena Albionu (Albion Arena) and they had meetings with other players in reality.

The diagram below illustrates the arrangement of games played by older youth.

![Diagram 2. Games played most willingly by children aged 13–16](image)

The research shows that among the group of younger children the girls play 5.5 hours a week and the boys usually 13 hours. Those are average findings, so there also might be children who spend more hours at the computer. The people aged 13–16 spend a bit more time playing games. The girls usually 8 hours a week and the boys 15 hours. The record-breakers play for several dozen of hours a week – two
girls play for about 30 hours, and one of the boys for 60 hours – of course during the week. We may wonder how it is possible, but those children play every day mostly in the evenings or at night, and all days at weekends.

Games come from various sources, most of them from the Internet. There are many portals which offer games. The most popular ones are: www.kurnik.pl, http://www.gra24h.pl, http://www.wyspagier.pl, http://www.giercownia.pl. Children also play games on social portals like facebook.pl and naszaklasa.pl, young players also buy games themselves or together with their parents. Sometimes they copy games from friends or just get them as gifts from relatives. The findings show that parents of younger children usually know the games their children play, they also use some limitations and control the time of playing or the character of a game, whereas the parents of older players give them more freedom. It looks similar as far as the time devoted to computer games is concerned. Games play certain roles in young people’s lives, and the most important is: the *entertainment function* fulfilling children’s and youth’s natural need to play in their adolescence. Entertainment may be a kind of escape from reality or a way of isolation, relaxation.

The *educational function* – computer games are recognized as effective tools in the process of education and gaining new skills. Their nature makes players engage emotionally and intensifies their curiosity and also induces them to take frequent and self-reliant efforts. Games release players’ inner motivation to repeating tasks and gaining better results in order to progress to next stages. Getting and using necessary information as well as specific skills is essential to succeed in a computer game. Thanks to those actions, assimilating new information and getting skills happen incidentally. Every game may be a culture value (or anti-value) carrier. The *ethical function* is important and it concerns observing rules. Among the diversity of norms and rules in the world of on-line game fans two of them function in every community. They are: individualism – honored and supported by players (someone else’s nick or pseudonym cannot be used by other players), safety – you must not insult, attack or persecute anybody on the Internet. Didactic games are also an element of education. They bring positive educational values to the child’s development and let understand some socio-moral phenomena.

The *socializing function* – shows that the child playing team games learns how to overcome his/her shyness and how to become more communicative, internally richer or emotionally relaxed.

The *integration function* – is realized thanks to unlimited abilities of many people participating in games. It helps to conduct a dialogue and communicate with other people.
The *disintegration function* – games provide entertainment for many hours and a lot of excitement replacing, at the same time, contact with other people. They also may cause isolation and alienation.

The *therapeutic function* – games may improve memory, colligating or intellectual efficiency by activating the work of neurons. Therapeutic advantages of play are mostly used at work with children who are backward with self-development deficit or with emotional disorder.

The *pattern-creative function* – children learn best by copying, and if they get feedback that everything is fine, then the effects are even better. The patterns may be both positive and negative. Most computer games include acts of violence. It is generally believed that playing brutal games bears aggression in reality. Is it true? Young people can bring aggressive behaviors to their everyday lives, but they also can get standards from not always positive acts of their favorite movie characters. Additional factors increasing aggression are: lack of authority, poor contact with adults, low self-esteem, brutal behaviors in family or among peers.

The *identification function* – in the period of adolescence also the problem of identity becomes important, and a player can identify with game characters (Jacob, 1987).

The *narcotic function* – is mostly about computer game addiction, which sometimes can result in mental or anxiety disorders, etc. There has been noted a new disease unit recently defined as Internet Addiction Disorder (IAD). Computer games seem to be a kind of a new drug. Some people are absorbed with them more than they deserve. While playing you forget not only about interpersonal contacts but also about the basic needs of your body.

The *compensation function* – computer games are always a substitute for anything. It may be a partner for playing chess, the latest model of a fighter plane or an expansively developing building company that we would like to manage. The replacing element appears always, although not necessarily with the same intensity.

The *regulatory function* – clears up actions and submits them to strict rules. Through games a player also develops inborn abilities and overcomes limitations, but (above all) gets fight will and learns to accept failure.

**Summary**

In the process of a young man’s education the family plays an important role, but more and more often the mass media take it over. That is a world which is carrying not only dangers but also tremendous opportunities.
Studies have shown that parents are aware of the problem of using computer games by their children. The *Daily Diaries*, filled with parental control show that children play appropriate games and do not sit at the computers for too long. You may assume that it is not a completely true picture, but rather one as it should be – pedagogically correct. In turn, the research carried out at schools into a group of children at the same age, but without parents’ participation showed a bit different picture of playing computer games by children. The Internet research also acknowledged the observation because there is a difference between players who were surveyed in the presence of their parents and those who filled in the questionnaire on the Internet or answered the questions on their own. The people in the second group usually play 5–6 hours more a week than their friends from the first group. And they also play more aggressive or erotic games. I think we should not gloss over or demonize the influence of computer games, however we should not leave children without any control. The educational influence of games on children depends on many factors, most of all, on the fact if parents bring up their children in an appropriate way and instill some rules into them.

The educational values of games and plays depend on their adjustment to the child’s abilities. A game must not be too easy because it will teach nothing, but will be boring. It also should not be too difficult because it will discourage the child from playing. In that case a certain solution might be games constructed by children themselves. Such games are attractive for young players and enable them to create their own rules. That is also training for thinking. What is more, a game is fully enjoyable when played on the level of ‘equal with equal’. Adequately designed didactic games play the role of a stimulating factor for pupil activity and may be responsible for forming cause-and-effect thinking.

Control is an important issue, too. Regardless of our children’s age we should know what they do at the computer. If we follow those rules computer games will not be dangerous for our children, on the contrary, they will be very useful for their education, by play, so in a very pleasant way our children will gain knowledge.

Thus, computer games are not only fun, but they may train players for particular actions as well as bring useful contents. They may be helpful in approaching some circles and forming a particular sort of mentality. Undoubtedly, computer games are good preparation for functioning in the world of electronics and computing, and that is what today youth’s world is going to look like, the world of hi-tech.
Bibliography

Family – Child – School.  
Continuity and Change of Cultural Transmission in the Borderland Environment*

Abstract

What has been outlined in this study are the achievements, problems and prospects of cultural transmission in family and school environments in the Polish-Czech borderland. Referring to the results of the studies conducted with the use of the panel method made it possible to focus on the issues of family and school in pedagogical intercultural studies, on the transmission of values in the contemporary Cieszyn family, as well as on the transmission of culture and educational knowledge in borderland school.

**Kew words:** family, school, borderland, multi – and intercultural education, cultural transmission

*The development of pre-figurative cultures will depend on whether entering the dialogue with the young generation will be successfully attempted and whether this generation, capable of acting due to their will, can lead the older towards the unknown future. Only relying on the young, the older generation can get access to new experimental knowledge, without which no reasonable plans can be arranged. Only in the direct contact with the young generation, who make use of their source of knowledge on exclusive rights, we will be able to build a sensible future.*

---

* The project was financed by the National Science Centre.

---

Ewa Ogrodzka-Mazur
Poland

Margaret Mead
Introduction – borderland as the life space of family and school community

Both family and school communities, created by parents, children and teachers, are always situated in a particular time and space which in the social experience is neither universal nor abstract but given with ‘the humanistic factor’ (Halas, 1998, pp. 35–36). Referring to the currently developing research orientation called humanistic geography enables not only analyzing and describing cultural artifacts in space (by mapping them), but first of all specifying the ways in which individuals experience and at the same time valorize the space given to them, which in this way acquires symbolic meaning (Bukowska-Floreńska, 2001, pp. 65–80; Ostrowska, 1991). Family home and school become such spaces (both individual and common) for parents, teachers and the child. Through the values experienced, accepted and implemented in these spaces, children shape their identity and enter particular relations with other members of the community.

The location of family home and school in culturally differentiated environments, such as borderland space, can broaden the range of experiences gained by the child. However, on the other hand, it can hinder the process of integration in the local community due to national or religious diversification which occurs within it.

In the conducted analyses, borderland should be understood in its cultural-symbolic sense, it implies the social space in which borders and borderlands between groups and cultures are often indicated in a symbolic way and are not related to historical residence areas of particular communities (Babiński, 1994; Nikitorowicz, 1995; Rusek, 2000, pp. 146–153; Witkowski, 1991). Applying such an understanding of borderland allows for describing, in the distinguished aspects, the family and school environment in the borderland. It is in these environments where similar processes occur, as well as mutual dependencies and relations, which all result from functioning in a particular close family or school space and a further space – the socio-cultural space of the borderland.

Family and school in pedagogical intercultural studies

Although Polish intercultural research into family and school has been developing intensively only since the nineties of the previous century, it refers to the rich tradition and well-ordered network of notions concerning forms and functions of family and school that have been worked out by the leading Polish research centres – in Lublin, Poznań, Warsaw and Silesia. These centres gave rise and then
orientations to nationwide studies on family and school and they have consistently popularized the research results, which contributes to their interdisciplinary examination.¹

Studies on family and school in culturally differentiated environments were initiated and have been continued by three major scientific centres, which carry out the research in the Polish-Belarusian – Lithuanian borderland (Jerzy Nikitorowicz’s team),² in the Polish-Czech borderland in Cieszyn Silesia (Tadeusz Lewowicki’s team)³ and in the Polish-German-Czech-Slovak borderland in Opole Silesia (Zenon Jasiński’s team).⁴ Particular theory-cognitive significance is attributed to thematic studies (Lewowicki, Suchodolska, 2000; Lewowicki, Szczurek-Boruta, 2000; Nikitorowicz, 1992; Nikitorowicz, 1997; Nikitorowicz, Halicki, Muszyńska, 2003) which both present the issues of family and school education in multicultural communities and prepare the recipients of education for mutual drawing from cultural wealth, for cooperation with others and for cross-generation transmission of the cultural heritage of the borderland. These publications, as well as the remaining treatises on family and school issued in numerous edited books dedicated to multi- and intercultural education,⁵ constitute a valuable output in the field of pedagogical intercultural studies and add life to scientific reflection upon the condition of Polish pedagogy of family and school. What is undertaken in these studies are, among other things: the issues of the axiological aspect of socialization and education in family and school; their relation to the development and shaping of the identity of parents, children, teachers; nationally and/or religiously mixed marriages; the continuity and change of cross-generation transmission of language, tradition and cultural heritage; the intercultural dialogue and transformations of

¹ Family and school are the subject matter of many scientific disciplines, e.g. philosophy, cultural anthropology, sociology, psychology, pedagogy, ethnology, theology, law or economy.
⁴ Works by Z. Jasiński, J. Kosowska-Rataj, E. Nycz.
⁵ So far, the following have been published: 45 studies in the series ‘Intercultural Education’, prepared by the Social Team for Studies on Borderland Education and Culture and the Department and Chair of General Pedagogy at the University of Silesia (the Faculty of Ethnology and Education); 12 studies prepared by the Chair of Intercultural Education of the Faculty of Pedagogy Psychology at the University of Bialystok and 18 studies issued by the Institute of Pedagogical Sciences of the Historical-Pedagogical Faculty at the University of Opole.
contemporary family and school in the borderland resulting from integration and globalization processes.

**Cieszyn family – parents’ system of values and children’s axiological preferences**

Establishing axiological preferences of the examined parents and children from the Polish-Czech borderland was based on the analysis of Scheler’s Personal Values Scale – SPVS (Brzozowski, 1992, pp. 329–338; Brzozowski, 1995, pp. 14–15; Brzozowski, 2007), which enabled both specifying the rank of particular values and their category (group) and comparison to Scheler’s model hierarchy. Each SPVS value was evaluated independently of others on a 101-point rating scale (in individual examination of children, 25 values and an 11-point scale were taken into account). Referring the obtained raw data to sten norms allowed for outlining the profiles of values accepted by parents and for specifying how much, in comparison to the normative group, they appreciated particular values. Statistical analyses of the rating of values declared by children were based on raw data.

The results of the studies conducted in the environment of Cieszyn families (Ogrodzka-Mazur, 2007, pp. 191–270; Ogrodzka-Mazur, 2011, pp. 33–43) and comparing the parents’ system of values to axiological preferences of their children confirm overstating the rating of values appreciated by the children in comparison to parental evaluations (cf. Figure 1). The effect of overstating is particularly evident in ratings of lower values – hedonistic, vital and esthetic.

---

6 Studies into Cieszyn family, which functions in the Polish-Czech borderland, have been carried out regularly since 1990 at the University of Silesia, at the Faculty of Ethnology and Education (earlier the Pedagogical-Artistic Faculty). The research has involved parents, teachers and children at various ages who attend all types of school in this area. The collected empirical material has been presented in the series 'Intercultural Education'.

7 Scheler’s Personal Values Scale (SPVS) consists of 50 values which make up 6 basic scales comprising the values: /H/ hedonistic (affluent life, erotic love, possessing, pleasure, life enjoyment, comfort, rest, life full of experiences); /V/ vital (resistance to fatigue, physical strength, fitness, body flexibility, ability to suffer cold and hunger); /E/ esthetic (elegance, taste, harmony, order of things, proportions of shape, regularity of features, hierarchy); /T/ truth (intelligence, logical conduct, wisdom, objectiveness, open mind, understanding, broad intellectual horizons, knowledge); /M/ moral (good, honour, love of others, peace, helping others, truthfulness, reliability, frankness, kindness, good-heartedness); /H/ holy (God, country, nation, independence, homeland, state, patriotism, faith, salvation, eternal life).
In order to specify the degree of similarity for profiles of values appreciated by the examined parents and children from Cieszyn, the results were subjected to an analysis which consisted in calculating Kendall’s tau correlation coefficient and which confirmed a lack of statistical significance (for both correlations Kendall’s tau = 0.33) in comparing the profile of values accepted by the parents to the profile of values appreciated by the children. A similar result was obtained in examining the compliance of axiological ratings, which also confirmed statistical significance of differences between the groups of parents and children ($\chi^2 = 96.04525; \text{df} = 5; p < 0.00$) and, in this way, indicated a lack of similarity between the parents’ system of values and the children’s axiological preferences.

In the Czech part of the borderland, the results of the groups of parents and children examined in regard to the similarity of systems of values turned out to be different from those in Poland. Calculated average ratings of basic scale values for the respondents indicated: firstly – a lack of the children’s overstating of ratings of particular value categories, and secondly – a difference between the profile of values appreciated by the parents (cf. Figure 2) and the profile of values accepted by the children (the quantity of Chi-square distribution indicates the significance of differences in comparing the parents-children groups due to the result $\chi^2 = 20.04727; \text{df} = 5; p < 0.001$).

The outlined characterizations of values (appreciated by the parents and children) concerning the significance of particular value categories allow for an attempt to specify the key features in the description of axiological preferences of communities inhabiting the Polish–Czech borderland:
what occurs in the examined environments is a large differentiation of the contents and ordering of values among both parents and children. In the range of lower values (hedonistic, vital and esthetic), the respondents' axiological orientations are directed towards fulfilling pleasure (hedonistic), material and individual-private (autotelic) values. What ranks particularly low in the ordering structure are esthetic values, towards which the respondents express no need for implementation or fulfillment,

- the values of truth and moral values, highly appreciated by all the groups of respondents, gain an appropriate place in the structure (concordantly with the objectivistic approach to values represented by Max Scheler's phenomenological concept), which confirms their universal character,

- holy values have undergone an evident redefinition – religion does not indicate the entire attitude to the world any longer, as used to take place in traditional societies, but it becomes a segment of the individual's experience (Ziółkowski, 2000, pp. 80–81). Thus, religion and religiousness are more and more frequently chosen values by the individual personally – yet, they lose the rank of values 'inherited' only by 'being' a member of a particular family or socio-cultural community (Mariański, 2008; Mariański, 2010),

- the values of lay sanctities (e.g. country, nation, independence, homeland, state, patriotism) are undergoing a kind of crisis. In the social awareness of the respondents (especially adult ones), these values ceased to be significant elements and basic consolidation mechanisms for particular social groups. Therefore, an evident tendency appears, namely seeking a new semantic for-

---

**Figure 2.** Profiles of values appreciated by parents and children from Czech Cieszyn (raw data – basic scales)

Source: author's studies
mula (in both their linguistic and symbolic layer) of this group of values in the context of systemic, social and cultural transformations of our country, Europe and the world,

• what is clearly marked among the examined community of parents is the occurrence of different forms of contemporary axiological transformations (reductionism, differentiation, absolutism, exploitation, redefinition) determined by shaping a new social order, within which distinction should be made between transformations of values occurring in life and transformations of values that are objectivized in culture and contained in the objects created in it (Łojewska-Krawczyk, 2001, p. 20; Siemieńska, 2004, pp. 177–204).

School in the Polish-Czech borderland – the dynamics of educational aspirations and plans of children and youth

The studies in the environment of the Polish-Czech borderland, conducted systematically in the years 1990–2008 (Lewowicki, Ogrodzka-Mazur, Szczurek-Boruta, 2009), allow for outlining the dynamics of educational aspirations of children and youth.

In the years 1990–1994, the level of educational aspirations (the third in rank after family and professional ones) of learners from Zaolzie was relatively high – 1.95 (65 points in the 0–100 scale) – and higher than the general level of Polish youth’s educational aspirations – about 62 points (Lewowicki, 1987, p. 83; Ogrodzka-Mazur, 1992, pp. 82–93; Ogrodzka-Mazur, 1994, pp. 96–111). Nowadays, as the obtained research results indicate, the young (both girls and boys) similarly declare the need for peaceful family life (rank I) and, in the respondents’ opinion, family values have the most chances for fulfillment in life. More significance, however, is attributed to the values of science, knowledge and education (rank II), which the young view as a possibility of finding a good and satisfying job that will enable them to achieve high living standards (Gajdzica, Ogrodzka-Mazur, 2009, pp. 190–225).

The young who continue education in lower – and upper-secondary schools, as in 1990–1994, have more or less crystallized plans for further education. Yet, the rate of declarations concerning university graduation and post-graduate education increased from the level of 62.9% in the 1990 to the level of 88% in the group of Polish learners, 90% in the group of Czech ones and 94% among learners from Zaolzie (cf. Figure 3).
The obtained results indicate very high educational aspirations of the young generation inhabiting the Polish-Czech borderland, who relate the level of their education with fulfilling particular life goals. What attracts special attention are the choices of Polish youth (31%), who declare ending institutional education not earlier than at the level of post-graduate studies (respectively: Czech youth – 4%, Zaolzie youth – 13%). According to the respondents, higher education offers the best opportunities of finding an interesting and well-paid job both in the homeland and abroad. A small number of the learners (1–7%) plan to finish their education at the level of technical and post-graduate schools. The intention to continue education in university or post-graduate studies expressed by such a large number of the respondents and the ability to decide independently about their own life is a very positive phenomenon.

The youth’s choice of a particular level of education is statistically significantly determined by higher education of both parents of the Polish learners (father – $\chi^2=23.2$ for $p<0.00$; mother – $\chi^2=26.1$ for $p<0.000$), by the type of school (lower-secondary school of the Evangelical Society in Cieszyn – $\chi^2=12.6$ for $p<0.000$; general upper-secondary school in Cieszyn – $\chi^2=8$ for $p<0.005$) and by religion (Polish Evangelical youth – $\chi^2=10.6$ for $p<0.001$). The remaining factors, such as sex and life environment, do not differentiate the examined learners’ declared choices.

The conducted studies allow for capturing changeability, otherwise referred to as the dynamics of educational aspirations of the young from Zaolzie. At the end of
the first decade of the new century, much more respondents (31.1% more) than in comparable studies from 1993 (cf. Figure 3) intended to study in higher education institutions and in post-graduate studies. Therefore, acquiring secondary or post-secondary education is insufficient for proper functioning in contemporary socio-cultural reality and for fulfilling their educational plans, including work plans as well. Only 15% of the respondents (in 1994–43%) judge their start into studies as more difficult due to graduating from the Polish secondary school, 57% (in 1993–30%) are of the opinion that their chances are the same in comparison to their peers educated in Czech schools, and 28% of the learners (in 1994–27%) think that graduating from a Polish school will make it easier to acquire higher levels of education. Thus, it might be thought that the young from Zaolzie positively assess both attending the Polish school and the curriculum implemented here, which will enable them a successful start into studies in the Czech Republic, Poland or other countries.

The learners from Zaolzie, who methodically fulfill their educational plans, have certain expectations associated with the development of their personal experiences and needs, which are not always fulfilled in schools with Polish as the teaching language. Like over 16 years ago, they express critical opinions on both the work conditions in schools and teachers’ educational activity. The following is most frequently indicated: a lack of adjustment of curricula to learners’ individual needs and interests, insufficient preparation for future professions in technical schools, insufficient use of modern information technologies in the educational process, a small number of classes preparing for university studies, the object-oriented nature of mutual contacts of learners and teachers (Ogrodzka-Mazur, 1994, p. 105). The youth’s answers present their ability to evaluate objectively the educational activity of the minority school system, whose ‘weak’ points do not differ from the faults and drawbacks of school education conducted for majorities in the examined countries – the remarks formulated by the Polish and Czech youth were very similar and were critical in character. Contemporary school and the education offered by it still do not sufficiently facilitate the development of youth’s cognitive independence, which is *sine qua non* in their preparation for managing their adult life. This takes place despite the suggested transformations and the implemented reforms (Brzeziński, Witkowski, 1994; Kwieciński, Witkowski, 1993; Kwieciński, 2000; Lewowicki, 1994; Lewowicki 2007; Pilch, 1999; Radziewicz-Winnicki, 2004). Therefore, there is an evident need for acquiring new abilities by learners – the abilities associated with constructing school knowledge by, among other things, learning through cultural dialogue and contact.

As most of educational institutions, borderland school – against its declared aims – still fulfills the functions of cultural and social reproduction. In Zbigniew
Kwieciński’s opinion, as regards the level and nature of cognitive competences or social orientation, the youth after the cycle of primary education are more similar to their parents than to their peers in different conditions of socialization in family (Kwieciński, 1990, p. 237). A similar tendency can be noticed in the case of the examined learners, who have much higher educational aspirations than their mates examined in 1990–1994. Education is treated by the young, who are conscious of both chances and limitations of life in culturally differentiated environments, as an implementation measure in achieving the desired position in the social and professional structure. Education also becomes a value desired for itself, a constituent and determinant of the quality of life. It is here, among all these factors, that school should find its way and should change so that Kwieciński’s diagnosis, formulated in the nineties of the previous century, would not repeat in a recurring cycle – ‘education (including school) adapts to significant functions (dysfunctions) of the system, to its »organizing principle«, it perpetuates the sources of crisis, disturbs the processes of (cognitive, moral, identity) development, deepens the situation of anomy treated as axiological vacuum and social disintegration, deepens alienation experiences (feeling of senselessness, helplessness, strangeness in the world, a lack of self-understanding), makes appearances the superior category of life’ (Kwieciński, 1990, p. 244). Therefore, what can be noticed at the beginning of the second decade of the 21st century are the qualities of pre-figurative culture, in which the reversed relation, that is the socialization of the older generation by the youngest, creates conditions for transformation – for a radical, violent, often crisis raising change of social order. Thus, it seems appropriate to refer to Mead’s words again – the development of such a type of culture will depend on whether the dialogue with the young will be established and whether they will be able to lead the older into the unknown future (Mead, 2000, p. 129).

**Bibliography**


The article deals with the problems of preventing socio-pathological phenomena in the school environment. The author points out the necessity to professionalise the processes of prevention at primary and secondary schools with special regard to the activities of the social pedagogue, which is allowed by a number of legislative norms. At present, however, the main burden in the prevention of socio-pathological phenomena as well as its coordination has been on teachers who function as prevention coordinators.

**Key words:** social pedagogue at school, prevention, professionalization of prevention, socio-pathological phenomena in pupils.

Upon the passing of the Act of Education (school act) on May 22, 2008, social pedagogues became an integral component of the prevention and counselling systems at primary and secondary schools. The Act on pedagogical employees and specialist employees no. 317/2009 included social pedagogues in the category of specialist employees and §24 states the following: "The social pedagogue performs specialized activities involving prevention, intervention and counselling mainly for children and pupils endangered by socio-pathological phenomena in socially disadvantaged environments, drug addicted or otherwise challenged children and pupils, for their legal representatives, pedagogical workers at schools and school facilities. Social pedagogues also fulfil tasks in social education, encourage pro-social, ethical behaviour, make socio-pedagogical diagnoses of environment
and relationships, tasks in social pedagogical counselling, prevention of socio-pathological phenomena and behaviour re-education. They perform specialized and community activities.

