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FOREWORD

Dear Colleagues, dear Readers!

The Editors of the scientific journal Acta Technologica Dubnicae have prepared its third (winter) issue this year for you. It is rich in news from the field of education and is polythematic again. Our contributors are from all the continents of the world, which is a good prerequisite for the journal's success on the international market as well as for increasing its visibility and citations.

We have good news again. Thanks to De Gruyter Open, we have become indexed in the 19th database – KESLI-NDSL (Korean National Discovery for Science Leaders). KESLI is a national joint purchase consortium intended to jointly purchase and extensively utilize overseas e-information. The consortium has been working as a potential value creator, they have developed several high-quality programs. They have built an integrated metadata search platform – NDSL (National Discovery for Science Leaders) and provided researchers with metadata of international academic journal papers obtained from publishers participating in KESLI Consortium. De Gruyter Open has also started to cooperate with Kudos, a new database for authors, that has gained a lot of importance recently. It is another way of increasing the visibility of our journal as well as of the scientific work of our contributors.

From 2017, in accordance with the current world-wide trends, some changes of the criteria for abstracts are going to be introduced. Structured abstracts will be required from our authors, with special requirements for scientific studies and literature reviews. These requirements are listed in the journal's Guide for Authors.

What does the new issue consisting of five scientific studies, two professional articles and one contribution written in the occasion of the life anniversary of an outstanding personality of Slovak pedagogy bring? Let me introduce it. In the first scientific study – "Intellectual Leadership of Researchers in Higher Education: Relationship Between the Demographic Factors and Roles (Lithuanian Context)" by Vilma Žydžiūnaitė from Lithuania, the author examines and describes the roles of educators and researchers/scientists working in higher education institutions. She focuses on intellectual leadership consisting of different roles – institutional, financial, gender, organizational, spiritual, and intellectual. In the study, based on the gathered data, the author answers the following research question: "What are the relationships between researchers' roles and their gender, work experience, dissertation defence date,

and research field?". The sample consisted of 304 researchers. The results of the research revealed that the female-researchers' evaluations were higher in all cases regarding their roles in higher education schools and the male-researchers were devoted to the roles of academic citizens and mentors, while they did not refer the interest for academic freedom nor the role of knowledge producers. The lowest estimates for the diverse roles in higher education were provided by the researchers from engineering sciences, which is admittedly remarkable. The strongest correlation with all roles refers to academic duty, critic, personal development, and acting in one research field. In conclusion, intellectual leadership is the scope of challenging processes regarding developing, designing, creating, defining and evaluation. By concluding the study, she emphasizes the demographic factors that are meaningful in studying the researchers' roles within intellectual leadership in higher education – gender and research areas. These findings are very interesting.

The paper entitled "Psychometric Properties of the Slovak Version of sEMBU on General Adult Sample" by Gabriela Rozvadský Gugová and Martin Eisemann is the result of a Slovak-Norwegian cooperation. The authors decided to explore the psychometric properties of the Slovak translation of sEMBU on a general adult sample (N=970) in Slovakia. The factorial stability and reliability of the 23-item s(short)-EMBU previously demonstrated to be satisfactory in the samples of students from Greece, Guatemala, Hungary, Italy, East-Germany and Sweden. The authors' results show a very good alpha reliability of sEMBU. In the Slovak translation, they found similar scores for Rejection, Emotional warmth and Overprotection. In the case of fathers, it was Overprotection that had the highest share for classification and differentiation in the cluster, while in the case of mothers, it was Emotional warmth. The authors discuss their results with the results from other studies and they suggest to continue in the research of the Slovak version of sEMBU focused on types of attachment, especially on the secure type of attachment. Undoubtedly, it is an inspiring study for further research.

Three authors from Slovakia – Eva Gajdošová, Veronika Bisaki and Silvia Sodomová – in their study "An Inclusive Secondary School in Bratislava", characterize an inclusive secondary school, the forms and methods used in the work of its teachers, the school psychologist, special teachers with regard to students with special needs (students with Attention and Hyperactivity Disorder, i.e. ADHD, with learning difficulties, with emotional and behaviour difficulties, etc.), which are educated together with mainstream students. It also provides information on the first results of the measurements of the socio-emotional health of the students in the inclusive school, both as to its overall level (covitality index) and as to the level of the four psychological dimensions of mental health. The pilot project of the inclusive school confirms that inclusive secondary schools and inclusive education operating within the intentions of

positive psychology help the students to develop their cognitive and socio-emotional competences, to create favourable attitudes to diversity, to form the scale of students' positive values and to encourage positive interpersonal relationships, social cohesion and social classroom climate. This issue is topical worldwide.

The activities realized in the context of undergraduate and postgraduate student research projects at Rhodes University (South Africa) are presented in the contribution "Civic Engagement and Environmental Sustainability in Teaching and Learning at a Higher Education Institution in South Africa" by the following group of authors: Tererai Nhokodi, Thandiswa Nqowana, Dylan Collings, Roman Tandlich and Nikki Köhly. They focused on monitoring the microbial water quality and the source of drinking water together with a new approach to the improvement in the design and modelling of the performance of ventilated pit latrines. The monitoring was realized in the context of a university and a local municipality in South Africa and it has implications for teaching and learning, civic engagement and environmental sustainability. Teaching and learning of the concepts of sustainability can facilitate the development of the necessary connection between academia and the society at large. It can have a significantly positive impact on the social conditions in South Africa and beyond, which is highlighted by the authors. The issues of environmental education are included in Acta Technologica Dubnicae for the first time.

In the next empirical study by Jana Majerčíková and Anna Rebendová from the Czech university environment, we move from the world of the "grown-ups" to the environment of a kindergarten. The study entitled "University Kindergarten: The Story of a Little Big School" presents the story of a kindergarten which is a private, a company and a university kindergarten. The establishing authority is a university that can preferentially accept children of its employees. The research was based on the strategy of one-case study and integrated both quantitative and qualitative research methods – questionnaires, interviews, observations and an analysis of the available school documentation. The authors describe the kindergarten and the contexts in which it operates, explain its operation and clarify the mechanics, circumstances and subjects it is most influenced by. Based on the gathered data, the authors define the three basic factors influencing the school's operation and fulfilling its function: the relations with the establishing authority, the community of university-educated parents and the status of a faculty school providing space for practical training of the students in teacher training. The kindergarten works in specific conditions with a strong contextual conditioning linked to the university environment and the authority's conditions, which is the major conclusion of the study. I can only recommend to read this study as it is really inspiring both for the directors and the establishing authorities of kindergartens.

The authors of our two professional articles deal with the issues of education as well. The first paper is focused on teachers and the other one on the education of students. Two Slovak authors – Gabriela Gabrhelová and Lenka Pasternáková, in their paper entitled "Teachers in the Context of Vocational Education", pay attention to teachers' personality, which is being formed throughout their teaching practice by the experience they gain. The results of the survey show that teachers get the basics during their teacher training when they are getting prepared for the teaching profession. The authors' intention is to excite the attention of the professional public to students' motivation to take part in teacher training. It is a long-term problem in the Slovak society.

From the aspect of students' education, we introduce a paper by a collective of three Slovak university teachers – Jana Hanuliaková, Lívia Hasajová and Dáša Porubčanová – under the title "Stress of Students and Social-Pathological Phenomena". They deal with the social, emotional and behavioural factors of students' stress and their influence on the occurrence of social-pathological phenomena. They analyse the statements of teachers who mention the preferences of occurrence of single elements of students' stress in the educational reality. Stress is becoming part of everyday reality even in the school environment, although joy, pleasure from going to school and feeling good at school are the aspects included in the main thoughts that we can find in the documents describing modern, humanistically oriented schools.

In the section of information, you can find an informative article by Ctibor Határ from Constantine the Philosopher University in Nitra (Slovakia) celebrating the life anniversary of an outstanding professional entitled "A Personality of Andragogical Science: Dr. h. c. prof. PhDr. PaedDr. Ján Perhács, CSc.". The Editors of Acta Technologica Dubnicae are pleased to publish this contribution and they are sending their warm congratulations to Professor Perhács.

Dear Readers, I wish you an inspiring reading of our Acta motivating you to writing innovative papers and, at the same time, I wish you pleasant and peaceful winter holidays as well as a good start into the year 2017.

Viola Tamášová

Editor-in-Chief

Acta Technologica Dubnicae
volume 6, 2016, issue 3

STUDIES

Intellectual Leadership of Researchers in Higher Education: Relationship Between the Demographic Factors and Roles (Lithuanian Context)

Vilma Žydžiūnaitė*

DOI: 10.1515/atd-2016-0017

Received: July 4, 2016; received in revised form: September 28, 2016;
accepted: October 3, 2016