At school the social pedagogue may be instrumental in many areas: they are competent to fulfil tasks directed towards pupils (e.g. prevention, providing social counselling, protecting pupils’ rights, active involvement with pupils from disadvantaged environments), parents (e.g. counselling, referring them to other specialists) and teachers (e.g. assistance in solving problematic behaviours among pupils, helping novice teachers).

The current situation in our society is marked by the expansion of negative phenomena to which we should respond promptly by taking preventive measures. In Slovakia we have been experiencing growing rates of delinquency and criminality, drug use, drug addiction, prostitution and other socio-pathological phenomena. Their growth demands intervention of the so-called assistant professions, including that of the social pedagogue.

According to C. Határa (2010, pp. 45–47) the topical functions of the social pedagogue referring to maladapted children and youth are as follows:

- diagnostic function (diagnostics is the basis for appropriate social-pedagogical work; the social pedagogue investigates the current state and level of social-educational problems, their symptoms, consequences and reasons),
- preventive function (the aim of social-pedagogic prevention is to prevent damage in intra – and interpersonal relationships, to prevent social conflicts between an individual and their social environment, common and complicated life situations of social and educational nature), – prophylactic and modifying function (the core of this function is in the social pedagogue stimulating positive social and educational influences as well as inhibiting negative ones),
- personality stabilising, developing, (forming) and activating function (after effective social-educational intervention the social pedagogue must endeavour to renew stability and harmony in the pupil's personality,
- integrative, (re)socialising and adaptive function (the social pedagogue should help pupils to get integrated into the wider social environment with the intention of adapting to actual or potential socio-cultural and material conditions),
- compensating and facilitating function (its basis is in compensating or otherwise substituting the missing social and emotional stimuli and experiences by the experiences and stimuli from other more stimulating environment.
with the aim to saturate bio-psycho-social and mental needs, to develop and cultivate personalities cognitively, affectively and in a psycho-motor way),

- anticipatory function (directed towards pupils’ future prospects, which for the social pedagogue means anticipating social changes, problems, pupils’ needs as well as changes in their socio-cultural life and lifestyle),
- counselling and training function (counselling makes it possible for the social pedagogue to get to know the pupil better and subsequently help him/her to solve various conflicting life situations by means of socio-pedagogical training),

A major problem of present society, and not just in Slovakia, is the rise of socio-pathological phenomena such as criminality, addiction and many more. As presented by Z. Bakošová (2010, p. 49): “in our circumstances we do not need to think of wars and natural disasters as global threats, we declare this with pleasure. However, we have threats of different nature: criminality, addictions, poverty, social separation (dealt with in the preventive branch of social pedagogy).“ Socio-pathological phenomena are also to be found among children and youth. In Tables 1 and 2 we present the Ministry of the Interior’s statistical review of criminal acts committed by children and the youth in the years 2008–2010 (T1), as well as criminal acts committed towards the youth in 2008–2010 (T2).

Table 1. Criminal acts committed by children and the youth in the years 2008–2010 in the Slovak Republic

<table>
<thead>
<tr>
<th>Choices</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent crimes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identified</td>
<td>9 030</td>
<td>8 337</td>
<td>7 532</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>156</td>
<td>141</td>
<td>136</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>725</td>
<td>618</td>
<td>601</td>
</tr>
<tr>
<td>Vice crimes</td>
<td>840</td>
<td>791</td>
<td>725</td>
</tr>
<tr>
<td>Identified</td>
<td>22</td>
<td>36</td>
<td>21</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>179</td>
<td>174</td>
<td>140</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>791</td>
<td>678</td>
<td>2846</td>
</tr>
<tr>
<td>Property crimes</td>
<td>54 755</td>
<td>52 399</td>
<td>47 408</td>
</tr>
<tr>
<td>Identified</td>
<td>876</td>
<td>767</td>
<td>725</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>3 476</td>
<td>3 354</td>
<td>725</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>52 399</td>
<td>47 408</td>
<td>2 846</td>
</tr>
<tr>
<td>Other crimes</td>
<td>10 126</td>
<td>10 128</td>
<td>9 286</td>
</tr>
<tr>
<td>Identified</td>
<td>81</td>
<td>55</td>
<td>138</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>538</td>
<td>495</td>
<td>439</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>10 128</td>
<td>9 286</td>
<td>17</td>
</tr>
<tr>
<td>Residual crimes</td>
<td>13 034</td>
<td>13 732</td>
<td>13 567</td>
</tr>
<tr>
<td>Identified</td>
<td>31</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>169</td>
<td>112</td>
<td>95</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>13 732</td>
<td>13 567</td>
<td>187</td>
</tr>
<tr>
<td>Economic crimes</td>
<td>16 974</td>
<td>19 518</td>
<td>16 781</td>
</tr>
<tr>
<td>Identified</td>
<td>59</td>
<td>69</td>
<td>68</td>
</tr>
<tr>
<td>Under aged offender</td>
<td>182</td>
<td>178</td>
<td>161</td>
</tr>
<tr>
<td>Juvenile offender</td>
<td>19 518</td>
<td>16 781</td>
<td>161</td>
</tr>
</tbody>
</table>

Source: Ministry of the Interior Criminality Statistics
It is obvious from Table 1 that under-aged and juvenile offenders commit all sorts of crime, i.e. violence, vice, property and economic, though property crimes prevail. Among younger offenders this is mainly shoplifting, theft at school, picking pockets or bicycle theft. Among older offenders it is flat and car burglary but also breaking into businesses. Crimes involving violence or threats thereof are more frequent, with blackmail, bullying and robbery being the most frequent ones. Drug-related crimes also occur.

**Table 2. Criminal acts committed against the young over the years 2008–2010 in the Slovak Republic**

<table>
<thead>
<tr>
<th>Choices</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminal acts against</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children under 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent crimes</td>
<td>1,047</td>
<td>44</td>
<td>864</td>
</tr>
<tr>
<td>Vice crimes</td>
<td>501</td>
<td>16</td>
<td>501</td>
</tr>
<tr>
<td>Theft</td>
<td>413</td>
<td>6</td>
<td>340</td>
</tr>
<tr>
<td>Residual crimes</td>
<td>116</td>
<td>40</td>
<td>116</td>
</tr>
</tbody>
</table>

Source: Ministry of the Interior Criminality Statistics

In Table 2 there are numbers of criminal acts committed against children and the young. It is alarming that in all the recorded years, crimes of violence and vice criminality are dominant. Regarding the prevention of delinquency and criminality, two aspects should be pointed to:

1. Pupils at primary and secondary schools should not behave as delinquents and should not commit criminal acts.
2. Pupils at primary and secondary schools should not be victims of criminal acts.

The growing number of problems in primary and secondary pupils’ behaviour requires continually and effectively implemented prevention. The school implements predominantly primary prevention, in some cases also secondary (mainly in cooperation with other specialists). J. Veteška (2011) points to changes in school education. According to observations provided by S. Kariková (2010, p. 200) ”there are important changes that may be ascribed to negative aspects of the teaching profession. It is the increase in pupils’ problematic behaviour at all types and levels of schools as well as communication with parents. These two aspects, undoubtedly,
also reflect changes in society as a whole, mainly the growth of various sociopathological phenomena as well as problems in the behaviour of children and pupils. “

Prevention at school may be implemented in various forms: by carrying out preventive projects or programmes, then prevention during classes, discussions and at time events. Further organisational forms of prevention include activities of the prevention coordinator, pupils’ out-of-school activities, pupils’ self-government activities, etc. An important role is also played by cooperation of the school with specialists.

C. Határ (2010, pp. 85–87) introduces principles that should be adhered to in prevention:

- unity of repression and prevention: one cannot punish children or the youth for inappropriate behaviour unless measures to prevent such behaviour have been taken;
- the principle of constitution and law respecting prevention: all preventive measures must be in line with valid legal regulations and law;
- the principle of prompt and objective prevention: preventive measures should be implemented in the time required by a given situation and needs;
- the principle of coordinated prevention: individual social and educational preventive programmes must be coordinated, or administered by a specific administration body at the state level as well as by a specific facility, organisation or institution at the regional level that possesses necessary executive competences associated with the case in question;
- the principle of institutional, personal, financial and informational provision for the preventive process: prevention efficacy depends on the involved professional institutions as well as on certified prevention specialists, their adequate level of knowledge and information and, last but not least, on financial resources to cover the implementation of programmes and measures;
- the principle of citizens’ widespread involvement in prevention: the greater public should participate in the prevention process on a voluntary basis as part of a community’s cultural activities;
- the principle of complexity and scientific bases of prevention: individual preventive programmes and measures must be thoroughly elaborated, scientifically justified and holistically conceived to cover the entire breadth and depth of potential or existing problems;
- the principle of planned and target-driven prevention: consistent planning of prevention and its components is unavoidable;
• the principle of systematic prevention: preventive programmes and measures must be carried out constantly, not sporadically; prevention is not a one-time act but a strategically well-thought-out and long-term indicated activity.

Wide involvement of social pedagogy in solving a number of social-educational problems in the past as well as today is reflected in various approaches to its definition, and thus the present understanding of social pedagogy varies. However, it has a significant position in prevention of social-pathological phenomena among children and the young.

The profession of the social pedagogue is demanded due to a sharp rise in social-pathological phenomena among children and the young, growing consumerism, the negative influence of the mass media, inappropriate free-time activities and the increasing number of social problems in society. School is the second strongest factor in the socialization process, and the social pedagogue at school must take preventive actions most of all towards children from non-stimulating family situations. Special attention must be paid to pupils from susceptible families. In such cases the pedagogue must closely cooperate with independent professional institutions.

School must be prepared for efficient prevention and management of pupils’ misbehaviour. The capacity of schools to solve the problems of bullying at primary and secondary schools is monitored by the state school inspections. In the 2009/2010 school year, school inspectors checked 80 primary and 80 secondary schools (32 comprehensive schools and 48 secondary vocational schools). The data for evaluation was gathered through interviews and questionnaires administered by school directors to pupils (2846 pupils at PS, 2219 pupils at SS) and to pupils’ councils (164 at PS, 427 at SS).

The results are interpreted in the Report on schools’ state of resources for managing bullying-associated problems at primary schools in 2009/2010 in Slovakia and in the Report on schools’ state of resources for managing bullying-associated problems at comprehensive and secondary schools in 2009/2010 in Slovakia. The issue of bullying had been included in the school documentation of the involved schools at varying levels of quality, while quite a few treated the issue in a rather general way. They worked out systems of activities to prevent pupils’ risky behaviour in school and out-of-school settings, and to eliminate the number of negative phenomena at their initial stages. Related to this they planned to monitor social relations in the classroom, however in a number of schools this was done sporadically, mainly restricted to the start of a school year, thus underestimating one of the important steps in the process of prevention. At some schools consistent coordination of
the educational process had not been applied, which means that comprehensive materials should have been produced and implemented curriculum-wide.

Based on the data from the analysed questionnaires and interviews, the identified instances of bullying were dealt with and in most cases recorded in documentation by school directors. The aggressors were subjected to agreed measures corresponding to the gravity of the offence. Some pupils reported that more teachers underestimate the gravity of aggressive behaviour symptoms as well as a consistent and responsible approach to identifying a solution. This is what is lacking in preventive activities in school settings, and it is imperative to fully make up for it.

In Slovakia today the main responsibility for prevention at schools is shouldered by prevention coordinators – teachers who mostly teach full loads and do not get paid for their additional function, frequently lacking the required knowledge as well.

The social pedagogue is professionally equipped to carry out preventive activities at school and thus it is imperative to establish permanent posts of social pedagogues at primary and secondary schools. To provide funding for the post of a social pedagogue at school is a serious problem for head teachers due to the present lack of finance; one solution proposed by L. Kamarášová (2009, p. 140), might be cutting down expenses by establishing one social pedagogue for a few schools.

In September and November 2010 we conducted a questionnaire-based survey among primary – and secondary-school teachers in central Slovakia (due to representative sample results valid for the entire Slovak Republic), specifically in the counties of Banská Bystrica, Krupina, Lučenec, Martin, Tornaľa, Zvolen, and Žilina.

The research sample included 196 primary-school teachers and 155 secondary-school teachers, totalling 351 respondents. Within the sample there were head teachers, deputy heads, drug abuse and other socio-pathological phenomena coordinators and school counsellors. Some of the respondents were also form teachers, education for partnership and marriage coordinators teaching various subjects.

The aim of the research was to gather respondents’ opinions on the need to establish a social pedagogue position at their schools. Our findings are shown in Table 3.

As many as 70.37% of the respondents would welcome the position of social pedagogue in their schools, while the opposite opinion was held by 15.10% of the respondents and 14.53% of the respondents did not give any answer. Nearly one third of the respondents did not care for the position of social pedagogue in their school. All in all, more primary school teachers are in favour of a social pedagogue position than secondary school teachers (75% vs. 64.52%).
Table 3. Opinions of teachers on the necessity of a social pedagogue at their schools

<table>
<thead>
<tr>
<th>Choices</th>
<th>PS teachers</th>
<th>%</th>
<th>SS teachers</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Position would be welcome</td>
<td>147</td>
<td>75</td>
<td>100</td>
<td>64.52</td>
<td>247</td>
<td>70.37</td>
</tr>
<tr>
<td>No need of social pedagogue</td>
<td>25</td>
<td>12.76</td>
<td>28</td>
<td>18.06</td>
<td>53</td>
<td>15.10</td>
</tr>
<tr>
<td>No response</td>
<td>24</td>
<td>12.24</td>
<td>27</td>
<td>17.42</td>
<td>51</td>
<td>14.53</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100</td>
<td>155</td>
<td>100.00</td>
<td>351</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Conclusion

We agree with J. Hroncová (2010, p. 65), who believes that “the core of a social pedagogue’s job these days is primarily to prevent socio-pathological phenomena among children and the youth as required by the growing rate of deviant behaviour within these age groups.” Preventive activities must be implemented systematically throughout the school year within and beyond the educational process. Nowadays there is a requirement to professionalize the prevention process as indicated in a number of Slovak and European documents. In this area we can see major opportunities for social pedagogues who are professionally well-suited for this sort of activities.

When implementing prevention of socio-pathological phenomena at school it is imperative not to stick to ineffective forms such as lectures, simple provision of information, intimidation, emotional appeals, etc. It is not enough to prevent behaviour disorders but to prevent potential child and youth abuse as well. Effective prevention should not employ threatening, commands, restrictions or prohibition; it should rather truthfully explain, clarify and offer new options.

It is important to declare that in primary prevention it is not possible for single activities to replace consistent and targeted work which should be implemented at the professional level.
Bibliography


Adolescents and Self-Esteem

Abstract

Adolescents are born into society and do not get to choose their parents and the families they will grow up in. If the family's core is healthy, vital and if it meets the needs and special demands of its members, then they will have better chances of developing positive self-esteem. In this study we were interested in how important family is to adolescents and how adolescents enrolled in different secondary school programmes (4-year and 3-year courses) see themselves, how high their self-esteem is and what differences there are in their self-esteem in regard to their gender, secondary school programme (4-year secondary school, programme: grammar school and school of economics and 3-year secondary school, programme: hairdresser and car mechanic) and academic record. The study showed that their self-esteem level is high, that family is the most important value for adolescents, that it is more important to girls than boys and that parental love is the most significant factor within family. Furthermore, we found that adolescent self-esteem is moderately high and has a positive mark regardless of their gender and academic record.

Key words: adolescent, family, parental love, self-esteem, academic record.

Introduction

Adolescence is a “life moratorium”, one of many in an individual's lifespan (Ule, 2003). Ule and Miheljak (1995) emphasize the social psychological and sociological character of adolescence, referring to an individual growing in society or rather the social designation and perception of the period of life between childhood and adulthood (ibid.).
This period features a very important transition (Sigelman, Rider, 2009), when the child, through interaction with his social environment, mentally matures to become an adult. From depending on his family and the protection it offers, the individual must slowly switch to independent decision making, independent actions and taking care of others, which requires reorganisation of his attitude towards himself and the world, acquisition of new opinions and competences in the process (ibid.). Adolescence is therefore mostly about acquiring one’s own sexual role and internalizing one’s own identity, through which the individual perceives himself as an autonomous and independent person, even though his actions still relatively depend on his environment, claims Anatrella (1993), quoted by Kobal (2000). Adolescence is thus a kind of psychological moratorium during which individuals are given some time to test themselves before developing stronger identity and self-image (Musek, 2005).

Many authors emphasize the important role of parents in shaping the adolescent’s identity, self-image, self-esteem and self-respect (Žlebnik, 1975; Košiček and Košiček, 1980; Satir, 1995; Gostečnik, 1998; Kompan Erzar, 2003). Žlebnik (1975), for instance, estimates that during adolescence the relationship between parents is crucial: the better the relationships within the family, the more flexible adolescents become, the less oversensitive, nervous, ill-tempered people are and the more friendly, sociable, content, smartly self-confident and brave they are. On the other hand, parents who are inconsistent in their behaviour, upbringing and authority can cause extremely dangerous situations that can make adolescents’ lives in the family more difficult or even endanger their normal development.

Self-esteem (Musek in Pečjak, 1996; Tomori, 1996) means taking a more or less positive or negative stance (estimation) towards oneself, which can be reflected in approval or disapproval of one’s own ideas, actions, achievements, abilities and properties, and experiencing them in a more or less acceptable or unacceptable way. Self-esteem most often refers to the component of being satisfied with oneself, which, according to Tafaroidi and Swann (1966), quoted by Avsec (2007), depends on society, and to the component of self-competence, which stems from the individual’s general feeling of being a competent and efficient person that has himself under control.

The level of self-esteem is extremely important for everyone, as it defines the emotional, social, intellectual, sexual, professional and mental growth, and in pupils and students also their study progress. Due to the effect of self-esteem on the quality of our lives it makes sense to encourage children to have positive self-esteem already very early on.
According to Satir (1995), the individual’s self-esteem can either be negative/low, average, and positive/high. She sees the main difference between people with high self-esteem and those with low self-esteem in their well-being and reaction to problems. Vital people feel full of energy most of the time and accept the feelings of emptiness as they are, namely as a momentary crisis, while people with low self-esteem would prefer to throw it all away when they get overcome by fatigue, when the world plays a trick on them, when they are quick to be disappointed or when life’s problems suddenly seem too difficult for them to cope with.

Many authors are convinced that the most common factors that affect the development and shaping of self-esteem are: family (Skalar, 1985; Perko, 2006; Cugmas, 1999; Kobal, 2000; Košiček, 1992; Tomori, 1994; Gržan, 2000a; Humphreys, 2002; Avsec, 2007), social comparison (Perko, 2006), self-activity (Perko, 2006; Avsec, 2007), school environment (Bajzek et al., 2003), relationship quality (ibid.), traumatic events, such as parents’ divorce, loss of a parent due to death or changing schools (Perko, 2006; Skalar, 1985).

We estimate that family is and remains the major factor for the self-esteem of children and adolescents, as it is here that self-esteem starts to develop (Bajzek et al., 2003). Tomori (1994) and Humphreys (2002) are convinced that it is the family where the basic and lasting guidelines for self-esteem develop, with which the child then enters the broader community and society as a healthy, independent, autonomous and individual personality (Gržan, 2000). It is in the relationship with parents and other family members that the child or adolescent realizes he is (un-) worthy of love, respect, trust, happiness, admiration and that he is someone with actual capabilities and skills, as estimated by Bajzek et al. (2003).

The purpose of the study was to discover how important adolescents consider family to be, how high their self-esteem level is and whether there are any differences in adolescent self-esteem in regard to their gender, the secondary school programme they are enrolled in (4-year secondary school, programme: grammar school of school of economics and 3-year secondary school, programme: hairdresser and car mechanic) and their academic record. We set the following four hypotheses:

- Family is the most important value for adolescents.
- Adolescents enrolled in a 4-year secondary school (programme: grammar school of school of economics) have higher self-esteem than enrolled in a 3-year secondary school (programme: hairdresser and car mechanic).
- Adolescent self-esteem is high.
- Adolescents with a better academic record have higher self-esteem.
Methods

The descriptive and the non-experimental causal method of pedagogic research was used.

The study included 120 adolescents from secondary schools located in central Slovenia, aged between 16 and 17. In the sample there were 39.2% of male and 60.8% of female students; 19.2% of the participants had no siblings, 59.2% had a brother or a sister and 21.7% had several brothers and/or sisters. Two-child families were prevalent in the sample. The sample consisted of 59.2% of adolescents from complete (two-parent) families, 17.5% of adolescents from single-parent families where the parents were divorced, 20% of adolescents from extended families and 3.3% of adolescents from single-parents families where the other parent was dead.

We gathered the data with the help of a questionnaire with closed questions and a five-level Likert scale for assessing how important individual aspects (family, school, friends…) were in the life of adolescents. In order to estimate the general level of self-esteem we used a five-level general self-esteem Likert scale (Rus, 1994).

Prior to the definitive polling, we had carried out a test poll on a smaller group of students. The questionnaire contained six closed questions with verbal answers regarding facts (secondary school programme, academic record, family type) and a self-esteem scale for the areas which were most satisfactory for adolescents or which most strongly affected their self-esteem.

The aspects of adolescent lives (which were most satisfactory to them) included three categories (family, school and friends) where adolescents, by circling the number in front of them (1–5; 1-unimportant, 2-less important, 3-of average importance, 4-more important, 5-the most important), chose the level of individual category importance in their lives and through that the influence level of each category on their self-assessment.

In the data collected via the evaluation scale we numerically pondered the descriptively expressed categories, which related to the importance of certain aspects (family, school, friends) of the adolescents’ lives, with a 1–5 scale (a lower mark meant a less important aspect of the adolescents’ lives, while a higher mark means a more important aspect of their lives). The average mark of three categories from the family aspect gave us individual results for individual adolescents, i.e. the level of the importance of family in their lives.

The gathered data was reviewed and processed with the SPSS statistics software. The data is shown in tables and charts, and we calculated the absolute (f) and
percentage-based (f %) frequencies. In order to determine the presence of statistical significance or correlations between the variables, we used the $\chi^2$-test.

Results

Assessing family, school, friends

The adolescents marked how important they found certain categories in their lives, i.e. how important those categories were for their satisfaction (1 was the least important and 5 the most important category).

Table 1: Adolescents’ assessment of the importance of family, school and friends in their lives

<table>
<thead>
<tr>
<th>Rank</th>
<th>Category</th>
<th>Arithmetic mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>family</td>
<td>4.74</td>
</tr>
<tr>
<td>2.</td>
<td>school</td>
<td>4.41</td>
</tr>
<tr>
<td>3.</td>
<td>friends</td>
<td>4.35</td>
</tr>
</tbody>
</table>

The adolescents stated that family was the most important in their lives, followed by school in the second place and friends in the third. Family is therefore the most important category in the adolescents’ lives. For the great majority of the adolescents (80%) family was the most important category, 15% of the respondents considered family more important and for 4.2% it was of average importance. Only 0.8% of the adolescents stated that family was less important.

The results of the $\chi^2$-test ($\chi^2 = 2.196, P = 0.533$) show that there are no statistically significant differences regardless of the gender. However, the results do show that family is more important to the girls with 82.2% of them confirming that statement compared to 76.6% of the boys agreeing with it. According to 13.7% of the polled girls and 17% of the polled boys family is important, and 2.7% of the girls and 6.4% of the boys consider it of average importance. 1.4% of the polled girls consider family to be less important.

In regard to the type of family an adolescent is growing up in and in regard to the assessment of family we also did not find any statistically significant differences ($\chi^2 = 6.529, P = 0.686$). However, the data shows that all the adolescents (100%) who have had lost one parent due to death, 78.5% of the adolescents from extended families, 78.9% of the adolescents from nuclear families and 71.4% of the adolescents with separated or divorced parents consider family to be the most important
category in their lives. 12.5% of the adolescents from extended families, 15.5% of
the adolescents from nuclear families and 19% of the adolescents from families
with separated or divorced parents stated that family is more important in their
lives. That family was of average importance was stated by 4.2% of the adolescents
from nuclear families and 9.5% from families with separated or divorced parents,
while 1.4% of the adolescents from nuclear families consider family to be less
important in their lives.

The results of the $\chi^2$-test ($\chi^2 = 14.585, P = 0.103$) also did not show any sta-
tistically significant differences in assessing family in regard to the secondary
school programme the adolescents are enrolled into. However, there is a tendency
($P = 0.103$) for the students of 4-year secondary school programmes (grammar
school and school of economics) to consider family to be more important than the
students of 3-year secondary school programmes (hairdresser and car mechanic).
This can be explained by the fact that the families of students enrolled into four-
year programmes are systemically different from the families of their peers who
are enrolled in three-year programmes. On average, the former have a closer con-
nection with their parents and enjoy greater support from them both emotionally
and materially, as their parents on average have a better education and a better
social and material status, which means that they can provide a better life for their
children.

Musek (1995) also finds that, according to studies done in Europe and Slovenia,
up to 90% of all respondents considered their families to be the most important in
their lives. This means that family as such is an important value.

We were also interested in which values within family the adolescents considered
the most important. The results are shown in Table 2.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Category</th>
<th>Arithmetic mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>parental love</td>
<td>4.74</td>
</tr>
<tr>
<td>2.</td>
<td>good relationships and understanding at home</td>
<td>4.69</td>
</tr>
<tr>
<td>3.</td>
<td>well-being in family</td>
<td>4.68</td>
</tr>
</tbody>
</table>

Within family, the adolescents value parental love the highest, i.e. the feeling that
they are loved by their parents, as the highest average mark places this category in
the first place. It is followed by good relationships and understanding in second
and well-being in family in third place.
The greatest desire of most adolescents is that their parents love them, that they enjoy their parents’ affection, that their parents approve of them and that they are proud of them. All this is an important foundation for building and developing the self-esteem of young people.

### Table 3: Assessment of the importance of parental love based on adolescents’ gender

<table>
<thead>
<tr>
<th></th>
<th>importance of parental love</th>
<th></th>
<th></th>
<th></th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>of average</td>
<td>more</td>
<td>the most</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>importance</td>
<td>important</td>
<td>important</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gender of</td>
<td>amount</td>
<td>amount</td>
<td>amount</td>
<td>amount</td>
<td></td>
</tr>
<tr>
<td>polled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adolescents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>2</td>
<td>13</td>
<td>32</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>4.3%</td>
<td>27.7%</td>
<td>68.1%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>3</td>
<td>8</td>
<td>62</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>4.1%</td>
<td>11.0%</td>
<td>84.9%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>5</td>
<td>21</td>
<td>94</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>4.2%</td>
<td>17.5%</td>
<td>78.3%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

84.9% of the polled girls and 68.1% of the polled boys believe that the feeling that parents love them is the most important in their lives. 27.7% of the boys and 11% of the girls consider parental love more important and 4.3% of the male adolescents and 4.1% of the female adolescents consider it of average importance. No respondents stated that parental love was unimportant to them.

Even though we did not find any statistically significant differences in this case, as $\chi^2 = 5.469$ and $P = 0.065$, we found that there was a tendency ($P = 0.065$) for the girls to perceive parental love as more important in their lives than the boys and accordingly they ranked it higher. The reasons for that are mostly due to the fact that men are inherently different from women. Women ascribe greater importance to parental love as in general they are considered to be more emotional and “less able to be impersonal”, while men are better at controlling their feelings and are considered to be more rational.

**Adolescents’ self-esteem**

The data presented above clearly shows that the majority of the polled adolescents, i.e. 58 of them, or 48.3%, have an average level of self-esteem, i.e. neither extremely positive nor extremely negative. 57 adolescents, or 47.5%, have positive self-esteem. The whole sample contains 5 adolescents (4.2%) that have a very negative opinion of themselves.
We did not find any statistically significant results in regard to the respondents’ gender.

**Table 4:** The amount and the structural percentages of adolescents’ self-esteem level

<table>
<thead>
<tr>
<th></th>
<th>amount</th>
<th>percentages</th>
<th>cumulative percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>negative/low</td>
<td>5</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>average</td>
<td>58</td>
<td>48.3</td>
<td>52.5</td>
</tr>
<tr>
<td>positive/high</td>
<td>57</td>
<td>47.5</td>
<td>100.0</td>
</tr>
<tr>
<td>total</td>
<td>120</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Table 5:** Adolescents’ self-esteem in regard to their secondary school program

<table>
<thead>
<tr>
<th>Adolescents’ self-esteem and secondary school programme</th>
<th>adolescents’ self-esteem</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>negative</td>
<td>average</td>
</tr>
<tr>
<td>grammar school</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>school of economics</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>hairdresser</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8.3%</td>
</tr>
<tr>
<td>car mechanic</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>total</td>
<td>amount</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

The majority of the adolescents with positive self-esteem can be found among the economists, i.e. 61.5%. They are followed by the future hairdressers with 54.2% and car mechanics with 30%, while their percentage in grammar school is surprisingly low, merely 17.6%. 70% of the grammar school students and 70% of the car mechanics have average self-esteem, followed by 38.5% of the economists and 37.5% of the hairdressers. Among the adolescents with negative self-esteem we found 11.8% of the grammar school students and 8.3% of the hairdressers. There are no economists or car mechanics with negative self-esteem.
The results of the $\chi^2$-test ($\chi^2 = 14.799; P = 0.022$) show that there is a statistically significant difference in the adolescents’ self-esteem in regard to their secondary school programme. According to the data, on average, the economists and hairdressers have a higher self-esteem level than others. We were particularly surprised that among all the students, grammar school students had an average self-esteem level. Self-esteem is predominately based on social comparison and comparing oneself with others, i.e. on what kind of person the individual compares himself with, and on whether the reference person is better or worse in the trait that is being compared. Therefore, based on the grammar school students’ self-esteem marks, they compare themselves with those who are more successful than they are; thus, they have a lower self-esteem level. In addition, their low self-esteem could be linked to the difficulty of the grammar school programme, as their syllabus is larger and much more demanding than those of other secondary schools, which is why they are often exposed to stress. On the other hand, their rather negative self-esteem can also be linked to the fact that compared to other secondary school students they have a slightly more critical attitude, even when they are assessing themselves.

**Academic record and adolescents’ self-esteem**

Among grade A students, 60% have positive self-esteem. In the positive self-esteem category they are followed by grade C students with 45.3%, grade D students with 44.4% and grade B students with 41.7%.

**Table 6**: Academic record and adolescents’ self-esteem

<table>
<thead>
<tr>
<th>Academic record in the previous academic year</th>
<th>adolescents’ self-esteem</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>negative</td>
<td>average</td>
</tr>
<tr>
<td>grade D</td>
<td>amount</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>5.6%</td>
</tr>
<tr>
<td>grade C</td>
<td>amount</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>5.7%</td>
</tr>
<tr>
<td>grade B</td>
<td>amount</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>4.2%</td>
</tr>
<tr>
<td>grade A</td>
<td>amount</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>0.0%</td>
</tr>
<tr>
<td>total</td>
<td>amount</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>
54.2% of the grade B students have average self-esteem. The same self-esteem level can be found in 50% of the grade D students and 49.1% of the grade C students, while 40% of the grade A students have an average self-esteem level.

Negative self-esteem can be found among the grade C (5.7%), grade D (5.6%) and grade B (4.2%) students. There was no negative self-esteem among the grade A students.

The results of the $\chi^2$-test ($\chi^2 = 4.004; P = 0.676$) show that there are no statistically significant differences in the adolescents’ self-esteem in regard to their academic record. We were happy to discover that the majority of the adolescents had average or positive self-esteem and that the share of those with negative self-esteem is small (a total of 4.2%).

**Discussion**

Studies show that most adults place family at the top of their value chart, as the family’s shelter helps them tackle various challenges, which otherwise they would not be able to cope with. Gradišar (2005) listed a chart of family values that was compiled by the INRA agency in twelve European states, where family reached the highest place – family as a universal value with 95% finished in front of all others (work, friendship, leisure, etc.). So, no matter how well people’s lives are, they hold no true value to them if things are not going well at home (Tomori, 1994). Family has strength and indestructible charisma, estimates Musek (1995).

Marinček (2002) believes that family gives birth to new lives, offers first beautiful life experiences and gives first incentives for development into a human. Family is the primary source, treasure, calling and identity both in the intimate and the social area, it is the gravitational and value-related centre of fundamental human relationships and in addition to being the substrate and shelter to the young, it represents a refuge for its members from the trials of everyday reality, Gradišar (2005) claims. He sees the value of family particularly in creative complementarities (family must ensure safety and protection, material existence, allegiance and integration, to the outside it is important that family adapts to changes and demands of the environment) and in family life experiences.

Everyone needs love to exist and to build a healthy self-image and self-esteem, estimates Zalokar-Divjak (2001), who also adds that love means respect, but also safety and trust. If we know that someone is waiting for us, loves us and that we have a place we can take shelter in, then this knowledge affects our existential confidence and perception of our own value.
For children and adolescents it is most important to have parents who can provide them with an emotional (and material) environment that they need to feel safe, loved and trustworthy (Herbst, 1996).

The results prove that the general self-esteem of adolescents is not stable. Rosenberg (1986), quoted by Kobal (2000), also states that adolescent self-esteem varies due to different factors that are defined by the period itself and by the social environment (family, peers, school). We know that self-esteem is defined not only by the period (in this case adolescence), but by the social environment as well. Gržan (2000) agrees with this statement, saying that self-image cannot be created without an estimate, the environment’s reaction to what you are.

Self-esteem primarily depends on social comparison, i.e. on comparing oneself with others, as well as on the person the individual compares himself with and on whether that person is better or worse in the compared attribute. Based on the grammar school students’ self-esteem, they tend to compare themselves with those who are more successful than they are, so they gave themselves a negative mark. In addition, their lower self-esteem could be related to the difficulty of the grammar school programme, as their curriculum is larger and more demanding, so they are often exposed to stress. On the other hand, their negative self-esteem can also be linked to the fact that compared to other secondary school students they have a more critical attitude, even when assessing themselves.

We expected the adolescents with better academic records to have higher self-esteem, but we found that the academic record did not influence the adolescents’ self-esteem at all. Kobal (2000) also reports a low correlation between self-esteem and academic record and as an example quotes Perkins and Shannon (1965), who did not find any significant correlations between self-respect and academic record.

**Conclusions**

80% of the polled adolescents consider family to be the most important category in their lives, which shows that family is not losing importance, but remains the central value for young people. That is why family is the category that brings the most joy to adolescents, but on the other hand, it can also be the greatest source of unhappiness, as the data shows that 34.2% of the polled students are stressed because of their family, since they see in it a cause for worries and trouble due to either family violence, disagreement and disharmony between their parents or simply due to making them feel that parents do not love them or accept them as they are.
By far the most important feeling for adolescents is to be loved by their parents, which means that they unconditionally accept them as they are. There is a tendency for the girls to value parental love higher than the boys. That is mostly due to the fact that men are inherently different from women and that they perceive interpersonal relationships, love and intimacy in different ways. Many experts consider women to be more emotional, so it is not surprising that they value parental love slightly higher compared to more rational men.

Self-esteem mostly depends on social comparison, on the person one compares oneself to, and on whether the reference person is better or worse in the compared attribute. In that case the results are definitely comprehensible. We found that among all the secondary school students, the grammar school students were the ones with a tendency toward a negative self-assessment. According to their self-assessments, they compare themselves to those who are more successful than they are, and their self-esteem could also be linked to more stress, which is a consequence of the more demanding programme, or simply to the fact that they are more critical compared to other secondary school students.

Many experts emphasize that the family is the basic unit of society. If the family’s core is healthy, vital and if it meets the needs and special demands of its members, i.e. that it is ruled by healthy interpersonal relationships, a democratic upbringing and suitable communication, then everyone living in such an environment will certainly be healthy, satisfied and happy, while also having a good starting point for life and positive self-esteem, which will help him tackle harmful addictions and bad, superficial relationships. Only such a family can produce healthy and successful individuals, who will positively affect the health of our whole society.

**Bibliography**


  Združitveno gibanje.


  Univerza v mariboru, Filozofska fakulteta.


Ethical Education as Duty in Post-modernism

Abstract

The author brings up the issues of postmodern aspects of ethics – in particular the need to incorporate it into the philosophy of education. In his article he deals with the following questions: What should be the nature of ethics? How can you justify the presence of ethics in the postmodern era known for its moral and ethical crisis. He also comes up with some partial answers. He emphasizes the importance of educated society that, apart from the mere possession of knowledge, also has to learn how to utilize it. It also relates to teachers’ obligation to point out the importance of education as part of self-awareness in the context of human existence.

Key words: duty, education, ethics, hermeneutics, philosophy, postmodern society, reason, responsibility, will.

Introduction

It seems that the noun duty and the adjective postmodern do not fit together at all. One of the slogans of postmodernity – or liquid modernity\(^1\)– is certainly libertine freedom, i.e. total libertinism that considers duty as contradicto in adiecto. The collocation postmodern duty thus seems to be not only a contradiction but it even appears to be a sheer nonsense. Postmodernity as a movement of thought a priori excludes any concept of duty. To libertinism the word duty is unacceptable

Ethical Education as Duty in Post-modernism

because it dwells on the humble and responsible behavior of individuals or the whole society, which is reflected in the interest in common well-being benefiting all (social ethics) as well as well-being benefiting individuals (individual ethics). Any humility and responsibility towards society or other people are strange to libertinism. Despite this the words duty and duties are more and more common in the contemporary language of political parties, global multinational corporations and the terminology of present-day philosophers. How can this conflict be explained by itself? Perhaps by intuition in perceiving the character or spirit of the era that we now live in as the German philosophy after the Nepoleonic Wars appropriately called it: Zeitgeist.²

The Ministry of Education also mentions duty in relation to teaching ethics at primary and secondary schools but it is possible to say this approach was already applied in ancient times where education, knowledge and skills were not the main purpose. It was rather the drive to attract individuals to what is “virtuous”.³ Why is it that the postmodern society shows concern for duty in teaching ethics and urgently issues the imperative as an official ministerial regulation?⁴ Is it not a breach of the rules stipulating unconditional nature of moral and ethical laws? Hartmann expressed the claim of unconditional nature of ethics as follows: “Ethics can truly teach what is morally correct, just as geometry can teach what is geometrically true. Yet it cannot impose anything on the moral consciousness, it can only give direction to its contents and principles.”⁵ Is it not the decreed ethics getting into a conflict with itself? Is it not going to eventually deal with a problem of its legitimacy at schools? And what is the assumption of ethics that is being taught, as Nicolai Hartmann put it, as eye-opening and giving life to what ethics teaches to see?

The Problem of the Fragmentary

Jean-François Lyotard, a French philosopher, described the reality of the postmodern world in the most thorough and philosophical way. He was the first to point out the break up of the whole – the whole that is often artificial – into frag-

² The neologism Zeitgeist meaning ‘spirit of the times’ intuitively implies that reality gets to the crossroads and for the lack of proper terms it is this word that is successfully able to capture the urgency in calling the change of the paradigm.
³ T. Jarmara, Nová témata výchovy k občanství a demokracii, p. 38.
⁴ A Decree of Education Minister no. 6991/2010–22.
⁵ N. Hartmann, Struktura etického fenoménu, p. 54.
ments. To put it differently, at present it is no longer possible to dwell on one single large tale that would be universally applicable and generally binding to everybody. Society goes through the opposite process – the process of fragmentation – that is grinding up the tale into plenty of stories. Those stories want to be recounted by everyone, no matter how trivial they are. That is why Lyotard spoke about a crisis of philosophy as well as a crisis of Western society. Ethics however – to be fully understood and passed on – needs a clear working space. It cannot, however, be anything that is fragmental but it has to be something that is of a holistically integrating nature. A society basing its culture on the fragmental misses out on what in systematic theology Tillich calls the depth dimension or the depth of life. The loss of culture’s depth dimension leads to increased superficiality of life and that in its consequences shows up as a moral and ethical crisis. Hence, if we want to discuss contemporary society and its culture, then it is necessary to call it the culture of superficiality.

The Polish sociologist Zygmund Bauman describes the above-mentioned fragmentation of the world as liquid modernity. The fact that culture lost its grand tale and put a number of small stories in its stead means that the values that used to hold together the basic rules of behavior, appreciated by the whole society, have also been lost. As Bauman writes: “I assume that the general feeling of a crisis that is perceived to a larger or smaller degree by both philosophers and educational theoreticians or practitioners, the current sensation that “we live on the crossroads”, the feverish efforts to newly define self-identity and obtaining it, the sense behind all those feelings are definitely not blunders, mistakes or negligence on the part of professional educators or failure of the educational theory but it is the general melt-down of all available behavioral patterns accompanied by the deregulation and privatization of self-identity creation, loss of authorities, ambiguity of messages about virtues followed by the fragmentation of life. Such is the world that we live in, the world that I would best like to describe as “postmodern” (although I reiterate, I hold no objection for it to be called late-reflexive or sur-modern or any other name as long as all agree on the meaning of the term.)”

This said the human culture is finding itself in danger of destroying itself because it loses the focus of the tale, which is what helps individuals find directions in society and the world, the tale that – as Zavis furthermore observes – is the cement of society.

---

6 N. Hartmann, Struktura etického fenoménu, p. 55.
7 P.J. Tillich, Pytanie o Nieuwarunkowane, p. 223.
9 M. Záviš, Repetitórum z Religionistiky. p. 6.
The fragmentation drives human beings – as in the text – outside the context of culture, the world and knowledge.

Marcelli describes the fragment as the mere organic part that heads for the entirety and if you want to understand it you need to see it within the full context. Let us introduce the following important proposition: “It needs to be said that the discourse scope can undergo changes and the fragment can move to different interpretation levels. The fragment is so left at the mercy of its uses that are drifting away from its original purpose and roles. And when there is nothing to rely on, the risk in this case is even higher than it holds for any other statements. If somebody wants to alter the interpretation scope or even distort the meaning of a statement by a well-known author they need to rip it out of its context first. Interpretation, over – interpretation shifts and distortions, their uses and misuses can then be detected by pointing to the intrinsic connections in the original text. The fragment does not have that privilege: it stands alone, left to serve all masters.” Marcelli draws attention to the danger of citing a single verse outside the overall context. If you apply this to treating human life within the horizon of its whole culture and start treating it the same way as the text, that is taking it out of the context of the whole history, culture, education levels, constant process of discovery of the human being as a holistic personality, taking them out of their natural environments they belong to, then you transform them into the mere fragment that will be left at the mercy of interpretation. Or can it perhaps be called manipulation?

Ethics as Interpretation of Human Being in the World

Once having information about the world in its current form, it is extremely important to justify and constitute the duty of teaching ethics. At the same time, the duty cannot be acquired from urgency or a social need. Social awareness can neither construct ethics making it a desired field, nor can it rid ethics of its legitimacy as a scientific discipline. Kant once and for all proved the fact that human beings will always search for the motives of their actions and always have an urgent need to find names for them. Otherwise they are exposed to the risk of rationally unsubstantiated actions that will deny the basic prerequisite – humans as rational beings. Human beings will always ontologically inquire about the reasons behind their existence. Being face to face with the neo-ethical questioning they will always have to be proving their self-confidence about what they know about the world.

They will not escape the theological question about the possibilities of their own faith and eventually they will have to assess all their actions from the ethical point of view because the motives will have to be explained and expressed by words.

A question that arises from that context appears to be vital for the whole of philosophy. Is Emmanuel Lévinas not right after all when he says that ethics is filosofia prima – the first philosophy that makes sense to all other human activities, thoughts and actions? “Emmanuel Lévinas is a philosopher of ethics, in contemporary thinking possibly the only moralist. However, those who see in him a specialist on ethics, as if ethics was a separate discipline, even before reading his work, can learn from these pages about the following basic principle: That ethics is in fact the first philosophy – a philosophy that all other fields of metaphysics use as a source to find true meaning. Because the fundamental question – a question that underlines the existence and puts humanity in the form of “other than being” and the transcendence of the world, a question without which by contrast each search of thought is only a desperate pursuit of the ‘Chimera’ – is the question of justice.”

By this logic of formulating the problem, Lévinas leaves a burden that is not easy to carry because it requires two things from each human being. Placing names on the motives of actions and the actions themselves. At the same time it establishes a burden of authenticity. The former has the character of hermeneutics. The latter represents a moral burden because it requires from everybody to tell the truth about their actions in accordance with their conscience.

Once having named the problem of the present-day world, the world that is fragmentary where humans fragmentize their world as well as themselves by losing the perspective of the whole; and having compared it to a fragment of text taken out of its context, the symbolic representation needs to be continued and possible solutions offered. If the human being is just a fragment without any meaning in itself, everything has to be done to make him/her a part of the whole again. This is in fact ethics in a hermeneutical sense – one that helps justify the actions of human beings in the context of history, science, religion and culture as part of aesthetic self-expression. The task for this kind of ethics is to integrate human beings into the holistic world context, or, as the hermeneutical vocabulary puts it, into the hermeneutical circle: “Hermeneutics works with the so-called hermeneutical circle where the meaning of any whole text can be interpreted only if the meaning of its part is understood, and vice versa, the meaning of the part is only revealed when one understands the meaning of the whole.”

12 L. Kiczko, Hans-Georg Gadamer, p. 151. In Malá antológia z diel filozov, II.
be integrated by force. Such an attempt would cast doubt on any claims of ethics as a scientific discipline. Experiments like that were already there. The twentieth century is the best illustration and of all philosophies Marxism-Leninism is the best proof.

If you want to do an experiment with any chance of success in the future, one thing is necessary. Porrum unum est neccesarium: Sympathy or understanding. Gadamer, the father of modern hermeneutics, takes it even further by the following theorem: “The very different question, however, is to what extent can the claim of the truth be verified by non-scientific methods of cognition. The topicality of the hermeneutical phenomenon in my opinion rests in the fact that such verification can only be accommodated by deeper reflection about the phenomenon of comprehension.”

It is also important to distinguish science, as a methodology of gathering knowledge, from comprehension, seen as the art of being able to see and understand knowledge. In saying that, what comes to one’s mind is the role of the present-day education as an art of not only gaining information but also the ability to properly treat it and understand it.

A lot has been said and written on the subject, but for the sake of ethics, as the science about the art of beholding, the most crucial aspect needs to be reiterated. Pierre Teilhard de Chardin expressed it best by asking a simple question: “If however the process of getting to know is so truly important and beneficial, why turning attention to man in the first place?”

He answers the question himself by anthropomorphisation of the natural science: “Physicists and natural scientists at first intuitively acted as if they watched the world from high above, the world they could let freely penetrate by their minds without being influenced by it or on the contrary without causing whatever change to it. At the present time they start to realize that even the most objective observations are impregnated with early conventions, thinking forms and habits that evolved during the historical development of research. Once they have reached the very limits of their analyzing, they are no longer so sure as to whether the obtained structure is the essence of matter they have been focusing their studying efforts on or whether it reflects their thought.”

There is only one answer to the Chardin-like question – by trying to understand the human way of thinking. Thinking itself becomes a text and they need to learn how to understand it. And this comprehension is not only a subject, as Gadamer cautions, of the natural science but it belongs to the aggregate of

---

14 P. Teilhard De Chardin, *Vesmír a lidstvo*, p. 28.
15 Ibid. p. 28n
human experience with itself in the world context. In the practical sense, it is about finding the relationship between reason and will. The reason as the way of getting to know the world and the will as the ability of humans to choose and act in accordance with what is already known. Ethics needs both – gaining knowledge and the ability of a human being to select and act on the known. After closer examination of this proposition, one can only arrive at a conclusion that it is not new. The concept comes from Thomas Aquinas.

**Relationship between faith and reason in the concept of Thomas Aquinas**

In his work Suma Theologica Saint Thomas Aquinas formulated a thesis that was very important for ethics and that was later further elaborated on by Immanuel Kant. It is the relationship between faith and reason and he also excludes emotion in the sense of affection stating it can no longer determine what is good and what is wrong. Thanks to that Aquinas transformed ethics into a philosophical discipline with possibilities of rational interpretations. The following chart is from Arno Anzenbacher:

![Diagram of the relationship between reason and will](image)

The relationship between reason and will is in Thomas Aquinas’s view mutual because they need each other. Reason needs will so that it wants to gather knowledge and faith needs reason as well so that it knows what it wants. Aquinas says that “will controls reason when it comes to actions: Because the truth as such is where knowledge finds fulfillment and it comes under general virtue as a certain special virtue. However, when it comes to specification of the action being dependent on

---

17 A. Anzenbacher, *Úvod do filozofie*, p. 224.
a subject, reason controls will because the virtue as such, too, is understood as something that comes under general concept of the truth.”¹⁸ One force is helpless without the other. At the same time, any irresponsible actions are eliminated. By this sort of looking at the relationship between reason and faith, deliberate or conscious actions are predictable. In other words, the theorem of man not wanting to act in a certain way can be categorically ruled out. Yet, a cardinal question remains and it regards the way humans see or understand situations they found themselves in. It is the question of how the human being sees him/herself in the world context. This point is very significant from the perspective of human being’s actions. To what extent the world and people within it are determining the will of the human being to act. The mutual relationship will be shown on an example of hermeneutical ethics.

The Relationship between Interpretation and Actions

Is it possible to constitute hermeneutical ethics? Jan Payne comes up with an outright positive answer: “Both branches, ethics and hermeneutics, are to a large degree in a mirroring – or better – complementary relationship although this might at first come as a surprise.”¹⁹ In his belief, hermeneutical ethics is a part of social ethics because the human being alone is not capable of comprehending, they can only accomplish it in relation to others and that within a discussion. “It only proves that reflection alone will never be able to provide full understanding of the human soul and humans in general; unless that understanding is detectable and yet only the community is able to crystallize soul into an authentic form.”²⁰

From this point of view hermeneutical ethics is particularly suitable as a tool for teaching ethics at schools. What is the essence of that ethics though? Above all it is the teachings of Thomas Aquinas and his relationship between reason and will as outlined above. The pattern can be further built on by replacing the concepts of reason and will by interpretation and action respectively. The assertion is based on the fact that thinking is the function of the brain and interpretation is the actual manifestation of thinking. Similarly – will is replaced by action because action originates from will.

²⁰ Ibid. p. 15.
The same dependence occurs between self-interpretation of human beings as reasoning creatures and their actions or rather motives behind them, while actions originate from their will. It is a recognized need that is based on knowledge or rather a certain interpretation of it where the basic problem of knowledge in general is the world and man within it. Yet, Teilhard de Chardin proved that seeing the world has anthropomorphic character. People perceive the world only with their eyes and reflect it by reason. According to de Chardin the world would be neither better nor worse without them but when you count them in it becomes anthropomorphic because man is the only reference point in it. These views are advocated by present physics by the so-called anthropomorphic principle claiming that the universe is arranged in exactly such a way it could accommodate a new intelligent life.21

The world that was non-anthropomorphic before the active humans becomes anthropomorphic with them, i.e. the world of man in action. It is a supplement to what is called the objective world – the one examined by natural science. And this one is no longer and by no means objective but – using de Chardin's words – it is the world that is a reflection of thoughts.

The above verdict precedes another very important concept and that is the duty to accept responsibility for actions within the triple relationship. Man versus his self, man versus society and finally the human being versus the world – the world in the Greek meaning of COSMOS. The world that becomes the human being’s duty.

Conclusion

Responsible actions are those that are aware of the need to see and provide human existence with means to teach the skill of beholding. Every ethical system

---

must be inevitably associated with hermeneutical ethics that strives to confirm the place of the human being in the world and gives their life a chance to decide for or against concepts that teach them how to understand. At the same time, hermeneutical ethics commits human beings to the duty of being humble and the ability to listen to the whole. Every understanding of the universe, including everything that belongs to the term, is still imperfect, just as Isaac Newton summed it up at the end of his life: “Being and knowing is like the sea without shores: The further you go the more immeasurable becomes the space that still lies ahead of you; each triumph of knowledge bears the old element of ignorance.”22 Every subject in curricula of primary and secondary schools already includes the component of hermeneutical ethics. It is the art of understanding the world and human being in the world. It also binds teachers to be able to open people’s eyes because they later make decisions based on what they have learned from their teachers.

Bibliography


22 I. Newton, in Störing, p. 251.
Mobbing Prevention and Intervention Strategies in Educational Institutions: Teachers’ View

Abstract

Since mobbing extends to educational institutions and influences teachers, students and the functioning of institutions as a whole, every institution must find ways of coping with it. In order to find which strategies teachers suggest for mobbing prevention and intervention, we designed a questionnaire administered to 223 school teachers in Slovenia. As preventive strategies, teachers most often suggested work on interpersonal relationships and organisational climate, education about mobbing and personal professionalism and consistency. In the case where mobbing has already occurred, teachers most often suggested a thorough discussion with all parties involved and public exposure and condemnation of mobbing. Based on the study results, some useful recommendations for practice are offered.

Key words: mobbing, prevention and intervention strategies, educational institutions.

Introduction

Mobbing was first described by Leymann (1996), who defined it as a situation of prolonged exposure to repeated hostile and unethical communication from co-workers, which occurs for at least half a year and at least once a week. The author (cf. also Davenport et al., 2002) identified 45 mobbing behaviours and grouped them in five categories: (1) Targeting self-esteem and communication (restricting possibilities for communication, preventing contact with others, criticising, etc.); (2) Attacking personal social relations (limiting the possibilities for maintaining
contact with others, isolating a person from others, etc.); (3) Attacking a person’s reputation (spreading rumours, making fun of the person, ridiculing, etc.); (4) Attacking a person’s professional qualifications and life situation (not assigning meaningful tasks, assigning tasks that are below the person’s qualifications, etc.); and (5) Attacking a person’s health (assigning dangerous tasks, making physical threats, sexual harassment, etc.).

In mobbing, the trigger is conflict. However, it is important to distinguish mobbing from more normal interpersonal conflicts, which are part of everyday life in all organizations. The difference between them does not lie in “what is done or is not done, but in the frequency and duration of what is done” (Leymann, 1996, p. 168). While conflicts are resolved over time, mobbing behaviour escalates and worsens in the course of time. Although mobbing starts with an equal power structure, this subsequently becomes more and more unequal and therefore limits the resources of the victims for defending themselves and successfully applying coping strategies to end the conflict situation (Einarsen, 2000; Zapf & Gross, 2001).

Victims themselves reported the following consequences of mobbing: insomnia, nervous symptoms, melancholy, apathy, lack of concentration, and socio-phobia (Björkqvist et al., 1994). The negative effects of mobbing are felt also by colleagues and the organization as a whole (Davenport et al., 2002; Einarsen, 2000; Leymann, 1996). The organizational cost of harassment may include the following: reduction in quality of work, unpleasant relationships in the institution, breakdown in communication and teamwork, increased turnover and sick leave and occupational stress.

In educational institutions, it is necessary to pay attention to mobbing for another reason, which is connected with the mission of the school. As stated by Kariková (2007), school is responsible for the optimal development of the child’s personality, and it is therefore responsible for preventing all indicators of aggression. The sense of security of each individual is also an inseparable condition for creating a productive educational environment. The Convention on the Rights of the Child (1996) decrees that governments have a responsibility to ensure that every child has equal access to a quality education adapted to meet the child’s needs. To actualize this goal, “school must respect the inherent dignity of the child, create a climate of tolerance of, respect for, and appreciation of human differences and bar practisc of bullying and disciplinary practices that harm or humiliate” (Cohen et al., 2009, p. 203).

Studies have confirmed that mobbing is a widespread phenomenon in many institutions, and educational institutions are no exception (Chyra & Czerkawski, 2011; Leymann, 1996; Einarsen, 2000). Moreover, studies (e.g. Leymann, 1996) have
pointed to the educational sector as a high-risk sector for mobbing. The problem of mobbing is present here and now, so it can no longer be ignored. As with systematically preparing programs for reducing bullying, schools should systematically plan programs to reduce mobbing. Since we had found no study that systematically explored strategies for the prevention and reduction of mobbing in schools, we decided to make this the subject of our study.

Specifically, the aim of this study was to find which strategies are, in teachers’ opinion, most effective for prevention and elimination of mobbing in educational institutions. Teachers’ knowledge and beliefs directly affect their decision-making processes and teaching practice (e.g., Bennett et al., 1997; Kegan, 1992). Therefore, in determining the most appropriate strategies to prevent and reduce mobbing teachers’ opinions need to be considered. If teachers believe in the effectiveness of a certain strategy, then there is greater likelihood that an individual strategy will actually be used in practice.

**Methods**

**Participants**

The participants in this study were 223 teachers from 14 randomly selected schools in Slovenia. From within these schools, all the teachers took part in the survey voluntarily. The sample included 53.4% of primary teachers (teaching pupils from 6 to 14 years of age) and 46.6% of secondary teachers (teaching students from 15–18 years of age). 95.1% of the teachers were female and only 4.9% of them were male.

**Data collection**

Data were gathered via an anonymous individual questionnaire. Requests for participation were sent to the principals of the schools included in the sample. They were asked to distribute the questionnaires to teachers. The teachers completed the questionnaires individually and then returned them to the principal.

The questionnaire consisted of two sections, the first of which requested the respondents to provide some general information. In the second part we asked the participants two questions:

- In your opinion, what are the most effective strategies for the prevention of mobbing in educational institutions?
- In your opinion, what are the most effective strategies for intervention in mobbing in educational institutions?
We were interested in the differences between primary and secondary school teachers’ opinions.

**Data analysis**

The narrative responses were first analyzed using analytic induction methods to identify common categories (Glaser & Strauss, 1967). The data were processed with the statistical programme package SPSS. For analyzing differences among primary and secondary school teachers, Spearman’s rank correlation coefficient was used.

**Results**

**Classification of the most effective mobbing prevention strategies**

Primary and secondary school teachers proposed similar mobbing prevention strategies. Statistically, the correlation was significant; $rs = .90$; $t(6) = 5.05$, $p < .05$.

<table>
<thead>
<tr>
<th>Prevention strategies</th>
<th>Primary teachers</th>
<th>Secondary teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good relations among employees</td>
<td>43</td>
<td>36.75(1)</td>
<td>38</td>
</tr>
<tr>
<td>Good management staff-employee relations</td>
<td>18</td>
<td>15.38(2)</td>
<td>18</td>
</tr>
<tr>
<td>Education about mobbing</td>
<td>16</td>
<td>13.68(3)</td>
<td>14</td>
</tr>
<tr>
<td>Formal and informal socializing</td>
<td>14</td>
<td>11.97(4)</td>
<td>11</td>
</tr>
<tr>
<td>Individual professionalism and consistency</td>
<td>12</td>
<td>10.26(5)</td>
<td>12</td>
</tr>
<tr>
<td>More communication between management and employees</td>
<td>9</td>
<td>7.68(6)</td>
<td>12</td>
</tr>
<tr>
<td>Timely detection of and intervention in mobbing</td>
<td>8</td>
<td>6.84(7)</td>
<td>5</td>
</tr>
<tr>
<td>Other$^b$</td>
<td>4</td>
<td>3.42(8)</td>
<td>6</td>
</tr>
</tbody>
</table>

$^a$ A lower rank indicates that the strategy was cited more frequently.

$^b$ The teachers gave the following answers: “Equal treatment of all employees” (four times); “Greater authority of school management staff” (three times); and “Preventive assistance for employees” (three times).

As can be seen in Table 1, both groups filled the first three positions with the same strategies. The teachers agreed that the most effective prevention strategy...
was concern by everyone for good communication, relationships and climate in the institution. The teachers described good communication as being open, sincere, honest, fair and professional. Such communication was in their view the basis for establishing a supportive climate and good relationships. In the teachers’ opinion, mobbing can also be successfully prevented when attention is paid to good management-employee relations. The teachers felt that the school management should establish correct communication and relationships with all employees, even if they had different views.

The teachers realized that good relationships and a supportive climate within the organisation could be set up only if all teachers spend enough time together and cooperate. This strategy was classified by primary and secondary school teachers in the middle of the rank order of the proposed strategies (places four and five). The teachers highlighted not only the importance of formal cooperation of employees, but also the importance of teachers spending time together outside school.

At the same time, the teachers pointed out that there would be less mobbing in educational institutions if management staff had more honest, genuine, correct and open contact with employees, especially in the cases where they completely disagreed or were dissatisfied with employees’ work. This strategy was placed in the fourth place by the secondary school teachers and in the sixth place by the primary school teachers; in the classification of prevention strategies, this was the greatest difference between the groups.

The primary and secondary school teachers placed the strategy of “education about mobbing” in the third position. They explained that all employees should know the basics of mobbing, that it would then be easier to identify mobbing behaviour caused by others and also by themselves. Education should also provide teachers with a variety of possible alternative strategies for the prevention and elimination of mobbing so that they could use them successfully in prevention and reaction if necessary.

In the middle of the rank order of the prevention strategies, the primary and secondary teachers placed “individual professionalism and consistency”. From the responses of the teachers, it is evident that professionalism and consistency at work are initially expected from their superiors. One teacher used the following sentence to stress, how important he/she thinks leadership is in providing a good model for employees: “It is hard to expect that in the institution there will be no mobbing among teachers, when mobbing is caused by superiors”.

In lower places (seventh and eighth) among the mobbing prevention strategies both groups placed “timely detection of mobbing”. The teachers explained that all employees should be alert and open to disagreement and conflict they might
encounter among colleagues. Some teachers also specifically highlighted the need for the management to monitor and have detailed knowledge of the work of employees and their relations.

Within the category “other”, we combined individual strategies proposed by the primary and secondary school teachers. A few teachers proposed “equal treatment of all employees”, other teachers highlighted the importance of “preventive assistance for employees”, and only three teachers stated that school management staff should have greater authority.

Classification of the most effective mobbing intervention strategies

The primary and secondary school teachers also proposed similar mobbing intervention strategies. This correlation has a statistical significance; $rs = .86; t(6) = 4.13, p < .05$.

Table 2: Percentages of primary and secondary teachers reporting mobbing intervention strategies, with the rank ordersa in brackets

<table>
<thead>
<tr>
<th>Corrective strategies</th>
<th>Primary teachers</th>
<th>Secondary teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thorough discussion of the problem with all parties</td>
<td>f</td>
<td>f%</td>
<td>f</td>
</tr>
<tr>
<td>Public exposure and condemnation of mobbing</td>
<td>75</td>
<td>64.10(1)</td>
<td>53</td>
</tr>
<tr>
<td>Victim support</td>
<td>7</td>
<td>5.98(3)</td>
<td>8</td>
</tr>
<tr>
<td>Appropriate criminal justice policy within the institution</td>
<td>5</td>
<td>4.27(5)</td>
<td>9</td>
</tr>
<tr>
<td>Finding a solution with all parties</td>
<td>6</td>
<td>5.13(4)</td>
<td>5</td>
</tr>
<tr>
<td>Exclusion of the violent person</td>
<td>3</td>
<td>2.56(6/7)</td>
<td>6</td>
</tr>
<tr>
<td>Inclusion of other institutionsb</td>
<td>3</td>
<td>2.56(6/7)</td>
<td>4</td>
</tr>
<tr>
<td>Otherc</td>
<td>2</td>
<td>1.71(8)</td>
<td>1</td>
</tr>
</tbody>
</table>

a A lower rank indicates that the strategy was cited more frequently (1=most frequent; 8=least frequent).

b These answers were as follows: “Ministry of Education” (three times); “Institute of Education” (twice) and “Police” (twice).

c These answers were as follows: “Supervision”, “Mediation” and “Establishment of the Institute for resolution of conflict situations at school”.

In Table 2 it can be seen that the primary and secondary school teacher listed the same strategies in the two highest places. They most often stressed the importance
of thorough discussion with all parties when mobbing occurred, in order to identify the problem as precisely as possible. The primary role in this conversation was attributed to the management, and some teachers claimed that school counsellors should also be involved. The teachers of both groups also seemed positive that the problem of mobbing should be publicly exposed and condemned. One teacher wrote as follows: “It is good that employees know that mobbing is also present in their institutions. Thus, teachers are aware that mobbing is present here and now, and that this is not a phenomenon that happens far away!”

Occupying the third position for the primary teachers and the fourth position for the secondary school teachers was the strategy of “victim support”. Many teachers believed that everyone in the institution should do their best to provide support for the victim as soon as violence is detected. At the same time, they agreed that the most professional support for the victim could be provided by school counsellors, who were specifically qualified for such tasks.

Approximately in the middle of the rank order of the most effective mobbing intervention strategies, the primary and secondary teachers placed the two strategies between which the greatest difference occurred. First is the strategy of “finding a solution with all parties”, which was ranked higher (fourth) by the primary school teachers than by the secondary school teachers (sixth). The teachers from both groups pointed out that, in seeking solutions, all parties involved in the violence needed to do their best.

The second instance where there was a great difference between the primary and secondary school teachers involves the strategy of “appropriate criminal justice policy within institutions”. The teachers suggested that each institution should establish rules and consequences for inappropriate employee behaviour, rules which would be strictly enforced. This strategy was ranked higher (third) by the secondary school teachers than by the primary school teachers (sixth). The strategy of “exclusion of the violent person from the community” was also placed in a higher position by the secondary school teachers (in the fifth place) compared to the primary school teachers (sixth to seventh place).

Should intervention in mobbing within the institution be unsuccessful, the teachers suggested the inclusion of external institutions (e.g., the Ministry of Education, the Institute of Education or the police). In the last position, it is possible to find individual proposals that were mentioned less frequently by both groups and were assembled in the category of “other”. For example, the teachers proposed mediation, supervision and establishment of an institute for resolution of conflict situations at schools.
Discussion and conclusions

The study indicated the problem of mobbing in educational institutions, while simultaneously revealing potential alternative mobbing prevention and intervention strategies. The teachers were provided with a number of prevention and intervention strategies. These results confirmed that they were aware that the extent of mobbing behaviour could be reduced only where attention was paid to prevention and intervention simultaneously.

In the teachers’ opinion, the preferred preventive strategy is concern for good relations and a supportive climate. These results are similar to those from other studies (Bulutlar & Ünler Öz, 2008; Leymann, 1996), which confirm that a cooperative climate constitutes the best way to decrease violence. At the same time, as stated by Dogan Kilic (2007), in order for schools to have the characteristics of learning organizations, “school employees should communicate effectively, develop healthy social relationships /…/, build a structure that protects the rights of individuals, and provide acceptable standards for the individual’s life and quality of work” (p. 872).

A cooperative culture, as Bečaj warns (2001), cannot be demanded; it is a culture that develops from internal beliefs concerning the importance of cooperation. This study showed that the teachers were aware of the importance of cooperation. In contrast, in contemporary schools there is still too little room for cooperation (Fullan & Hargreaves, 2000). Therefore, in the future special attention should be paid to the importance of cooperation in practice. We believe that a principal must play an important role in this process. He/she should provide an adequate level of communication with employees and organise projects that require cooperation among employees.

As an effective mobbing prevention strategy, the teachers also suggested an education about mobbing. If teachers know more about mobbing, they will be more aware of this phenomenon, and will detect it faster and be more ready to react responsibly and appropriately. We believe that future studies about mobbing in educational institutions are needed, while it is also important to transfer research findings to teachers.

The teachers also discussed the role of individual professionalism and consistency in mobbing prevention. Working consistency and professionalism help in producing work well done; concomitantly, this is reflected in individual satisfaction, which in turn results in less tension in interpersonal relationships. Additionally, teachers who do their work professionally represent good models to other team members and also to students.

It is surprising that only a few teachers stressed the importance of timely
detection of and intervention in mobbing. As established in the introduction, the mobbing trigger is conflict, and if conflict is not detected and resolved in time, it may escalate to mobbing. Zapf and Gross (2001) confirmed that active, problem-oriented conflict strategies worked reasonably well and that by far the most conflicts were solved with these strategies. Therefore, it would be necessary to offer teachers additional knowledge about constructive conflict resolution strategies, thus helping to prevent conflict from escalating into mobbing.

Until now we have been discussing mobbing prevention strategies, which are important but not sufficient to reduce mobbing. When mobbing occurs, intervention is needed. In the teachers’ opinion, the most effective mobbing intervention strategy is investigation into the problem, including thorough discussion with all parties involved. We agree with Brajša (1995) that discussion should be carried out democratically and professionally; everyone should have the opportunity to share his/her vision of the situation and feelings. The parties involved should also be encouraged to find adequate solutions to the situation by themselves.

However, when asking what the optimal response is to mobbing, the answers cannot be unanimous because each experience of violence is individual. Nevertheless, we can generally agree that the least appropriate response is to do nothing (Pšunder, 2010). We should recognize the problem, discuss it and in this way raise the awareness of it. This is something of which teachers are also aware, which highlights the need for anyone who detects mobbing to break the silence and send a strong message that violence is inappropriate.

While it is important to speak loudly about mobbing, it is nevertheless important to maintain a certain subtlety when it occurs. Victims are usually personally frustrated and emotionally impaired, so emotional support from people whom the victim trusts is usually most important for him/her. We agree with Leymann (1996) that it is good to designate one or more individuals in the organisation to whom employees in danger can turn for support.

Our results confirmed that some teachers were very punitive-oriented. They stressed that schools should develop and implement an appropriate punishment policy that would clearly define which behaviours were inappropriate and therefore needed to be punished. We believe that a strict punitive policy could be the solution in extreme cases. However, because of the mission of the teaching profession, each teacher should first be morally responsible for behaving in the manner he/she expects from students.

We hope that this study will encourage teachers to think about the problem of mobbing in their institutions and that, at the same time, it might help them create their own systematic strategy for the prevention and elimination of mobbing.
Bibliography


The Factors of the Development of Cognitive Processes of Gifted Pupils in the Constructivist Framework

Abstract

Modeling of the logical structures of sets of branches is becoming a European or even a world trend. The trend is breaking into the pedagogical sphere, as well. The aim of the presented models is to offer a rounded-off structure of information to gifted pupils, which can be accepted within the scope of a logical system of science without any necessary simplification. When designing the presented models, I tried to fulfil the vision that the new ideas should be transmitted systematically.

Key words: constructivism, cognitive constructivism, logical structures, analytical-synthetic model, theory of education of gifted pupils, educational process of a gifted pupil.

Constructivism is perceived, according to the dictionary, as “a broad stream of theories in the behavioral sciences and social sciences, highlighting both an active role and importance of the body’s internal assumptions in educational and psychological processes and the importance of its interaction with the environment and society. In this sense, constructivism is a theory of interaction and overcoming bias empiricism and nativism. The didactics is one of the dominant contemporary paradigms, divided into several streams.“ (Educational Dictionary, 2001). In this article, three streams are presented, which are cognitive constructivism, social constructivism and their electroring synthesis.

The following model provides a logical structure in the analytic-synthetic approach, which focuses on the cognitive processes of a gifted student in the constructivist framework. Social constructivism includes a set of contingent social
motivations, attitudes and beliefs of pupils, built and shaped in the educational process. Cognitive constructivism involves students’ ability to construct knowledge and to identify and interpret the content. The synthesis of the two currents is the perfect expression of the needs of gifted students in teaching and it is to promote solutions to the problems of life, creative thinking, group work and less theory and particularly drill.

Constructivism in teaching concepts was defined, e.g., by Rudolf Kohoutek (professor of Masaryk University in Brno) as “…encouraging learners to interactivity and social communication and creation of their own knowledge, the formation of structures of knowledge and a critical assessment of information, transition from “teaching another person” (transmissivity teaching) to “self-teaching”, self-initiation, self-organization and self-evaluation.”

The important issues that affect cognitive processes of gifted students are particularly undergraduate teacher training, graduate teachers in primary and secondary schools and educational-psychological counseling, which are organically integrated into the following model. Along its other factors, all this sightseeing tour ends with the creation of a theory of education of gifted students to transfer into practice.

Modeling of the logical structures of sets of branches is becoming a European or even a world trend. The trend is breaking into the pedagogical sphere, too. The aim of this modeling is to offer a rounded-off structure of information to pupils, which can be accepted within the scope of a logical system of science without any necessary simplification.

General model of analytical-synthetic (cognitive) structure

Figure 1 represents a general introduction which is necessary for basic comprehension of the analytical-synthetic modeling of a cognitive structure.

The model launches analytical classification of a constructivist pedagogy as a determining trend in pedagogy into partial phenomena and objects (b, b₁, b₂, b₃) and defines the relations between them, which are marked with letter B. For our purposes, events and objects are considered as systematised training of a stakeholder group of teachers participating in the education of gifted students (objects c₁, c₂, c₃, c₄ and their mutual relation C), which the introductory universe leads to.

Relations between areas b and c are the areas identified by letter C. By defining relations among the elements c₁, c₂, c₃ and c₄ may be a logical way to arrive at patterns and relations d₁ and d₂ (relations between them are marked with letter D).
Figure 1

Legend to Figure:

a … (Identified Complex Problem) – Investigated area of reality, investigated phenomenon
B_k … (Analysis) – Analytical layout within the framework of corresponding knowledge level
b_k … (Partial Problems PP-k) – Result of analysis: essential attributes and features of investigated phenomenon
C_k … (Abstraction) – Qualification of abstraction essences within the framework of corresponding knowledge level
c_k … (Partial Solutions of PP-k) – Result of abstraction: partial concepts, partial knowledge, various relationship etc.
D_k … (Synthesis) – Synthetic finding of dependences among the results of abstraction within the framework of corresponding knowledge level
d_k … (Partial Conclusions PC-k) – Result of synthesis: principle, law, dependence, continuity etc.
E_k … (Intellectual Reconstruction) – Intellectual reconstruction of investigated phenomenon / investigated area of reality
e … (Total Solution of Complex Problem "a") – Result of intellectual reconstruction: analytical-synthetic structure of conceptual knowledge system
Constructivism as a specific trend in pedagogy.

The constructivist theories as a starting point for education of gifted pupils.

- **b**
  - **b1** Defining of a talent in constructivist framework (paradigm).
  - **b2** Identification of tools for exploring learning of gifted pupils in the constructivist framework (paradigm).
  - **b3** Develop tools to explore learning of gifted pupils in the constructivist framework (paradigm).

- **c1** Undergraduate teacher training
- **c2** Graduate teachers at elementary school
- **c3** Graduate teachers at secondary school
- **c4** Pedagogical-psychological counseling

- **d1** Defining the differences in the ways of self-learning of gifted pupils and ways of self-learning of traditional student population
- **d2** An analysis of the ways of self-learning of gifted pupils

- **e1** Effectiveness of working with gifted pupils.
- **e2** The policy of working with gifted pupils

- **f1** Individual benefits of education of gifted pupils
- **f2** The social benefits of education of gifted pupils
- **f3** The economic benefits of education of gifted pupils

- **g** Creating of a theory of education of gifted pupils to transfer into practice
Here follows a sub-division of the analytical areas of \( d_1 \) and \( d_2 \) into areas \( e \) and \( f \). Relations between them are marked with letters \( E \) and \( F \).

By defining the links between elements \( e \) and \( f \) it is possible to reach the final of this model (the synthetic way), which ends with defining the content and scope of the concept of target \( g \). This concept is a thought-reproduction of an investigated introductory universe.

Relations between object \( b \) (constructivist theories as the basis of education of gifted students) and objects \( b_1, b_2, b_3 \) are marked with letter \( B \). It is thus a recognition that the educational process of a gifted pupil represents both a specific complex of factors and interacting components that create an intensive general educational situation for talented students, and it also represents the synthesis of processes of identification and preparation of tools to examine the process of learning of gifted students in a constructivist framework (paradigm).

The logical structure of the target concept \( g \) can be traced in the arrangement of a hierarchy of groups of terms. The concepts of groups \( b, b_1, b_2, b_3 \) can be classified into input (real) conceptual level, \( c_1, c_2, c_3, c_4, d_1 \) and \( d_2 \) to the analytical level, also referred to terms \( e_1, e_2 \) in the abstract level, \( f_1, f_2, f_3 \) to synthetic level and \( g \) to the target level of the terms.

The implementation of the deductive logic design structure of the target concept of specificity allows the specific application to obtain concepts that can be considered as conceptual elements of the application level.

In this case, I feel as a part of the application of conceptual levels, that the theory of education of gifted students will be created to transfer into practice.

The problems in working with gifted students is continuing to further submerge into the consciousness of the education public and this as a result also changes the situation of gifted students within their whole educational process. It is satisfying to see that through the RVP ZV, the reformation efforts within the current Czech educational system consider the presence of gifted students at schools and therefore offer teachers the possibilities to work actively and creatively with these students. Due to this fact we decided to create an analytical-synthetic model of the educational process for the gifted student, where we offer a global conception insight into education for gifted students. We also attempt to create an analysis of the essential needs of the gifted student at his/her current school and trying to point out the need to interconnect all the factors that participate in the education of students. This model should enable to appoint mutual interacting subsystems for the teaching of the gifted student in connection with gaining and developing the actual complex and its key competences. By “key competences“ we mean competences which are described in the RVP ZV as a complex of knowledge,
skills, abilities, attitudes and values that are important for personal development of an individual, his/her active integration into society and asserting him/herself in his/her future life. For the elementary education stage, the following competences are considered to be the key competences;

- study competence
- solving problems competence
- communication competence
- social and personal competence
- civil competence
- work competence

The portrayal of the defined logical structure of the educational system for the gifted student, which is oriented by a graph, can be described as follows: the scheme represents, and that within the deductive approach in the deductive system at Czech schools, only a global submission of the cognitive process of the gifted student. We stem from defining an “input abstract $a_1$“, and for our use we can describe it as an area where gifted students gain key competences which are described in the RVP ZV.

It is followed by an analytical division into partial phenomena and objects ($b_1, b_2, b_3, b_4$) and defining the relations in-between them which are marked by letter $B$. For our needs we define the stated partial phenomena and objects as a group of competences to which the “input abstract“ and groups of didactic forms and methods are directed (by which these categories are accomplished).

$b_4$ area is conditioned not only by the intellectual potential of gifted students, but mainly by their personality traits.

The relations between the $b$ areas are marked by letter $B$. By defining connections and dependences between the elements, it is possible to synthetically reach the principles and relations of $d_1, d_2, d_3, d_4$ (relations between them are marked by letter $D$).

- $d_1$… the normative aspect of the educational process of a gifted student means in general the whole content of individual subjects studied, which are passed by a student during his/her school attendance
- $d_2$… a group of external factors of the educational process for a gifted student includes the management and organization of the educational institutions and their material support, teachers and their further education, methods and forms of educational activities, material and nonmaterial didactic means and their choice, the organization and use of appropriate teaching methods
Education of gifted pupils as a specific process of passing knowledge and methods of scientific cognition, which is carried out within intentions of social interests and needs

Intentions of social interests and needs as basic requirements and aims of gifted pupils

A vicarious process of passing knowledge and methods of scientific cognition to gifted pupils

The entire organization of the educational environment as a set of situations in which a gifted pupil gets to know the system of the science branch actively

Gifted pupils' potential to accept knowledge and methods of scientific cognition and to interiorize them actively

Normative aspects of an educational process for a gifted pupil

An exogenic aspect of the educational process and its factors

An endogenic aspect of the educational process and its factors

An interaction between the inner and outer aspects of the educational process for a gifted pupil, with defined cooperative features

An educational process of a gifted pupil as a complex of factors and inter-reacting components, which in a synthesis form an overall educational situation. Its core and specificity are based on a system of developing interactive relations of endogenic and exogenic factors, which respect certain norms and at the same time create permanent changes of all aspects of the educational process which are so desirable for a gifted pupil
• d₃... a group of internal factors of the educational process for a gifted student includes motives, attitudes and beliefs of an individual person in relation to his/her own education and gaining key competences
• d₄... by the the interaction of the internal and external aspects of the educational process with defined cooperative features, we mean a mutual horizontal connection of the defined factors and their following interactive cooperation and mutual finalizing of specific didactic situations for a gifted student.

This whole cognitive route ends by defining the content and range of the final concept e₁, which represents the reproduction of thought of the researched input abstract (relations between d₁–d₄ and e₁ is marked by letter E). All of this means that the educational process of a gifted student represents a specific complex of factors and mutually affecting components which create an entire intensive educational situation for a gifted student. The core and uniqueness of this cognition is based on a system of dynamically developing interactive ties of internal and external factors, which respect certain norms and at the same time introduce constant changes of all basic educational aspects of the educational process, which are desirable for a gifted student.

In the logical structure of the final concept e₁, a certain hierarchy in the layout of concept groups can be traced. The concepts of the a₁ group can be classified as the input concept area, b₁–b₄ as the analytical area, c₁–c₁₄ as the abstract area, d₁–d₄ as the synthetic area and e₁ as the final concept area.

A deductive projection of the logical structure of the final concept of concrete particular enables to gain application concepts, which can be considered as elements of the application concept area.

In our case, as part of the application concept area a gifted student gains a complex of key competences, which are the result of the right functioning of the specific complex of factors and other components creating the whole educational situation.

This contribution offers to examine, possibly compare an attractive modeling of logical structures of subject matter on different levels on the one hand, and a traditional, although innovated, strategy of working up and transforming scientific findings on the other hand. The innovation of the educational strategies can be based not only on perfection of the current strategies, but also on quite new integral maps of individual branches, which have been already described abroad.

Finally, I consider it important to claim that while designing this model, I tried to fulfill my vision, namely that new ideas should be passed on systematically, well-arranged, should be economical and elegant and mainly productive. They should
enable others to ask new research questions and to formulate such hypotheses on the basis of which new logical structures could be modelled and known, new or hidden connections could be shown.

**Bibliography**

The Role of School-Family Partnership in the Implementation of Inclusive Education in Romania

1. Abstract

Inclusive education plays an important role in the context of current Romanian education. Inclusive education means access to education for all children, irrespective of their characteristics, by observing and applying a model of environmental education, according to which every child has a right to be brought up within their own family and to attend the school that is best suited to their needs. To achieve this goal, all educational factors should be involved, so that effective cooperation between them might provide an appropriate educational environment.

Inclusive education aims to continuously adapt education to children’s special learning requirements. Inclusive education is achieved by removing barriers to learning and ensuring attendance of all children vulnerable to exclusion and marginalization through a strategic approach designed to meet the learning requirements of all children. The first requirement of inclusive education is to decrease and even to eliminate exclusion of children from the educational system, at least at the level of elementary education. Inclusive education based schools provide basic, accessible, high quality education meant for all children, whose purpose is to turn them into pupils and provide them with basic skills and abilities (Mara, 2009, p. 82).

2. Educational Partnerships

In educational partnerships, teachers and members of school boards are responsible for providing favorable conditions for the development and education of chil-
The Role of School-Family Partnership…

dren. Inclusive schools must recognize the individuality of each participant in the educational act and create an environment where pupils feel valued and integrated (Vrășmaș, 2001). Parents have the responsibility to support the activity of schools, to understand the importance of education in the training and development of children, and the significance of activities that contribute to the development of pupils’ skills and aspirations to success.

Communities, including groups of parents working together, should create learning opportunities and organise events and programs that support, promote, and reward pupils’ progress, creativity, contributions, performance, and excellence. Communities have the responsibility to create familiar contexts, to come up with events meant to encourage children as much as possible. The concept of “community school” refers to a place that provides programs and services for pupils, families and community members. Working in partnership should imply trust and mutual respect between partners, a constant exchange of information, sharing the same goals and strategies, as well as rights and responsibilities commonly agreed upon. The attitude of the members of the school board towards the involvement of families and community members is critical to such a partnership, this attitude often being the key element that determines the success or failure of such partnership programs. Headmasters should be able to create a type of work environment in which teachers and school staff perceive parents as rightful partners (Agabrian, 2005).

3. Study on school – parent community partnerships

The presented study is meant to be mainly a type of qualitative research. The data that we intended to obtain refer to the way the parent community supports the inclusion of children with special education needs in the mainstream school system. The questionnaire that we developed was distributed to parents with children in elementary school and high school.

3.1. Place of research, characteristics of the batch

The questionnaire was distributed in three schools in Sibiu, Elementary School number 8, with grades 1–8, Elementary School number 25, with grades 1–8, and Terezianum Food Industry Technical College.

The batch to which the questionnaire was applied consisted of 55 teaching staff, both primary school and high school teachers.
3.2. Premises and objectives

It is particularly important in the current Romanian context to foster educational partnerships meant to support activities aimed at educating and training the younger generation. The notion of “educational community” is a model of organization inspired by other fields (such as religious community, professional communities, parent community). This concept defines a model of non-formal organization of extra-school factors at local and regional levels involved in supporting educational activities designed and conducted within the school.

General premise: An educational community is a stabilizing factor meant to support the activity of teachers in the process of educational inclusion of children with SEN in the mainstream school system. The community supplements this activity by supporting school initiatives.

Objectives: – stimulating teachers’ motivation to encourage parental involvement in the educational inclusion of children with SEN within mainstream education;
• identifying the level of parent community involvement in school matters;
• identifying the degree to which teachers involve parents in the education act;
• providing arguments for the need of school – parent community cooperation.

3.3. Organization of the study, methods employed

The method employed was a questionnaire applied to all the members of the batch, with questions aimed at the topic of parent community involvement in the inclusion of children with SEN in mainstream education. Mention should be made of the fact that the respondents were both male and female, aged 20 to 67.

3.4. Interpretation of data

The first question of the questionnaire referred to the existence of a strong community tradition in Romania related to the education of young people. This item was meant to establish whether teachers are aware of the existence of such a tradition in our country nowadays. It was a closed-ended response format: yes, no, I do not know. Thus, 19 respondents said that there is a community tradition in education in Romania today, 28 gave negative answers and 7 did not express an opinion on the matter.

The graph shows that 52% of the teachers think that our country has no community tradition of educating the young. The next graph shows
the differentiation by profession, primary school teachers and secondary school teachers:

According to the graph, 30% of the primary teachers answered “yes”, 48% “no”, and 11% “I do not know”, while 37%, of the secondary school teachers agreed that Romania has a community tradition, 58% disagreed, and 15% answered “I do not know”. The second question referred to the direct involvement of the parent community in educational activities. The response scale included four options, ranging from “never” to “very often”. It was found that 27 teachers “rarely” involved the parent community in school activities, 11 teachers “often”, 5 teachers “very often”, and 11 teachers “never”. Here is the graphic representation:

It was found that over a half of the batch had only rarely organized activities in which they involved the community, and only 9% of the respondents had no such activity. There was a distinction between primary school teachers and secondary school teachers: primary school teachers were found to organize such activities more frequently than secondary school teachers, which means that parental involvement in the educational act is higher at the primary school level than at the secondary or high school level. In terms of difficulties experienced during their career from the local community,
it was found that the respondents only experienced such difficulties to a small extent or occasionally.

Moreover, most teachers view the community as an institution or as a factor meant to convey cultural values.

The item concerning the idea of community as an institution meant to convey cultural values, with the answers “yes”, “no”, “I do not know”, is presented in the following graph:

The teachers believe it is beneficial for students’ parents to participate in some of the schools’ educational activities. Thus, 52 of the respondents answered “yes”, only one answered “no”, and two did not know. This can be illustrated as follows:

The main activities in which teachers believe that parents could have a beneficial effect on the quality of education and on the inclusion of children with SEN are:

- classes parents can sit in for;
- contests possibly sponsored by parents;
- activities of decorating and equipping the school;
- school festivals and sports activities;
• meetings with physicians, psychologists and other professionals;
• literary and artistic circles;
• lectures for parents and students;
• discussions on various critical topics: the future profession, sex education, students’ skills;
• parents sharing their professional experience with children;
• providing information on juvenile delinquency, alcohol and drug consumption among teenagers;
• classes taught by parents or by colleagues in the institutions in which they work.

When asked “Have you participated in activities that allowed your students to share their community school experience with students from other cities?”, the majority of teachers answered they had never had such an experience:

![Pie chart showing participation levels](chart1)

However, the respondents believe that such activities are incentives in children’s education. In terms of viewing the community as either a “partner” or a “deterrent” in the educational inclusion of children with SEN in mainstream education, the respondents believe that the community is a partner.

![Pie chart showing attitudes towards the community](chart2)

It may be noted that all the teachers are willing to encourage their pupils with SEN to participate in extracurricular activities with their classmates, and most of the teachers are aware of the conditions in which these students live. With regard to the way parent communities and local communities support inclusive education measures, the following activities were mentioned:
• artistic and sports activities;
• administrative activities;
• moral educational activities;
• economic educational activities.

As regards the teachers’ views on pupils with SEN achieving the best results in school due to good school-community cooperation, 98% of them agreed and 2% answered they did not know.

4. Conclusions and implications

The findings of the survey showed that the notion of “educational community” is a key factor in the educational activity. However, even if teachers consider the school – parent community cooperation as essential for the educational activity, they argue that this cooperation is not actually felt in all the activities they perform; it usually just complements what is done in school.

The community, to the extent it is present in educational activities, is seen as a “partner”, an active and beneficial supporter of many educational activities. The teachers also agree that they have been supported by the parent community not only in the educational inclusion of children with SEN in mainstream education, but also in all the other activities performed in educational institutions.

Acknowledgment: This work was supported by CNCS-UEFISCDI, project number 882/19/01/2009, PNII – IDEI, code 471/2008 Program Exploratory Research Project, Adaptarea curriculară – instrument fundamental în educația inclusivă.

Bibliography

“Lucian Blaga” University, Sibiu  
Teacher Training Department  
Questionnaire Code  
ANONYMOUS!

**QUESTIONNAIRE**

Please fill in the following questionnaire, which includes questions on the issue of parent community involvement in the educational inclusion of children with SEN in mainstream education.

1. Is there a strong community tradition in the education of young people in Romania?  
a. yes  
b. no  
c. I do not know

2. Have you in any way involved the parent community in the educational activities of your students?  
a. never  
b. rarely  
c. often  
d. very often

3. Have you encountered difficulties from the local community in carrying out your professional activities?  
a. never  
b. sometimes  
c. always
4. In your opinion is the community an institution meant to convey cultural values?
   a. yes
   b. no
   c. I do not know

5. Do you think it is beneficial that students’ parents participate in some educational activities in school?
   a. yes
   b. no
   c. I do not know

6. If your answer is “yes”, mention at least three such activities?
   .................................
   ......................................
   ......................................

7. Have you participated in activities in which your students have shared their school community experience with students from other cities?
   a. never
   b. rarely
   c. often
   d. very often

8. Do you find such activities stimulating for the education of children?
   a. yes
   b. no
   c. I do not know

9. Is the parent community a “partner” or a “deterrent” in the educational inclusion of children with SEN in mainstream education?
   a. partner
   b. deterrent
   c. I do not know

10. Do you encourage your students with SEN to participate in extracurricular activities with their schoolmates?
    a. yes
    b. no
11. Are you aware of your students’ living conditions?
   a. no
   b. to a small extent
   c. to a large extent
   d. fully

12. Specify at least three ways in which the parent community supports activities of inclusive education
   ......................................................................
   ......................................................................

13. Specify at least three ways in which the local community supports activities of inclusive education
   ......................................................................
   ......................................................................

14. Do you think good school-community cooperation helps students with SEN achieve better results in school?
   a. yes
   b. no
   c. I do not know

---

1. Gender:
   1. Male
   2. Female

2. Age: ______________

3. Education:
   1. High school
   2. Undergraduate studies
   3. MA/post graduate studies
   4. Doctoral studies

4. Teaching degree (if applicable)
   1. Novice teacher
   2. Definitivat
   3. Second Degree
   4. First Degree

5. Professional category
   1. Kindergarten teacher/Primary school teacher
   2. Secondary school teacher
   3. Psychologist (Professor psychologist)
   4. Speech therapist
   5. Supporting teacher
   6. Supporting teacher
   7. Psychopedagogue
   8. Another category? ............... 

6. Teaching experience: ............... years

7. Experience in current job: ............... years
The purpose of the present study was to explore the art ability of teenage blind students in the KSA with the objective (i) to study age and sex differences in the art-related activities of visually impaired students. (ii) to assess the artistic abilities (involving clay, handicrafts, and drawing) of visually impaired students. 155 male and 55 female blind students participated. Checklists developed by investigators were used. Findings revealed artistic abilities increased as a function of age and grade, the most dramatic developmental changes may occur during childhood and adolescence. During this period, almost all skills and abilities increase rapidly.

Key words: artistic ability, school, blind.

In the current school environment, it is important to consider the deductive reasoning and creativity that can be developed through art education. Albert Einstein observed that imagination is more important than knowledge” (Vermont Arts, 2004, p. 8). The use of imaginative thinking can lead students to explore alternative solutions to the problems they encounter. Art education helps to produce students who seek multiple solutions to the problems they encounter using creative and divergent thinking. A growing body of research, including studies in the research compendium critical links, has presented compelling evidence connecting student learning in the arts to a wide spectrum of academic and social benefits (Douglas, 2004). These studies have documented the mental, social, and personal dispositions and habits inherent to learning in the arts. Additionally, research has shown that art-related learning may help students to master other subjects, such as reading,
math, or social studies. Thus, it appears that students who participate in learning experiences in the arts often improve their levels of achievement in other realms of learning and life.

Several literature reviews have focused on the effects of art education on general academic achievement (Catterall, 1998; Douglas, 2004; Eisner, 1998), defined in terms of achievement in a variety of disciplines other than art. More specifically, achievement was measured by grade-point averages and teacher assessments as well as by students’ ability in reading and/or language arts and mathematics and, occasionally, in science or other disciplines.

The effects of individual differences, including sex and age, have attracted a relatively substantial amount of interest. Sex differences should be of great interest to art educators and aestheticians because both boys and girls participate in the arts community and any differences between the sexes may enhance our understanding of both art and gender. Recent research on sex differences in spatial and verbal skills has suggested the importance of the underlying neural mechanisms in sex differences. In one study on sex differences in spatial cognition, Geary (1995) postulated that such differences arise from the greater elaboration of the neurocognitive system in males than in females, which enables males to move and track more effectively in a three-dimensional universe. Berenbaum, Korman, and Leveroni (1995) also found that biological differences, especially the presence of early hormones (such as androgen) influenced the development of visual ability regardless of sex. Such visual tasks may also involve an interaction between the task demand and sex.

Barrett (1949) used criteria based on work at a fourth-grade level and showed that girls in the fourth grade achieved higher average scores on art tests as well as on school art exercises than boys. For improving the quality of education for people with visual impairments is of paramount importance to the Ministry of Education of the KSA. Unfortunately, schools in the KSA have not implemented the initiatives required to teach art to children with sensory disabilities. In recognition of these issues and the goals of special education in the KSA, the present study was planned to explore and assess the artistic activities of visually impaired students in the service of developing an effective curriculum that meets the special needs of these children.

**Hypotheses:** The present study tested the following null hypotheses:

1. The artistic ability of students would not be significantly related to age.
2. The artistic ability of students would not be significantly related to sex.
3. The artistic ability of students would not be significantly related to the interaction between sex and age.
4. The artistic ability of students would not be significantly related to academic achievement.

Participants: The sample was selected from 35 co-educational schools, with consideration given to the geographical distribution within the KSA. Students in private schools who had been blind from birth were selected from two cities: Makkah and Riyadh (purposeful sampling). Thirty-one integrated schools were selected randomly from four cities: Makkah, Riyadh, Hael, and Jeddah. All the seventh-, eighth-, and ninth-grade students in these schools who had been blind from birth were included. The samples consisted of 238 (155 male and 85 female) blind students in middle school (71 students in the seventh grade, 93 students in the eighth grade, and 74 students in the ninth grade).

Measure: The instrument used to assess student artistic ability was developed at several stages, which are described below.

Stage 1: Content analysis
Stage 2: Determining the dimensions of artistic ability
Stage 3: Analyzing the dimensions of artistic ability
Stage 4: Identifying and recording items on checklists
Stage 5: Confirming the logic underlying the checklist

Procedure: The researcher presented a definition of visually impaired individuals including their characteristics, sub-classifications, and artistic abilities and dimensions. The researchers collected statistical data about the number of visually impaired students and the total number of students. At present, 136 institutions offer education programs for visually disabled children in Saudi Arabia. The total number of children with visual impairments is 3,466. Of these, 1,396 are totally blind, and the others are visually impaired (Ministry of Education, 2009). Table 3.2 shows a demographic profile of all the special-needs individuals in Saudi Arabia.

Data Analysis: Data were collected by direct observations that were structured according to checklists, content analysis, and review of school documents. Multivariate analysis (one-way MANOVA), multiple comparisons (post-hoc analysis), Pearson's correlation coefficients, and t-tests were used to analyze the data. A multi-factor MANOVA tests two or more independent variables against two or more dependent variables (i.e., combines factorial and multivariate designs). The following basic variations of MANOVAs can be used:

Results and Discussion: Table 1 shows that students in the ninth grade performed best, as indicated by a mean score of 30.34. This was followed by the eighth-grade students, whose mean score was 28.38. The worst performances were given by the seventh graders, who achieved a mean score of 25.73. Thus, the children's artistic performances varied with age, indicating a developmental trajectory.
Table 2 shows that the female students performed better than the males in artistic ability and its dimensions, with means of 28.51, 10.96, 9.59, and 7.94 for artistic ability, working with clay, creating handicrafts, and drawing, respectively. The means for the male students were 27.29, 10.70, 9.30, and 7.56, respectively.

As shown in Table 3, statistically significant differences were observed between the mean scores of the males and those of the females in drawing: $t = -2.35, p < .05$; creating handicrafts: $t = -2.25, p < .05$; working with clay: $t = -2.14, p < .05$; and artistic ability: $t = -1.97, p < .05$. The mean scores of the females were significantly higher than those of the males for overall artistic ability and for each of its dimensions.

Table 4 shows a significant interaction between age and sex in drawing: $F(2, 235) = 3.22, p < .04$. However, as shown in Table 4, no significant interaction between age and sex in creating handicrafts, working with clay, and artistic ability was found.

The results shown in Table 5 demonstrate the following:

- A significant positive relationship between the artistic ability of the seventh-grade students and their performance in social studies ($r(238) = .60, n = 238, p < .01$); mathematics ($r(238) = .37, n = 238, p < .01$); science ($r(238) = .25, n = 238, p < .01$); and English ($r(238) = .39, n = 238, p < .01$).

- A significant positive relationship between the artistic ability of the eighth-grade students and their performance in social studies ($r(238) = .86, n = 238, p < .01$); mathematics ($r(238) = .73, n = 238, p < .01$); science ($r(238) = .79, n = 238, p < .01$); and English ($r(238) = .62, n = 238, p < .01$).

- A significant positive relationship between the artistic ability of the ninth-grade students and their performance in social studies ($r(238) = .44, n = 238, p < .01$); mathematics ($r(238) = .37, n = 238, p < .01$); science ($r(238) = .32, n = 238, p < .01$); and English ($r(238) = .27, n = 238, p < .01$).

- A significant positive relationship between the artistic ability of the full sample and academic performance in social studies ($r(238) = .68, n = 238, p < .01$); mathematics ($r(238) = .55, n = 238, p < .01$); science ($r(238) = .51, n = 238, p < .01$); and English ($r(238) = .50, n = 238, p < .01$). The highest correlation between the artistic ability and academic achievement was observed among the students in the eighth grade.

Table 1 shows that the ninth-grade students performed best, as indicated by a mean score of 30.34. This was followed by the eighth-grade students, whose mean score was 28.38. The worst performances were given by the seventh graders, who achieved a mean score of 25.73. Thus, the children’s artistic performances varied with age, indicating a developmental trajectory.
### Table 1. Means and Standard Deviations of Students’ Artistic Ability According to Grade Level

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Means</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>71</td>
<td>25.73</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.82</td>
</tr>
<tr>
<td>Grade 8</td>
<td>93</td>
<td>28.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.16</td>
</tr>
<tr>
<td>Grade 9</td>
<td>74</td>
<td>30.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.61</td>
</tr>
<tr>
<td>Total</td>
<td>238</td>
<td>28.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.87</td>
</tr>
</tbody>
</table>

### Table 2. Means and Standard Deviations of Scores for Artistic Ability and its Dimensions by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Drawing Mean</th>
<th>Handicrafts Mean</th>
<th>Clay Mean</th>
<th>Art ability Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7.56</td>
<td>9.30</td>
<td>10.70</td>
<td>27.29</td>
</tr>
<tr>
<td></td>
<td>1.04</td>
<td>1.03</td>
<td>0.92</td>
<td>2.88</td>
</tr>
<tr>
<td>Female</td>
<td>7.99</td>
<td>9.60</td>
<td>10.96</td>
<td>28.51</td>
</tr>
<tr>
<td></td>
<td>1.16</td>
<td>1.12</td>
<td>0.93</td>
<td>2.75</td>
</tr>
<tr>
<td>Total</td>
<td>7.87</td>
<td>9.46</td>
<td>10.87</td>
<td>28.20</td>
</tr>
<tr>
<td></td>
<td>1.08</td>
<td>1.06</td>
<td>0.92</td>
<td>2.87</td>
</tr>
</tbody>
</table>

### Table 3. The Results of t-tests Comparing the Mean Scores for Artistic Ability and its Dimensions by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Artistic Ability</th>
<th>Drawing</th>
<th>Handicrafts</th>
<th>Clay</th>
<th>t-Value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td>7.56</td>
<td>1.04</td>
<td>–2.35</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>7.99</td>
<td>1.16</td>
<td>------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>9.30</td>
<td>1.03</td>
<td>–2.23</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>9.60</td>
<td>1.02</td>
<td>------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>10.70</td>
<td>0.92</td>
<td>–2.14</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>10.96</td>
<td>0.93</td>
<td>------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>27.29</td>
<td>2.88</td>
<td>–1.97</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>28.51</td>
<td>2.75</td>
<td>------</td>
<td>--------</td>
<td></td>
</tr>
</tbody>
</table>
Table 4. MANOVA on Differences between the Mean Scores for Artistic Ability and its Dimension by Age and Sex

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F – Value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawing</td>
<td>4.57</td>
<td>2</td>
<td>2.28</td>
<td>3.22</td>
<td>.04</td>
</tr>
<tr>
<td>Handicrafts</td>
<td>1.16</td>
<td>2</td>
<td>0.58</td>
<td>0.78</td>
<td>.46</td>
</tr>
<tr>
<td>Clay</td>
<td>0.07</td>
<td>2</td>
<td>0.03</td>
<td>0.08</td>
<td>.95</td>
</tr>
<tr>
<td>Art ability</td>
<td>8.79</td>
<td>2</td>
<td>0.44</td>
<td>0.88</td>
<td>.42</td>
</tr>
</tbody>
</table>

Table 5. Summary of the Correlations between Artistic Ability and Academic Achievement by Grade

<table>
<thead>
<tr>
<th></th>
<th>Social Studies</th>
<th>Mathematics</th>
<th>Science</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>.60**</td>
<td>.37**</td>
<td>.25**</td>
<td>.39**</td>
</tr>
<tr>
<td>Grade 8</td>
<td>.86**</td>
<td>.73**</td>
<td>.79**</td>
<td>.62**</td>
</tr>
<tr>
<td>Grade 9</td>
<td>.44**</td>
<td>.37**</td>
<td>.32**</td>
<td>.27**</td>
</tr>
<tr>
<td>Overall</td>
<td>.68**</td>
<td>.55**</td>
<td>.51**</td>
<td>.50**</td>
</tr>
</tbody>
</table>

** Significant at $\alpha = .01$

The results of a one-way MANOVA analysis revealed significant differences in the artistic abilities of students in different grades, with older students tending to perform better than their younger counterparts. These differences were also reflected in the students’ use of different art forms.

The post-hoc analysis also indicated variations in the students’ artistic ability according to sex. The overall results tended to show superior performance among the males. The mean scores for the male ninth graders was significantly higher than those of the male seventh and eighth graders, and the mean score of the male eighth graders was significantly higher than that of the male seventh graders.

The results from the one-way MANOVA revealed significant differences in artistic ability and its dimensions among the female students in different grades. Furthermore, post-hoc analysis indicated that the mean scores of the female students were significantly related to age, with older age related to higher mean scores. However, the results of the post-hoc analysis showed that neither the male nor the female students were consistent in their performances in different forms of art, which seemed to coincide with Lowenfeld’s (1973) results regarding the influence of age on the artistic ability, even among subjects in the present study, who were visually impaired.
The one-way MANOVA showed significant differences in artistic ability and its dimensions among visually impaired students in different grades. Post-hoc analysis indicated that the mean scores for the ninth-grade students was significantly higher than those for the eighth – and seventh-grade students, and that the mean score of the eighth-grade students was significantly higher than that of the seventh graders.

The results from the one-way MANOVA also revealed significant differences in artistic ability and its dimensions among mainstreamed students in different grades. Furthermore, post-hoc analysis revealed that the mean scores of the mainstreamed ninth-grade students were significantly higher than those of the mainstreamed eighth – and seventh-grade students. Additionally, the mean scores of the mainstreamed eighth-grade students were significantly higher than those of the mainstreamed seventh-grade students.

In conclusion, ceteris paribus, general and more specific artistic abilities increased as a function of age and grade, showing that these abilities are age related. Indeed, the most dramatic developmental changes may occur during childhood and adolescence. During this period, almost all skills and abilities increase rapidly, as reflected in the use of age – and grade – equivalent scores in ability and achievement tests. The conclusion that abilities generally tend to increase at earlier developmental stages and decline at later stages must be interpreted in the context of the constraints imposed by environmental factors and the possibilities inherent in the presence of varying degrees of plasticity during the entire lifespan.

Thus, abilities are also affected by the experiences of each individual. Individuals who have not been exposed to appropriate experiences and training obviously cannot develop certain abilities. However, more specific abilities, particularly the ones that can be learned through formal education, are modifiable by specific training. Indeed, the abilities of some individuals can change as a result of maturation and training (Brown, 1972).

What are the practical implications of this human plasticity? First, we must always consider the developmental level and previous experiences of individuals when interpreting their scores on measures of ability. These scores indicate their level of development according to that particular measure at the moment of measurement. Whether a score represents the maximum level of a subject’s development or only a stage in the developmental process will depend on the individual’s age, previous experiences, and future opportunities.

1. Do the artistic abilities of different age groups differ significantly by sex?

The results of the t-test revealed significant sex-related differences in artistic ability and its dimensions. These findings seem to be consistent with those of previous studies (e.g., Chermey et al., 2006; Chris et al., 1999; Silver, 1993). Furthermore,
research has consistently found that boys and girls produced different kinds of pictures during elementary school (e.g., Chris, Boyatzis, & Julie, 1999; Reeves & Boyette, 1983; Rubenstein & Rubin, 1984). Boys often depicted themes of power, competition, and depersonalized aggression that included monsters, vehicles, and weapons. Compared with those in girls’ drawings, the characters appearing in boys’ drawings tended to be farther apart, to appear in profile, and to be in motion. Girls typically drew static images of natural settings with animals and people, who were often depicted in detail and presented frontally without motion. For example, one study asked children between 8 and 11 years of age to draw pictures of water; girls drew calm rivers and oceans, whereas boys drew storms at sea (Kawecki, 1994). Girls and boys have also been found to differ in terms of technique; boys between the ages of 9 and 12 tended to draw angular, geometric shapes, whereas girls were likely to produce curvier, organic forms. Several researchers have argued that gender differences emerge by first grade and are stable thereafter (Rubenstein & Rubin, 1984).

2. Do the rates at which visually impaired students progress in their artistic ability in different forms of art differ by age and sex?

The results of the one-way MANOVA revealed significant differences in drawing according to grade and sex, but no significant differences were found among these groups in creating handicrafts and working with clay. These findings seem to be consistent with those of previous research (Silver, 1993; cf. Chapter 1).

How useful are the differences in performance reported herein to arts educators? First, these results reinforce notions of children as individuals; these notions should be considered in the process of curriculum design. The findings also underscore the importance of addressing sex differences by helping boys to enhance their verbal skills and girls to improve their spatial skills without labeling such differences as good or bad, superior or inferior. Second, art educators should consider sex-related differences in their selection of the objects of art used for study in the classroom, given that these distinctions may contribute to whether and by whom a particular work is appreciated.

The data in this study showed a significant positive relationship between artistic ability and academic achievement, which seems consistent with the results of previous studies (e.g., Catterall, 1998; Halley, 2001). This strong positive relationship between artistic ability and academic achievement is similar to that reported by other empirical studies. For example, Butzlaff (2000) reported a correlation between involvement with music and academic achievement. The current research findings also supported the conclusion drawn by Catterall, Chapleau, and Iwanaga...
Fahad Alshemmeri, Abu Talib Putih, Saedah Siraj, Aqeel Khan & Nabeel Abdallah (1999) that students involved in music were “doing better than those who are not—for whatever constellation of reasons” (p. 4).

In a meta-analysis of 24 correlational studies, Butzlaff (2000) calculated a reliable but low relationship between music instruction and standardized measures of reading ability ($r = .17$). The six experimental studies demonstrated an even smaller effect of music instruction on reading. A similar meta-analysis was conducted by Palmarini (2000) for the Reviewing Education and the Arts Project. He found scant quantitative data to support the notion that the arts improved reading skills.

Adler (1982) advocated a position echoed by many educational philosophers who have felt that the arts should play a central role in education. According to this perspective, educating students in the arts is critical for developing the whole person. Eisner (2002) outlined a number of ways in which this goal can be achieved including the following: (a) integrating the arts into specific projects (e.g., a history project); (b) integrating different forms of arts, such as by comparing the rhythm in music and in the visual arts; (c) identifying a specific theme from artistic and non-artistic perspectives; and (d) problem solving through multiple perspectives. This process is thought to begin quite naturally during infancy and early childhood, when learning experiences are holistic and integrated rather than separated into specific domains. For example, shows such as Sesame Street incorporate music as well as a wide variety of arts into an informal learning experience. Several curricula have been based on such an integrative approach. For example, the A+ Schools program “combines arts integration, continuous, whole school professional development, and the use of statewide academic support networks for teachers and administrators to implement a state’s mandated curriculum and meet accountability standards” (e.g., http://aplus-schools.uncg.edu/), pp2.15.

In conclusion, ceteris paribus, general and more specific artistic abilities increase as a function of age and grade, showing that these abilities are age related. Indeed, the most dramatic developmental changes may occur during childhood and adolescence. During this period, almost all skills and abilities increase rapidly, as reflected in the use of age – and grade – equivalent scores in ability and achievement tests. The conclusion that abilities generally tend to increase at earlier developmental stages and decline at later stages must be interpreted in the context of the constraints imposed by environmental factors and the possibilities inherent in the presence of varying degrees of plasticity during the entire lifespan.
Bibliography


Metacognitive Behaviours of the Eighth Grade Gifted Students in Problem Solving Process

Abstract

This research aims to examine how gifted students exert their metacognition in each problem-solving step while solving a problem. In this sense, the researchers gave four students of the 8th grade three mathematics problems. The data of the study was collected through clinical interviews. The voice recordings of the students during the problem solving process and the solutions they wrote on paper formed the data of the study. The findings show that gifted students display metacognitive behaviours in problem solving process intensity. It was also observed that gifted students display some metacognitive behaviours which had not been determined by researchers before. These behaviours are seen at the stage of looking back and they are revision of connections between topics which were learnt in the past after solving a problem and relaxation of brain in order to evaluate what has been done by thinking over alternative ways. The findings of the research are important in terms of determining how gifted students exert their metacognition in each problem-solving step.

Keywords: metacognition, gifted students, problem solving.

1. Introduction

Metacognition as a concept was brought forward first by Flavell (1988), albeit theoretically it is dated back to earlier times. Many researchers defined it in different ways. According to Flavell (1979), metacognition comprises knowledge which an individual has acquired from his/her experiences through the cognitive process.
Metacognition is meditation of an individual over his/her thinking and learning process (Yorulmaz, 2006; Garner, 1987).

People need to struggle in order to solve a problem. Cognition exists in this struggle process (Polya, 1957; Yimer, 2004). But cognition is not enough for solving a problem. While solving a problem, one should assess the knowledge given, make an analysis-based plan and evaluate whether the results are reasonable or not. These processes require thinking about the thinking processes, that is metacognition. Thus, metacognition is an important element of problem solving (Gardner, 1991; Karmiloff-Smith, 1992).

In order for students to be good at problem solving, what kind of metacognitive behaviours they display while solving problems should be found out and necessary support must be given upon knowing what they lack. So, it becomes important to determine students’ metacognitive behaviours to understand their mental processes while solving a problem (Schraw & Dennison, 1994).

It is important to improve thinking skills for every student at every grade. However, some researchers state that thinking processes of gifted students are different from other students’ (Shore & Dover, 1987). Metacognition, in fact, helps gifted students be aware of their thinking processes (Yong & Zhicheng, 2009). Because gifted students need thinking skills more in order to evaluate what they have learnt (Amick, 1985). Therefore, some researchers and pedagogues state that metacognition contributes to performance of the gifted (Cassidy, 1998).

When the studies on the problem solving processes of gifted students are reviewed, it can be seen that very limited studies have been carried out. Some of these studies are as follows:

Düzakin (2004) found that gifted students could make connections among the ideas which seemed irrelevant for each other, could conceptualize abstract things in the problem solving process and had skills for synthesis. Dover (1983) found out that gifted students were more comfortable while solving a problem and solved it correctly within less time owing to the fact that they made use of their metacognition more effectively. Stonecipher (1986) analyzed the similarities and differences in the mathematical problem-solving processes of gifted and average junior high school students. The findings concluded that the problem-solving processes among the gifted students were dissimilar, among the average students were similar, and between the gifted and average students were dissimilar. In another study, Ellerton (1986) asked students to make up a mathematical problem that would be difficult for a friend to solve. A sub-sample of 11 – to 13-year-olds was interviewed while they were working on the items in the study. The findings concluded that gifted students were quicker at realizing their errors while solving a problem.
1.1. Purpose of the Study

We found out that studies dealing with metacognitive behaviours of gifted students were limited in number when scanning the relevant literature. Therefore, this research aimed to find out what kind of a metacognitive process gifted students employ in each problem-solving step.

2. Method

2.1. Research Method

By focusing on an exclusive case and without generalisation, a case study method was used in this research.

2.2. Participants

Gifted students in Turkey are educated in Science & Arts Centers, which are different educational institutions and independent of formal school programs. Selection of gifted students to be enrolled in these education centers takes place at six stages. These stages are diagnosis, designation for candidacy, preliminary evaluation, group scanning, individual scrutiny and enrolment-placement (Science & Arts Centers Directive, 2007).

The students who manage to pass all these stages get the right to be educated in Science & Arts Centers. Thus, we can say that Turkey is fastidious about the selection of gifted students. The research was conducted on four students, two of them were male and two of them were female and 14 years old, who enrolled in Science & Arts Center in the spring term of the 2009–2010 school year.

2.3. Data Collection

A clinical interview was used while collecting data for this research. The questions of the clinical interview were determined pronouncedly. The problems used in the study were prepared using the mathematics curriculum and mathematics course books. The clinical interview questions and problems prepared by the researchers were reviewed by two field experts. The problems are presented in Appendix 1.

2.4. Data Analysis

Polya states that an individual goes through four steps while solving a problem. These steps are understanding the problem, devising a plan, carrying out a plan and looking back. In this study, metacognitive behaviours of students solving problems were assessed as coded in the context of Polya's problem solving steps.
3. Results

3.1. Gifted students’ metacognitive behaviours in the step of understanding the problem.

These behaviours are presented in Table 1 together with the students’ answers.

**Table 1. Metacognitive behaviours displayed by gifted students in the step of understanding the problem**

<table>
<thead>
<tr>
<th>Metacognitive Behaviours</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>To determine the basic concepts</td>
<td>G1,G2,G3</td>
</tr>
<tr>
<td>R: What do you understand about the problem? Can you express what you have understood? G1: At the moment, I understand the difference of two squares.</td>
<td></td>
</tr>
<tr>
<td>R: What do you think about this problem? G2: It can be solved by combination.</td>
<td></td>
</tr>
<tr>
<td>R: How do you plan to solve the problem? G3: Two out of six colours will be selected. I will solve it through combination.</td>
<td></td>
</tr>
<tr>
<td>To determine what to do in case of not understanding the problem</td>
<td>G2,G3</td>
</tr>
<tr>
<td>“I read as mathematics at first.”(G2)</td>
<td></td>
</tr>
<tr>
<td>“If I don’t understand a problem at all, I often draw figures”(G3)</td>
<td></td>
</tr>
<tr>
<td>To think over what has been given</td>
<td>G3,G4</td>
</tr>
<tr>
<td>“At first, I read the problem and try to understand what it wants me to do. Once I understand, if there are alternatives, I interpret them seeking to answer which one is the right alternative.” (G3)</td>
<td></td>
</tr>
<tr>
<td>“I plan to juxtapose the given data at first.” (G4)</td>
<td></td>
</tr>
<tr>
<td>To act in accordance with whether they have a grasp of a subject or not</td>
<td>G1</td>
</tr>
<tr>
<td>“If I know the topic very well, I begin to solve directly. If I have difficulty, I think a little at first, then I begin to solve according to what I need to do.” (G1)</td>
<td></td>
</tr>
</tbody>
</table>

(R: researcher, G1: first gifted student, …, G4: fourth gifted student)

It was observed that the students determined the basic concepts they found useful before solving a problem. As seen in Figures 1 and 2, the students would use two squares difference before starting to solve the second problem and a combination before solving the third problem as based on their schematic knowledge.
Figure 1. The solution of the G1 student through two squares difference

\[(20-18) \cdot (20+19) + (18-17) \cdot (18+17) \ldots \]

\[39 + 35 + 31 + 27 + 23 + 19 + 15 + 11 + 7 + 3\]

\[= 16 - 15^2\]

Figure 2. The solution of the G3 student through combination

\[\frac{n!}{(n-r)! \cdot r!} = 15\]

\[6 \cdot 5 \cdot 4\]

\[\frac{6!}{4! \cdot 2!} = \frac{3}{4 \cdot 5 \cdot 4} = 15\]

However, as seen in Figure 3, the G3 student drew figures in order to understand the problem, which is possibly a metacognitive behaviour distinguishing the gifted students from the other students.

Figure 3. The drawing made by the G3 student while solving the third problem in order to understand it
3.2. Gifted students’ metacognitive behaviours in the step of devising a plan

These behaviours are presented in Table 2.

Table 2. Metacognitive behaviours displayed by gifted students in the step of devising a plan.

<table>
<thead>
<tr>
<th>Metacognitive Behaviours</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>To imagine possible solutions</td>
<td>G1, G4</td>
</tr>
<tr>
<td>“Before solving the problem, first I think how I can solve it.” (G1)</td>
<td></td>
</tr>
<tr>
<td>To associate the given knowledge to real life via past experiences</td>
<td>G4</td>
</tr>
<tr>
<td>“Firstly I try to solve a problem in my mind, that is, I think how I can solve it. For example, if a problem starts saying there are 4 blue and 6 black balls in a bag, I imagine these balls” (G4)</td>
<td></td>
</tr>
<tr>
<td>To determine what to do according to the difficulty level of the subject pertaining to the problem</td>
<td>G1</td>
</tr>
<tr>
<td>“If I know the subject of the question well, I start to solve it instantly. If it is a difficult subject for me, I think for a while on what I should do and then begin to solve.” (G1)</td>
<td></td>
</tr>
<tr>
<td>To devise alternative ways of solution</td>
<td>G2, G4</td>
</tr>
<tr>
<td>“I try to solve, I try different methods.” (G2)</td>
<td></td>
</tr>
<tr>
<td>“There can be different possibilities for a question. It can result in different ways according to its solution way. There isn’t a way for a question.” (G4)</td>
<td></td>
</tr>
</tbody>
</table>

One of the gifted students explained that he tried to recollect his previous knowledge and associate it with real life. By doing so, this student managed to concretize the problem by connecting the solution with real life. One of the gifted students, on the other hand, stated that he determined what to do according to his level of knowledge pertaining to the topic. Therefore, it can be said that the better a student knows a subject, the better he/she can solve a problem.
3.3. Gifted students’ metacognitive behaviours in the step of carrying out the plan.

These behaviours are presented in Table 3.

**Table 3.** Metacognitive behaviours displayed by gifted students in the step of carrying out the plan.

<table>
<thead>
<tr>
<th>Metacognitive Behaviours</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>To think about similar problems solved before</td>
<td>G1, G2</td>
</tr>
<tr>
<td></td>
<td>“I would do the same operation if I’ve solved a similar problem.” (G1)</td>
</tr>
<tr>
<td></td>
<td>“I use the subjects I know, that is, I use my previous experiences if question types are relevant.” (G2)</td>
</tr>
</tbody>
</table>

R: What have you done? You say you will apply $36 \times$ for this at first.
G1: Yes.
R: Why $36 \times$?
G1: In order to facilitate the operation.

G2: Can we use proportion?
R: Try it.
G2: $2$ over $4$ divided by $3$ over $4$, because…
R: Why $2$ over $4$ divided by $3$ over $4$?
G2: Because these go on as $2$ divided by $3$ times $2$ divided by $3$, that is, as multiplication.

To act in the direction of the plan | G1, G2, G3, G4 |
-----------------------------------|----------------|
G3: Let’s suppose that this rises gradually falling out of $64$ at the base. Let’s calculate the distance of this rise.
R: Ok.
G3: $64 \times 3/2$ will rise. I can go on by calculating every peak at every rise…

G4: Firstly, I draw a line symbolizing colours, I name each of them with different colours.
R: Yes.
G4: Each colour will form a couple with another but it will not repeat a couple it has formed before. I have found $15$ different couples in this way.
Metacognitive Behaviours | Students
--- | ---
To decide what to do in the next operation | G1, G3
R: Let’s start to solve this aloud. Let’s see what kind of a result we will obtain.
G1: I will use 6 unknown letters here.
R: Ok. Are all of them symbolizing colours?
G1: Yes.
R: You name them $x, y, z, a, b,$ and $c$.
G1: We will opt for two out of them. For instance, let’s think, $x$ and $y$, $x$ and $z$, $x$ and $a$, $x$ and $b$, $x$ and $c$. Now $x$ is over. I will think other colours in this way.
R: What do you plan to do?
G3: First, I will try to find $2/3$ of it, then $2/3$ of the result again, then again and again, so I will find the proportion of the first through four multiplication operations.

After examining the metacognitive behaviours of the gifted students during this phase, we found out that they all tried to solve the problems in the direction of a plan. It can be asumed, on the one hand, that this is a normal behaviour that should already be displayed by a student who wants to solve a problem appropriately. On the other hand, the fact that some of the gifted students went on solving problems after deciding what to do in the next operation, can be an indication of determination in the step of carrying out a plan.

3.4. Gifted students’ metacognitive behaviours in the step of looking back.

These behaviours are as in Table 4.

It was observed that, after solving a problem, the gifted students were reluctant about controlling whether the results they had obtained were correct or not. It can be said that this situation of reluctancy stems from the fact that gifted students are sure of the correctness of their results if they solve a problem via a rule or in the way they know well or find reasonable. Nonetheless, even if they are not sure, they try to see whether they will obtain the same results using different methods instead of classically controlling whether the result is correct or not by substitution of the values they have found. On the other hand, it was noticed that they revised the connection between the topics they had learnt before. By means of this revision, they could consolidate the topics they had learnt. Meanwhile, one of the
gifted students stated that he relaxed his brain in order to evaluate mathematical operations by thinking in different ways.

Table 4. Metacognitive behaviours displayed by gifted students in the step of looking back.

<table>
<thead>
<tr>
<th>Metacognitive Behaviours</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not want to check</td>
<td>G1,G3</td>
</tr>
<tr>
<td></td>
<td>R: How do you prove the correctness of the result? G1: I am sure.</td>
</tr>
<tr>
<td></td>
<td>R: What do you do after you solve a problem? Always after solving? G3: I check it, not always, if I am not sure about the result.</td>
</tr>
<tr>
<td></td>
<td>R: Why are you absolutely sure of this question? R3: A question must be simple if I am absolutely sure. There must be no complexity in the question..</td>
</tr>
<tr>
<td></td>
<td>R: How have you been convinced that this result is correct? G3:The logic I have conducted is true eventually. If the logic is true, my reasonable operations and their result prove true.</td>
</tr>
<tr>
<td>To consolidate what has been learnt</td>
<td>G1</td>
</tr>
<tr>
<td></td>
<td>“I want to say something. This has shown me the difference between permutation and combination.” (G1)</td>
</tr>
<tr>
<td>To rest the brain in order to evaluate operations by thinking in different ways</td>
<td>G2</td>
</tr>
<tr>
<td></td>
<td>“I wait for a while. I get my brain rested and try to remember different ways.” (G2)</td>
</tr>
<tr>
<td>To predict possible errors</td>
<td>G1</td>
</tr>
<tr>
<td></td>
<td>“I think over possible errors as well while solving a problem.” (G1)</td>
</tr>
</tbody>
</table>

4. Conclusion and Discussion

It was found out that the students determined the basic rules they found helpful for solving a problem before carrying out the plan step. Their extensive imagination in using these rules while planning helped them solve problems within shorter time. In a similar way, Wang (1989) and Ellerton (1986) concluded in their research that gifted students were good at effective planning. This conclusion concerning the
impact of imagination sounds unusual for students most of whom are accustomed
to making plans using pen and paper. However, this way used by average students
must not be regarded as an unwanted situation. Due to their characteristics, gifted
students somehow show their difference from average students. What is important
here is to help all students make plans in the proper way.

The students said that they resorted to thinking in alternative ways if necessary
while carrying out a problem. Goos, Galbraith ve Renshaw (2000) stated that
students needed to realize different approaches in order to solve a problem. Supporting
this finding, Scruggs and Mastropieri (1985) concluded that gifted students
tried more strategies while solving a problem. In the light of this conclusion, we
can say that gifted students manage to solve problems through inventing several
alternative ways while solving a problem.

The gifted students stated that, by being aware of their characteristics, they pre-
dicted possible errors while solving a problem. A student who is aware of his/her
possible errors certainly knows him/herself well. Sternberg (1996) concluded that
highly capable individuals were very good at determining their strong and weak
points and skillful at compensating their drawbacks. In another study, Ellerton
(1986) concluded that gifted students were quicker at realizing their errors during
problem solving.

It was noticed that, in the looking back step, the gifted students were reluctant
to check whether the results they had obtained were correct or not. On the basis of
their observations, Lester, Garofalo and Kroll (1989) also concluded that students
making successful plans in the problem solving process did not display the behav-
iour of checking their results. Owing to their self-confidence in making useful
plans related to any problem, gifted students are reluctant to check. This means that
it is necessary to help students acquire an appropriate planning behaviour prior to
getting them to acquire a checking behaviour.

Besides, it has been observed that, while solving a problem, gifted students
display some metacognitive behaviours not detected before. These behaviours
include revision of connections between subjects which were learnt in the past
after solving a problem and relaxation of brain in order to evaluate what has been
done by thinking over alternative ways.
Bibliography


& V.M. Adams (Eds.), Affect and mathematical problem solving: A New Perspective (pp. 75–88). New York: Springer-Verlag.
### PROBLEMS

1. A ball ascends $\frac{2}{3}$ of its previous height when it is thrown from a determinedly high place and hits the ground. If the ball ascends 64 meters high after hitting the ground four times, what is the height of the place it is thrown in meters in total?

2. $202 - 192 + 182 - 172 + \ldots + 22 - 12 =$? What is the result of this operation?

3. A contractor gives an owner of a house a catalogue to select the colour of parquets for rooms. In this catalogue, there are 6 different colours for parquets. The owner is to select two of these colours. How many different alternatives can he select?
Chosen Aspects of Psychology
Female Maths Teachers – Will They Fall Prey to Stereotype Threat?

Abstract

This article refers to the results of a study published in The New Educational Review (Turska & Bernacka, 2010: “Maths lessons – are they gender neutral in the Polish perspective?”) and, as indicated in this publication, attempts to explain a particularly unfavourable perception of a female maths teacher by female students. To this end, the analytical perspective was changed: the female teacher became the actor of her own conduct instead of the ‘object’ of observation. With such an approach, it was possible to raise the issue of stereotype threat with reference to the female teacher. The study evidences that the easiest way to reduce the threat in terms of psychology is for the teacher to diminish the sense of gender identity.

Key words: actor-observer perspective, stereotype threat, sense of gender identity

Introduction

The negative answer to the question posed in the article published in The New Educational Review (Turska & Bernacka, 2010: “Maths lessons – are they gender neutral in the Polish perspective?”) was based on a premise that both the student’s and the teacher’s gender modify the perception of a quality mathematics lesson. This, in turn, was the result of an extensive study involving 921 male and female students who assessed the conduct of male and female teachers of mathematics. The findings indicate that female students (in relation to male counterparts) register a less favourable climate of classes, superficiality of feedback, and a smaller
degree of activation and stimulation of cognitive processes irrespective of whether the teacher is male or female. It was suggested that the diagnosed phenomenon was triggered by a commonly held belief that “mathematics is a domain for males” (Gavin, Reis, 2003; Tiedemann, 2002). This stereotype has an effect on the gender-related expectations of mathematics teachers with respect to their students (Sadker, Sadker, Klein, 1991). These expectations are at the root of different approaches employed by teachers (cf. meta-analysis by Kimball, 1989). In line with self-fulfilment in education (Dee, 2006), maths teachers activate the Golem effect with respect to female students (the effect of a conviction that we deal with a bad student), and the Pygmalion effect with respect to male students (the effect of a conviction that we deal with a good student). This theoretical premise, however, does not explain lower assessment of the conduct of a female teacher (in relation to the teacher), notably in the perception of female students. Such findings are of particular concern, since in Poland the teaching profession is extremely feminized with a significant preponderance of female teachers also in the area of mathematics. It follows that a statistical female student has more opportunities to be taught by a female teacher than by a male one. As proposed in the afore-mentioned article (Turska, Bernacka, 2010), this study attempts to explain a particularly unfavourable perception of a female teacher of mathematics by female students.

**Theoretical premise**

In their review on gender in teaching, Sabbe and Aelterman (2007) argue that associating teaching with femininity, motherhood, and caring still remains a strong suit in European culture. A good teacher is compared to a good mother who accepts their children as they are, who spares no effort to look after them and, quite frequently, devotes herself entirely to them. Teaching, like mothering, generates commonly shared expectations directly linked to the broadly understood concept of altruism. It is, therefore, no wonder that teaching is largely perceived as a female profession. The findings of numerous studies which focus on student perception of the behaviour of male and female teachers (based on questionnaires, surveys and interviews; Feldman, 1993) and on lesson observations from the point of view of an outside observer (Bress, 2000) confirm that female teachers seem to fulfil such social expectations. The data collected, in line with the “the angel of the classroom” metaphor (Tamboukou, 2003), highlight a greater degree of openness, friendliness, readiness to help, and a more personal and student-oriented approach among female teachers (as compared to their male counterparts) across all educa-
tion levels, including higher education (Tomkiewicz, Bass, 2008). Consequently, these data underline such aspects of work performed by female teachers which, in the light of the author’s own research (Turska, Bernacka, 2010), refer primarily to the climate of classes. Interestingly, it is precisely this aspect of classes that female students assess lowest.

Where the conduct of female teachers of mathematics is in question, the literature on the subject is not unequivocal. It proves that considering the gender of a teacher and of a student simultaneously is fully justified. Male students tend to assess the performance of a male teacher better in terms of climate, feedback, input, and output (cf. review of the research conducted by Li, 1999). Some scholars report that female students have a generally higher perception of female teachers (Lee and Lockheed, 1990). The results of the studies mentioned here as well as many others were the basis on which the matching hypothesis was formulated (Marsh, Martin, 2008), suggesting better climate and greater effectiveness of the teaching process where students and teachers represent the same gender. Such a situation would bring about two effects: preference of the representatives of one's own gender (from the teacher’s perspective) and facilitation of learning through modelling (from the student’s perspective). However, the matching hypothesis loses its impact when set against the empirically proven less favourable perception of female maths teachers by female students (e.g. Hancock, Shannon and Trentham, 1993). This phenomenon, so clearly evidenced in the author’s own study (Turska, Bernacka, 2010), requires an in-depth explanation.

It is worth bearing in mind that classes of mathematics are conducted in the context of gender stereotypes which trigger the Golem effect with respect to female students. Hence, educational psychology researchers focus on the unfavourable situation of female students who belong to a stigmatised group because of their gender (Bedyńska, 2010). They do not ask a question whether this stigma is also carried by female teachers as women who are economically active in a largely masculine discipline such as mathematics. It is, therefore, only justified to change the analytical perspective and look at the research findings from the point of view of a female maths teacher. Adopting such a perspective, i.e. that of a female teacher as the actor of her own behaviour and not the object of observations of an outside observer, may lead to two important implications, as Jones and Nisbett (1972) reported. The first one shows that the perspective of the actor stresses situational factors with which to explain their behaviours. The observer of the same behaviours tends to seek reasons in internal attributions of the maker. This may be a clue to ascribe particularly low assessments of female teachers as regards the climate of classes, which stands in sharp contradiction to the metaphorically defined female
teacher as “the angel of the classroom” (Tamboukou, 2003), to situations rather than specific attributes characteristic of teachers of mathematics. Secondly, with the actor bias in place, the researcher is likely to pose a question: why do female teachers of mathematics behave in a manner which generates such a low opinion among female students? What are the psychological benefits gained?

Stereotype threat offers a promising attempt at answering these two questions (cf. classic studies conducted by Steele and Aronson, 1995). This conception refers to a situation where activating a negative stereotype (e.g. the notion of a maths lesson itself) about a social group to which a person belongs (women) has the potential of reducing the performance of individuals. The proposed explanation indicates that belonging to a negatively stereotyped group generates additional pressure (as compared to groups that do not carry any stigma), which appears in a situation where the behaviour (the degree with which a task is performed) may be interpreted in a way that validates that stereotype. Subsequent empirical studies called for more precision in the analysed conception. Firstly, it was evidenced that the stereotype is particularly detrimental to performance among individuals who strongly identify themselves with the discipline that is not “proper” to them, who succeed in and who link their careers with it (Spencer, Steele, Quinn, 1999). Secondly, it was shown that stigmatised persons implement various defence strategies when faced with stereotype threat. These strategies include mental rejection of their own group or even themselves, which can be manifested in self-hating preferences (Steele, 1997). The results of the seminal experiment by Clark and Clark (1939), who found that black children often prefer white dolls over black ones, seem to clearly exemplify this phenomenon. A similar interpretation may be used with respect to any types of behaviour which lead to avoiding being labelled in accordance with the stereotyped perception of the stigmatised group (Johns, Inzlicht, and Schmader, 2008).

It follows that stereotype threat reaches the ego of individuals, and constitutes a threat to their self-integrity. This is a state of cognitive imbalance between the concept of one's self and one's own expectations of success in a given area on the one hand and a sense of belonging to a group which is primed with social stereotypes suggesting poor performance in this area. The latest theoretical model of stereotype threat has been developed by Schmader, Johns, and Forbes (2008, p. 337).

The scholars hold that stereotype threat is triggered by three basic concepts: the concept of one's ingroup, the concept of the ability domain, and the self-concept. What matters is not so much the act of activating these concepts but of subjectively felt relations among them. This is illustrated in Figure 1.
Women who “fulfil themselves in mathematics” (and female maths teachers, in particular) activate the concept of belonging to a group of women (a positive relation between the self-concept and the concept of one’s ingroup) and a conviction that they are good at mathematics (a positive relation between the self-concept and the concept of the ability domain). However, the permeating stereotype seems to indicate that mathematics is not a female domain (a negative relation between the concept of one’s ingroup and the concept of the ability domain). Consequently, this gives rise to an incoherent relation (since the product has a negative value), which evokes negative emotions, and, in keeping with the classic balance theory (Heider, 1958), motivates the individual to remove such a lack of cohesion. There are three ways to achieve coherence (Bedyńska, 2010). First, undermining the validity of the stereotype may eliminate the negative link between women and mathematics. Second, a negative link between self-concept and mathematics can be introduced by discontinuing self-identification with this discipline of science. Finally, one can diminish the sense of belonging to one’s gender group (a negative link between the self-concept and the woman). It is rather difficult in the case of female teachers of mathematics to expect immediate results of an individual campaign to explode the stereotype so deeply embedded in society, and even more so to undermine the profile of one’s own professional career. Therefore, the last method of eliminating the lack of cohesion seems the easiest in terms of psychology (cf. Figure 1). Therefore, the scientific question reads as follows:

1. Does the conduct of female teachers of mathematics justify a thesis about their reduced sense of belonging to their gender group?

**Method**

To answer this question, the results obtained from the application of the Teacher Conduct Scale (developed by D. Turska) were thoroughly analysed. These results were presented in a previous article (Turska & Bernacka, 2010). To this end, the
assessments of female teachers by female students (N=249) were reviewed, since the interaction in question occurs exclusively between the group stigmatised in respect of gender. The comparative material (N=221) comprised the assessment of female teachers made by male students, i.e. the positively stereotyped group. The examination consisted in identifying noticeable differences in the opinions of the respondents, as disclosed at the level of individual items (in the scale from 4 – “totally true” to 1 – “totally untrue”) of four categories, i.e. Feedback, Climate, Input and Output.

Results

The single factor ANOVA variance analysis showed that out of 24 items of the Teacher Conduct Scale only one (“The teacher points out the items of the new material in which students are likely to err”) does not differentiate between the assessments of male and female students. The discriminatory value of the remaining items varies. Table 1 shows the items in which the most visible variance of assessments occurred, operationalised by means of the highest significance of the differences obtained (p < 0.001).

Table 1: Statements from the Teacher Conduct Scale concerning the significance of discrimination in the perception of female teacher conduct by male and female students

<table>
<thead>
<tr>
<th>Statements</th>
<th>Student’s gender</th>
<th>X</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not allow him/her to ask how to do a difficult task</td>
<td>female student</td>
<td>3.02</td>
<td>46.63</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>2.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequently reminds students of her high requirements</td>
<td>female student</td>
<td>3.29</td>
<td>79.42</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>2.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does not spare praise when students solves a problem</td>
<td>female student</td>
<td>2.56</td>
<td>59.71</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>3.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments maliciously on students’ failures to perform a task.</td>
<td>female student</td>
<td>3.39</td>
<td>62.45</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>2.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tries to encourage all students to become interested in mathematics showing that it comes in handy in life</td>
<td>female student</td>
<td>2.61</td>
<td>58.61</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>3.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selects tasks of a varied level of difficulty to ensure that each student can be convinced that “mathematics is not rocket science”</td>
<td>female student</td>
<td>2.58</td>
<td>52.51</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>male student</td>
<td>3.17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The items presented (Table 1) belong to all the detailed scales under analysis. Interestingly, the most frequently reported statements refer to the climate of lessons, and these are the items with the highest F value, which determines the difference between average indications of the groups compared (female – male students). The average values in the Table should be understood as follows: the values around 2 are tantamount with “rather untrue”; those around 3 refer to “rather true”.

Discussion

The application of the analytical perspective where the female teacher is the actor of her own conduct (Jones and Nisbett, 1972) allowed for the adoption of the stereotype threat also with respect to female teachers of mathematics. In the latest elaboration (Schmader, Johns, and Forbes, 2008), this idea helps explain the results obtained (divergent assessments of male and female students) by referring to the psychological defensive measures employed by female teachers against the deeply felt incoherence of various conceptions of the self. The analysis of the results presented (Table 1) indicates a positive answer to the scientific question posed. It means that the female teachers of mathematics tend to reject their own gender group identification (Steele, 1997). Such a stance is borne out by a generally less favourable perception of female students (relative to male students) of the female teachers’ conduct. This, however, is a fairly general explanation which does not account for the specific character of the most distinguishing items. The dominating statements which describe a rigid, unfriendly, and hardly motivating climate of classes as well as curbing the opportunity to ask questions (Feedback), in the perception of female students stands in contradiction to the metaphorical perception of the female teacher as “the angel of the classroom”. Arguably, clear rejection of the personal and student-oriented approach, commonly associated with female teachers, is an attempt to avoid associations with the stereotypic perception of women. Since such an approach is largely addressed to female students, there is every reason to believe that the female teachers under analysis activate both mechanisms of diminishing the sense of belonging to their gender group, i.e. mental rejection of the group, and self-hating preferences (Johns, Inzlicht, and Schmader, 2008). This is precisely why the biggest discrepancy in the entire analysis is seen in the following item: She frequently reminds her students about her high requirements ($F_{1.469} = 79.42$). This item is indicative of a continuous manifestation of the teacher’s own, and rather atypical of women, high skills and competences in mathematics, a message addressed particularly to female students.
The results of a study by Bedyńska (2010) indicate yet another way with which to diminish the sense of belonging to their own gender group by reinforcing identification with the opposite gender, which, as the stereotype goes, is more mathematically gifted. This is precisely why male students include mathematics in their further educational plans or even in their professional careers. Our own studies indicate that female teachers help their male students (and not their female students) build an awareness of how useful mathematics is in life (Output) and reinforce their mathematics competence (Input).

The actor-perspective, the underlying concept of this study, stresses situations (and not personal attributes) to explain teacher behaviours. The pertinence of this perspective seems to be confirmed by the female students, who spontaneously admitted that the quality of interactions with the female teachers takes an entirely different turn outside the classroom, where the teacher is nice and very friendly.

The issue discussed in this article requires further studies. Their direction seems very promising, not only to expand cognition, but also to consider undertaking relevant preventive measures.

Bibliography


Perfectionistic Cognitions as Related to Optimism and Pessimism in College Students

Abstract

This study investigates the relationship between perfectionistic cognitions and optimism-pessimism, including the results of a study involving 88 college students. The Slovak version of the optimism-pessimism questionnaire ISS (Sarmány-Schuller, 1992) and the Perfectionistic Cognitions Inventory (Flett, Hewitt, Blankstein, Gray, 1998) were used in our research, which showed a statistically significant negative correlation of $r = -0.27$ between optimism and the measure of perfectionistic cognitions and a statistically significant positive correlation of $r = 0.41$ between pessimism and perfectionistic cognitions. These results confirm negative expectations associated with perfectionistic cognitions.

Key words: perfectionism, dimensions of perfectionism, optimism, pessimism, perfectionist thought processes.

An overview of perfectionism and its various dimensions

The modern era brings the need for psychology to study topics that will explain or identify performance trends in contemporary society, performance motivation and the issue of perfectionism in particular. Perfectionism is most often explained as a tendency to conduct and judge one's own activity by the criteria of flawless (perfect) performance. This multidimensional personal variable has an important role in one’s professional career as well as in the process of education, as it considerably affects pupils’ motivation, personal standards, emotionality, cognitive processes and, last but not least, the pupil’s actual performance (Flett, Blankstein,
Perfectionistic Cognitions as Related to Optimism and Pessimism in College Students

Perfectionism is often understood as a synonym of pedantry or meticulousness, perceived as a feature distinguished by sticking to formalities and details with a tendency to ritualise certain activities whilst overestimating the importance of trivialities. In relation to adaptive functions, perfectionism is connected with higher levels of cautiousness and perfection in performed activities. More distinct are maladaptive functions, among them being perfectionism connected with higher levels of anger, depression, eating disorders, etc. At present, perfectionism is considered to be a multidimensional construct. P.L. Hewitt, G.L. Flett et al. (1991) distinguish three dimensions of perfectionism:

- self-oriented perfectionism;
- perfectionism oriented towards others;
- socially prescribed perfectionism.

Self-oriented perfectionists are defined as those following strict rules, highly motivated to attain perfection and avoid failure. Strict self-assessment is expected of them. Perfectionism oriented towards others is defined by imposing unrealistic standards on others combined with strict assessment. Socially prescribed perfectionism is defined as a belief that others have unrealistic expectations of our behaviour. Individuals with socially prescribed perfectionism perceive social pressure pushing them towards perfection. According to P.L. Hewitt and G.L. Flett (1991), all types of perfectionism are maladaptive.

R.O. Frost et al. (1990) use a scale (Multidimensional Perfectionism Scale) that distinguishes six subscales of perfectionism: worrying about mistakes, personal standards, parental expectations, parental criticism, questioning one’s actions, and self-management.

Based on the results from their application of the Multidimensional Scale, G.L. Flett and P.L. Hewitt (2006) further distinguish positive and negative perfectionism. They describe positive perfectionism as normal and healthy, only rarely motivated by avoidance and fear of failure. Positive perfectionism is characterised by a high level of organisation, self-oriented perfectionism, high personal standards and a positive effort to attain goals. Positive perfectionism is driven by positive reinforcement and a desire for success. In contrast, individual negative perfectionism is characterized as pathological and unhealthy with substantial disadvantages, including neuroticism, dissatisfaction, maladaptive assessment and a high level of socially prescribed perfectionism. Negative perfectionism is driven by negative reinforcement and fear of failure.

Frost and Hewitt’s understanding of perfectionism is based on the idea that perfectionism is a general or global personal construct. On the contrary, some authors (Shafran et al., 2002) present a view that perfectionism only affects certain areas of...
an individual’s life. This proposal was confirmed by J.K. Mitchelson and L.R. Burns’ (1998) study, who investigated career-oriented mothers who left their children in homecare even over weekends. In this sample there were differences in all subscales of Hewitt’s perfectionism measurement scale. The authors adapted the technique to measure perfectionism at home and at work. The results showed that these women were more perfectionistic at work than at home. The studies of J. Stoeber and F.S. Stoeber (2009) also confirmed that despite the general perfectionistic orientation of some individuals, the majority demonstrate perfectionism only in certain areas of their lives.

As for the influence of perfectionism on individuals’ personalities, quite a few authors (Flett, Hewitt, 2006; Flett, Blankstein, Hewitt, 2009; Stornelli, Flett, Hewitt, 2009; etc.) who have mainly investigated the issue of perfectionism believe that this characteristic is negative rather than positive. R.O. Frost et al. (1990) pointed to a correlation of perfectionism with depression, procrastination and compulsivity, while G.L. Flett and P.L. Hewit (2006) associate perfectionism with negative phenomena such as depression, suicide, anxiety and personality disorders. These authors also uncover a link between perfectionism and interpersonal/family problems (cf. also Martin, Ashby, 2004; Slaney et al., 2006). When considering the destructive force of perfectionism, it seems that socially prescribed perfectionism is a primary negative predictor. But there are also other important personal variables such as mental health, emotionality and most of all self-image. In foreign research there are further efforts to establish categories of perfectionism drawing on the above-mentioned variables. In the research of F.A. Dixon, D.K. Lapsley and T.A. Hanchon (2004), based on a cluster analysis, four clusters emerged as follows: mixed adaptive, mixed maladaptive, pervasive and self-assured non-perfectionist. The authors tried to identify perfectionism (Frostova MPS), occurrence of depression, coping strategies, perception of personal security, academic competence and self-efficiency. The maladaptive cluster demonstrated mainly low levels of mental health and adjustment. The maladaptive cluster occurred in two forms, mixed and pervasive. The mixed adaptive cluster demonstrated higher academic competence and better adaptive ability. Similarly, C.C. Hawkins, H.M.G. Watt and K.E. Sinclair (2006) used Frost’s scale of perfectionism in their study of Australian primary school pupils. Applying a cluster analysis, the authors identified three clusters: unhealthy perfectionism, healthy perfectionism and non-perfectionism. Unhealthy perfectionism was demonstrated by high scores on personal standards, parental expectations, parental criticism, focusing on mistakes and self-management. Healthy perfectionism was demonstrated by high scores on personal standards and self-management and low scores on parental criticism and
Perfectionistic Cognitions as Related to Optimism and Pessimism in College Students

focusing on mistakes. Non-perfectionists had low scores in all five dimensions. Similar results were reported in the study by D.W. Chan (2009) conducted among Chinese students.

Optimism and pessimism as personal traits

Optimism is an individually distinctive variable reflecting the measure by which people generalise their positive expectations for their future (Carver et al., 2010). Pessimism is an individually distinctive variable reflecting the measure by which people generalise their negative expectations for their future (Carver et al. 2010). Higher levels of optimism are related to better subjective comfort. Optimists are more likely to use coping strategies with a low level of avoidance behaviour. Their approach to life and health is rather proactive. Optimists are also more successful in relationships. There are two views of optimism. Ch. S. Carver, F. Scheier and S.C. Segerstrom (2010) distinguish so-called disposition optimism, which describes general expectations of positive things to happen rather than negative ones. Disposition pessimism describes general expectations of future negative results. The other view of optimism that may be labelled as situational optimism also describes expectations of good things to happen rather than bad things, but these expectations are associated with a single specific situation; by analogy, situational pessimism means expecting negative rather than positive things in a single specific situation. It is assumed that both situational and disposition optimism serve to sustain an individual’s focus, effort and desire (Taylor, 1998 in: Peterson, 2000). Ch. Peterson (2000) mentions in this regard so-called “big” and “small” optimism, indicating that big optimism may be a biologically determined tendency that in a given culture acquires socially desirable content; small optimism may then be the result of an individual’s learning and experience in specific situations.

Optimists are more likely to use effective coping strategies and a low level of avoidance behaviour, instead applying a proactive approach to life and their health. Optimists are more successful in their social relationships (Carver et al. 2010). The study by K. Heinonen, K. Räikkönen, and L. Keltikangas-Järvinen (2005) also indicates the probability of optimism-pessimism being affected by an individual’s self-respect; a longitudinal study confirmed the relationship between self-respect and optimism-pessimism. The authors found out that their subjects, aged 12 and 18 and demonstrating a high level of self-respect, had a lower level of pessimism over the period of time than those whose self-respect over the period changed or remained low.
One question concerning optimism is the extent to which it is universal. One response is proposed by the research by R. Fischer and A. Chalmers (2008), whose results did not show significant intercultural differences in the level of optimism. Their findings concerning a positive relationship between the levels of optimism, individualism and egalitarianism in the involved countries are of interest to us.

**Research goals, associations between perfectionism and optimism-pessimism**

In scholarly sources we have not found any research addressing the relationship between perfectionism and pessimism-optimism, and we can thus assume that this question has not been subject to research yet. Subsequently, we decided to examine this relationship, stating the following two goals:

1. To find out whether there exists a statistically significant association between the measure of perfectionistic cognitions and optimism.
2. To find out whether there exists a statistically significant association between the measure of perfectionistic cognitions and pessimism.

**Research sample**

The research sample consisted of 88 second – and third-year students at the Faculty of Education, Matej Bel University, 81 women and 7 men.

**Research method**

In our research we made use of the PCI – Perfectionistic Cognitions Inventory (Flett, Hewitt, Blankstein, Gray, 1998), including 25 items that aim to measure the frequency of perfectionistic cognitions, increased effort and social comparison in a non-clinical population. The items were ranked on a 5-point Likert scale, from completely disagree (scoring 0) to completely agree (scoring 4). The scale is internally consistent (α=0.96) and the reliability test-retest coefficient over a three-month interval was 0.67 by Flett et al. (1998). Ferrari (1995; in Flett et al. 1998) confirms Cronbach’s coefficient varying from 0.79 to 0.88 in three different samples. These authors believe that the PCI method’s validity is comparable with that of the Frost Multidimensional Perfectionism Scale.

In the research a Slovak version of the ISS optimism-pessimism inventory by I. Sarmány-Schuller (1992) was applied. The inventory consists of 16 items that are ranked on a 6-point scale. Out of the 16 items, 8 aim to measure the level of optimism and 8 measure the level of pessimism. There are two possible ways to
interpret the obtained data. The inversive calculation of the raw score of 8 items with the addition of positive items is used most often. In our research we present raw score calculations of the pessimism items and optimism items separately. In this case response (a) yields 5 points and response (f) 0 points. The interval of raw score on both variables ranged between 0 and 40 points. The ISS is a Slovak version of the LOPS by D.A. Levy (1985). The LOPS reliability is 0.94 (Cronbach's coefficient).

The above methods were used in our environment without validation, standardisation or transferability procedures.

For statistical analysis, SPPS software was used.

**Results**

Concerning our research objectives, our results show a statistically significant negative correlation of $r = -0.27$ ($\alpha < 0.01$) between optimism and the level of perfectionistic cognitions. Between pessimism and the level of perfectionistic cognitions there is a statistically significant correlation of $r = 0.41$ ($\alpha < 0.01$). Despite the relatively small research sample, we consider the results relevant.

**Discussion**

The function and problems of perfectionism in individuals' everyday lives have been widely discussed in professional articles. The authors predominantly investigating this area (Flett, Hewit, 2006; Flett, Blankstein, Hewitt, 2009; Stornelli, Flett, Hewitt, 2009; R.O. Frost, 1990; Martin, Ashby, 2004; Slaney et al., 2006, etc.) regard perfectionism more as a maladaptive personal variable. The negative influence of perfectionism obviously increases particularly when manifested by a strong focus on one's mistakes, parental control and social comparison. In such cases strong perfectionism may cause problems both in an individual's mental and physical health as well as in social relationships. Our research among university students showed a statistically significant association of perfectionistic cognitions with pessimism ($r = 0.41$). Pessimism manifested by a general tendency towards negative expectations for one's future, similarly as perfectionism, is more likely to bring disadvantages into an individual's life. Pessimists experience less subjective comfort, more interpersonal problems, they suffer more often from mental and somatic problems, and their treatment is more difficult. In both cases more
analyses are identifiable. Phenomena common to maladaptive perfectionism and pessimism mainly include negative perceptions, worries and tendencies to avoidance behaviour.

Certainly, the above-described research has a few limitations, due to which the results cannot be generalised. The next step in such research could be further application of the Multidimensional Perfectionism Scale (Frost’s, Hewitt and Flett’s), expanding the research sample, or studying a sample population of adults.

While contemporary society requires perfect individuals to function effectively in society, it is important for them to be able to set appropriate personal standards, a bit overstated but attainable, to be positively motivated (by desire to be successful, not by fear of failure), and they should predominantly experience positive emotions and expectations for their future. The above recommendations are also applicable in the educational process. Teachers should overtly reflect positive expectations of pupils’ performance, supporting positive emotions in the educational and formative processes. It is also important for teachers to provide pupils with new intellectual challenges, while being able to set adequate standards in the assessment of pupils’ performance.

**Bibliography:**


Words of Farewell
to Professor Wincenty Okoń, Honorary Editor of
The New Educational Review

Professor Wincenty Okoń died in October 2011. He was the real member of the Polish Academy of Sciences, *multi doctor honoris causa*, also *doctor honoris causa* of the University of Silesia in Katowice, and an eminent humanist, scientist and pedagogue. He was a specialist in the field of general didactics and pedeutology, creator of the theory of the teaching-learning process, the theory of the multilateral teaching, and the theory of school, a creator of the largest and most innovative pedagogical and scientific school. Professor Okoń was the author of numerous and notable scientific papers, translated into 30 languages. He was the unquestioned scientific authority, recognized in Poland and abroad. In the manner characteristic of a distinguished personality, he combined the functions of a great Scholar and Pedagogue – Tutor of many researchers for whom he was the unmatched Master. In the person of Professor Okoń we have lost a man of a noble heart, who commanded respect. He was a man of great personal culture and a brilliant mind.

His scientific life was always for him a kind of service for his students, society and country. The optimistic realism represented by Professor Okoń was conducive to searching for what could lead to progress, but he did not concentrate on criticizing of what disturbed him. Professor Okoń's profound knowledge, unequalled capability of combining facts, acumen, aptness of opinions, high capability of conceptualization and drawing conclusions determine the high value of his work, carrying a meaningful message for students already in the 21st century.

The comprehensive research accomplishments of Professor Wincenty Okoń externalise the unsurpassed analytical and theoretical abilities of the Scholar. The results of his accomplishments display his immense and unprecedented knowledge, accuracy of hypotheses and thoroughness of considerations. The Scholar's numer-
ous and meaningful accomplishments give rise to his being perceived in academia as unequalled moral authority. In a situation where intellectual values are connected with ethical sensitivity, conscientiousness and generally perceived responsibility, the conferral of the honorary doctoral degree on Professor Wincenty Okoń in 2006 assumed the form of fully deserved approval, admiration and recognition for the unquestioned and unusual achievements and exceptionally creative activity of the Professor. The personage of Professor Okoń has been associated for years with the most outstanding representatives of the world of sciences in our country. Among many professors representing the humanities during the stretch of the half century, only several have been permanently written into the institutional and progressive development of academia in Poland, Europe and the world.

Professor Okoń’s most important achievements, their greatness, strength and broad range of influence are an excellent occasion to present them to the young generation of pedagogues, many of whom want to follow in the Scientist’s footsteps and develop in a creative way many of his profoundly humanistic thoughts and results of his indefatigable work.
The Information Age of the 21st century and so-called Learning Society, has changed our life during past decades in many ways (higher quality of technologies and industry, economy, world market, labour mobility and market, educational system, wide application of new media, changes in the social system structure, in health care, nutrition and culture, improved conditions for child care in families, etc.). On the other hand, better conditions for people’s life today are accompanied by negative and harmful effects of social progress.

Concerning the school life and educational work of teachers and school personnel, they have to solve a lot of problems, which are linked to pupils’ vulnerable family environment. Vulnerability, of course, can exist on various levels and areas, can be opened, or hidden, can exist in the form of possible potentiality, can be unknown, not understood by parents. Teachers who are professionally prepared for their responsibility for the positive development of children are challenged to find the ways of involving families in school/educational life. Latest research data clearly emphasize the profound impact of the teachers – parents collaboration on everybody involved. For all of them the common goal of collaboration is the CHILD/PUPIL, its well-being and happiness.

The reviewed book written by a well-known American author, J.L. Epstein, and her co-authors (Mavis G. Sanders, Steven B. Sheldon, Beth S. Simon, Karen Clark

* (Note: Corwin Press is aimed to support PreK – 12 education by publishing books and other Professional resources for teachers. The motto of Corwin Press is: “Helping Educators Do their Work Better”).
Viera Kurincová

Salinas, Natalie Rodriguez Jansorn, Frances L. Van Voorhis, Cecelia S. Martin, Brenda G. Thomas, Marsha D. Greenfeld, Darcy J. Hutchins and Kenyatta J. Williams) introduces an educational field that is mainly concentrated on research into the family-school cooperation and practical approaches, which are utilized in parent-school community partnerships. As it is clear from the Acknowledgments of the book, the text is based on the results of wide cooperation of authors with many teachers, parents, grandparents, students, administrators and school leaders in the United States and Canada. All of them actively participated in the National Network of Partnership Schools (NNPS) at John Hopkins University in the USA and supported the authors in doing the research. The research was granted by the National Institute for Child Health and Human Development to the Centre on School, Family and Community Partnerships at John Hopkins University, by grants from the U.S. Department of Education and by numerous other foundations.

The publication consists of 361 pages and one teaching aid – CD ROM. The text is logically divided into ten main chapters (each consisting of several subchapters), and the book’s integral parts are (already mentioned) Acknowledgments, Introduction, About the Authors and Index (including key notions and quoted authors). Bearing in mind that this is the third edition of the book, the reader is introduced to knew approaches and can compare the authors’ previous ideas with their new and improved research summaries and tools, there are practical recommendations to teachers and actual professional attitudes of the authors (new articles, school examples of effectively working partnerships, reworked school agenda for collaboration and new proposals and ideas for workshop activities, suggestions for partnerships evaluation and its agenda, enriched chapter references and a CD – it is very helpful, as it contains a lot of possibilities for preparing training and workshops, including a Spanish version for Latino parents).

The whole text is based up on the authors’ leading idea that “There is no topic in education on which there is greater agreement than the need for family and community involvement“ (p.1). Agreement exists, but its educational fulfilment requires cooperation of researchers, school leaders, teachers, parents and community representatives. According to Epstein and Sheldon (2006), the modern, effective conception of parent-school cooperation is based on several statements: 1. preference of using the notion of partnership (indicates sharing responsibility) in professional communication instead of older terminology – parental involvement, 2. analysed partnership is a multidimensional concept, 3. a partnership program is an essential component of school and classroom organization, 4. partnership programs require multilevel leadership, 5. partnership programs must focus on increasing student learning and development and other indicators of student
success in school, and 6. partnership programs are about equity (i.e. all families
should have an opportunity to join the programs, which enable them to help their
children do their best in school) (p. 2).

To attract the reader’s interest, a short description of ten chapters of the reviewed
publication follows:

The first chapter (A Comprehensive Framework) consists of three articles,
which represent the theoretical background of the whole book. The second chapter
(Use the Framework to Reach School Goals – Stories From the Field) presents
examples of possible application of six types of parent participation in schools –
Parenting, Communicating, Volunteering, Learning at Home, Decision Making,
Collaborating With the Community (under various conditions in elementary,
middle and high schools). Take an Action Team Approach is the title of the third
chapter. The chapter is a helpful description and detailed “prescription” for plan-
ning, implementing and evaluating partnership programs. It addresses all who are
involved in common collaborative activities. The fourth chapter provides assistance
for workshop organizers (Conduct Workshops). The fifth chapter (Select Materials
for Presentations and Workshops) is a fluent continuation of the previous chap-
ter, as it contains a lot of charts and diagrams linked to six types of partnership
(which were originally discussed and described by Joyce E. Epstein). Strengthen
Partnership Programs in Middle and High Schools is the title of the sixth chapter.

Chapter number seven contains ideas for leaders in their motivation for improving
family-school-community partnerships (Develop District and State Leadership
for Partnerships). The eighth chapter is very interesting (Implement Teachers
Involve Parents in Schoolwork), and it is based on the outcomes of tested practical
programs on student learning improvement with the use of specially designed
homework. An important step in the process of family-school cooperation and
partnerships is evaluation (in chapter number nine: Evaluate Your Partnership
Program). The last chapter (Network With Others for Best Results on Part-
nerships) is informative and it encourages to link with researchers and schools
experienced in the discussed field of education.

The book provides interesting reading and is a practical guide, which in an
understandable way bridges educational theory and school practice. The publica-
tion can help teachers, as well as prospective teachers – students who prepare for
the teaching profession. The ideas presented in the reviewed book are based on
research and on the real practical experience of an “extended American family
of teachers“ and present a common will to disseminate the conviction about
the importance of school – family – community cooperation for the healthy
development of pupils. Building the partnership is according to the authors:
“… not hard work, but heart work. Not more work, but the work. Not harder work, but smarter work to mobilize all available resources that will contribute to student success“ (p.5). It is motivation also for European teachers and students to read the book.
Book Review:
Sekera, J. (Ed.), *Specialists’ Opinions on Interpersonal Relationships at Schools in the Ostrava Region. School Environment and Pupils’ Discipline.*

Ostrava: Ostravská univerzita v Ostravě – Pedagogická fakulta, 2010, 1st Edit

This publication is an interesting example of an investigation into the broader issue of interpersonal relationships at schools as a factor influencing pupils’ discipline. The authors of the papers come from a variety of backgrounds. They are specialists from universities, specialists from caring professions and professionals from various institutions (pedagogical – psychological centers, a psychiatric clinic, the probation and mediation service).

The study consists of eight papers which fall into two groups regarding their main focus of attention: 1) At school and 2) Out of school. The “At School” group is represented by the papers written by the following authors: L. Ries, J. Sekera, V. Filipi, M. Krolová. The “Out of School” group is represented by the papers written by the following authors: M. Foltýnová, P. Macíček, P. Štěpaník and O. Sekera. Both groups of studies are appropriately linked to each other. The whole publication is introduced by the main editor, Julius Sekera, PhD, who, in a brief and clear way, describes the aim and contents of the following studies.

The publication is introduced by L. Ries’s paper “Schools without aggression”. The paper is a reflection on the principles of schools which are proclaimed as being non-aggressive world-wide. The author states the main principles which guide education in these schools: a) the presence of spirituality, b) combining education with physical work and understanding the work ethic and c) the important role of aesthetics (and artistic orientation). The author considers it important to focus
on the holistic conception of education. The author mentions four types of school without aggression: R. Steiner’s inspirational ideas which initiated the setting up of Waldorf Schools, Amonašvili’s schools presenting themselves as institutions drawing upon humanistic education, M. Štětinin’s conception of boarding schools and a Japanese school known as K. Obara’s school.

Next, J. Sekera presents his comprehensive study called “Discipline at school as viewed by apprentice students and the school management”. The author starts with the description of the current state of knowledge in the field of school discipline and he also looks into the causes of lack of discipline as reflected in the current specialized literature. In the second part of his paper, he presents the results of research conducted among apprentice students at secondary technical schools. The research was aimed at gathering data from both the students and the management of the schools regarding their views on school discipline. The aim was to find out the students’ views and attitudes towards school discipline as well as those of the school management. In the research, the focus group method was used, as well as individual interviews with the respondents. In his conclusion, the author considers it necessary to modify the system of teacher education in the area of the pedagogical and psychological preparation for the profession.

V. Filipi’s paper called “School misbehavior and methods of behavioral solutions” is focused on practical implications of research for solving school misbehavior when working with delinquent children and adolescents. The author describes the program called “Positive behavioral support and the role of assessment at school”, outlining the six steps which stem from research. According to the author, the program might inspire carers to tackle occurrences of misbehavior in the context and conditions of Czech schools. The author also discusses the effectiveness of methods of behavioral solutions of pupil misbehavior drawing upon a variety of foreign studies.

M. Krolová’s paper called “Further education of counseling staff at primary and secondary schools” presents a description of a self-reflection educational seminar consisting of 80 contact hours, designed for counseling staff at schools. The seminar is valuable because it provides long-term work with the attendants of the course. Krolová’s paper describes the contents of the seminar as being both theory and self-reflection, a feature often lacking in current teacher education courses.

M. Foltýnová’s paper called “Interpersonal relations at school as a factor of aggressiveness of children and youth” considers serious cases of a hyperactivity disorder among children. Drawing upon a variety of different classifications of misbehavior in the specialized literature, the author presents an overview of the most frequent behavioral disorders and their causes. She makes a distinction between behavioral
disorders with a good and bad prognosis. She also overviews possible causes of increasing aggressiveness in the “healthy” population of children and discusses possible preventive measures to reduce violence caused by children and youth.

P. Macíček, who is a carer in a re-education institution himself, presents an interesting view of the issue in the chapter called “A boy’s story”. In this story, the author describes a fictitious example of a boy placed in a re-education institution. Using this as an example, the author illustrates the stresses and frustrations of everyday situations of a carer, a child, his/her peers, the parents and the police involved in such cases. At the end, the author mentions a paradox - a number of workers in caring professions need help and support more frequently than their clients do.

P. Štěpaník’s text called “Methods of work with youth within the context of the judicial system” deals with the methodological procedures set by the Probation and Mediation Service of the Czech Republic when working with children under 15 years of age. Particular attention is paid to setting up standardized procedures for visits to families carried out by social workers.

The last (eighth) paper is a reflection written by O. Sekera, called “Insubordinate behavior as a result of unfulfilled expectations”. The author considers unfulfilled expectations (of parents, children and vice versa, peers, society) as one of the possible causes of insubordinate behavior. He draws upon a theory that children do not demonstrate behavioral disorders naturally, they are not born undisciplined. It is their parents and society showing them the patterns of behavior, responses to situations and expressing expectations that are responsible for children’s future behavior.

In conclusion, the publication compiling the papers of the whole team of specialists represents an interesting investigation into behavioral disorders of children and pupils at schools. It is noteworthy that the issue is considered from the point of view of educators, social and special educators, a psychiatrist and a probation and mediation service worker. Such a broad overview uncovers a variety of underlying factors and emphasizes the complex character of the investigated issues.
The List of the Reviewers
The List of the Reviewers of Manuscripts Sent to The New Educational Review in 2011

Reviewers of the manuscripts sent from Poland and from a whole the world

Prof. zw. dr hab. Maria Czerepiak-Walczak
Prof. dr hab. Marek Furmanek
Prof. zw. dr hab. Tomasz Goban-Klas
Prof. dr hab. Małgorzata Górnik-Durose
Prof. zw. dr hab. Stanisław Juszczyk
Prof. dr hab. Katarzyna Krasoń
Prof. dr hab. Viera Kurincova
Prof. dr hab. Barbara Kożusznik
Prof. zw. dr hab. Stefan M. Kwiatkowski
Prof. dr hab. Eugenia Mandal
Prof. dr hab. Wielisława Osmańska-Furmanek
Prof. zw. dr hab. Bronisław Siemieniecki
Prof. zw. dr hab. Jerzy Stochmiałek
Prof. zw. dr hab. Bogusław Śliwerski
Prof. zw. dr hab. Janusz Trempała
Prof. zw. dr hab. Andrzej Radziewicz-Winnicki
Prof. dr hab. Peter Seidler
Prof. dr hab. Tatiana Senko
Prof. zw. dr hab. Adam Stankowski
Prof. dr hab. Ewa Wysocka
Reviewers the manuscripts sent from the Czech Republic

Ph.Dr. Lucia Lacková, Ph.D.
Doc. Ph.Dr. Julius Sekera, CSc.
Mgr. Miroslav Procházka, Ph.D.
Doc. Ph.Dr. Jana Škrabánková, Ph.D.
Mgr. Pavel Krákora, Ph.D.
Mgr. Bedřich Zapletal, Ph.D.
Doc. Ph.Dr. Jelena Petrucijová, Ph.D.
Ph.Dr. Jiří Leipert, Ph.D.
Mgr. Pavel Pecina, Ph.D.
Ph.Dr. Zuzana Sikorová, Ph.D.
Doc. Ph.Dr. Alena Petrová, Ph.D.
Mgr. Michaela Pugnerová, Ph.D.
Doc. Ph.Dr. Milena Kurelová, CSc.
Mgr. Ondřej Sekera, Ph.D.
Doc. RNDr. Marie Solárová, Ph.D.
RNDr. Alena Morávková, Ph.D.
Ph.Dr. Renáta Kovářová, Ph.D.
Ph.Dr. Jitka Fořtíková, Ph.D.
Mgr. et Mgr. Alena Seberová, Ph.D.
Ph.Dr. Hana Cisovská, Ph.D.
Doc. PhDr. Jitka Šimíčková – Čížková, CSc.
Ph.Dr. Helena Hejlova, Ph.D.
Mgr. Pavel Krákora, Ph.D.

Reviewers of the manuscripts sent from the Slovak Republic

prof. PhDr. Jolana Hroncová, PhD.
prof. PhDr. Soňa Kariková, PhD.
prof. PhDr. Bronislava Kasáčová, PhD.
prof. PhDr. Emília Kratochvílová, CSc.
prof. PhDr. Erik Petláč, CSc.
Dr.h.c. prof. PhDr. Miron Zelina, DrSc.
doc. PhDr. Eva Drotárová, PhD.
doc. PhDr. Jitka Oravcová, PhD.
doc. PhDr. Irena Plevová, PhD.