Abstract: The intellectual leadership of educators or teachers represents a topic of a great interest for educational research and practice. Variety of variables or factors have been examined to find the most complete explanations for teachers', professors' and educators' roles, for example, institutional, financial, gender, organizational, spiritual, and intellectual. No literature was found on the relationship between the demographic variables and researchers' roles in higher education regarding intellectual leadership. But a lot of studies are focused on the relationship between demographic and other factors in education: job satisfaction, organizational justice, religion, gender, culture, personal and professional roles, stress, mental health, and mobility. The research issue in this study is related to researchers'/scientists' work in higher education schools and is focused on intellectual leadership, which consists of different roles. It is worth to think about researchers as intellectual leaders and to discover how they recognize or identify their roles in higher education. In this study, findings answer the following research question: "What are the relationships between researchers' roles and their gender, work experience, dissertation defence date, and research field?" The object of the research study is the researchers' roles in higher education. The aim of the study was to reveal the relationship between demographic factors and researchers' roles in higher education. Data were collected by performing a questioning survey and using a validated questionnaire with 116 statements in total. The sample consisted of 304 researchers working in higher education institutions. For data analysis, Cronbach's alpha, Mean and ANOVA calculations were used. The research findings reported that the female-researchers' evaluations were higher in all cases regarding their

* Vilma Žydžiūnaitė, Department of Education, Vytautas Magnus University, Kaunas, Lithuania; vilma.zydziunaite@vdu.lt

roles in higher education schools. The results of the study highlighted that the male-researchers were devoted to the roles of academic citizens and mentors, while they did not refer the interest for academic freedom and the role of a knowledge producer. Findings revealed that the role of an academic citizen is perceived equally to other roles, despite the fact that researchers work in different research fields. In this research study, the highest estimates were given to the roles by the researchers representing medical sciences. Results showed that the lowest estimates for the diverse roles in higher education were provided by the researchers from engineering sciences. A correlation analysis between distinguished minor roles descriptions revealed that the participation of scientists in society debates and public policy correlates with all the remaining roles of scientists very weakly or weakly. The strongest correlation with all roles refers to academic duty, critic, personal development, and acting in one research field. In conclusion, intellectual leadership is the scope of challenging processes regarding developing, designing, creating, defining, ensuring, critiquing, teaching, instructing, researching, mentoring, enabling questioning, generating, envisioning, advocating, encouraging, re-imagining, managing, representing, counseling, achieving, evaluating, acting, and providing. The general components here refer to ideas, values, understandings, solutions, beliefs, visions, knowledge, approaches, purposes, and actions. By concluding the study, it is worth to accentuate that the demographic factors that are meaningful in studying the researchers' roles within the intellectual leadership in higher education are the following - gender and research areas. The work experience in higher education and the year of Ph.D. defence are not the factors, which are meaningfully related to the role performance, academic duty and academic freedom of the researcher as an intellectual leader in higher education.
Key words: gender, higher education, intellectual leadership, researcher, role, scientific field.

1 Introduction

The role of a researcher in higher education as a public good continues to be fundamentally important. This aspect of higher education is easily neglected in the rush for income and prestige (Altbach et al., 2009). Researchers are an essential human resource in universities and colleges to achieve the higher education missions effectively. Hence, researchers are expected to carry out many duties and have many responsibilities such as leading research, producing income, preserving scientific and professional standards, helping their colleagues in career advancement, being a role model, influencing public debates, influencing the university's direction and representing their department and/or university (Uslu & Arslan, 2015). These behaviors and activities exhibited by academics while fulfilling their duties and responsibilities are termed as intellectual leadership (Macfarlane, 2011, 2012). Researchers as

intellectual leaders have a double duty: to continue in practicing their science or art as individuals (and groups) and to nurture others who will extend and challenge their ideas. They will be assisted – or hindered – by the culture and climate created by the higher education institution in which they are located. Individual academics at all levels in higher education institution have the potential to exercise intellectual leadership through the power of their ideas promulgated in the classroom, laboratory, seminal texts or other media. In practice, higher education institutions promote intellectual leadership through academic channels: researchers can shape the culture through disciplines and academic processes (Macfarlane, 2010).

The intellectual leadership of educators or teachers represents a topic of a great interest for educational research and practice. Variety of variables or factors had been examined to find the most complete explanations for educators', teachers' or professors' roles: institutional (Pinfield & Middleton, 2016), institutional and financial (Justice & Scott, 2012), gender and organizational (Georgeta, 2014), spiritual (Nickles, 2011), and intellectual (Taylor & Parsons, 2011). No literature was found on the relationship between demographic variables and researchers' roles in higher education regarding intellectual leadership. But a lot of studies are focused on the relationship between demographic and other factors in education: job satisfaction, organizational justice, religion, gender role beliefs, and culture, gender, personal and professional roles, stress and mental health, and mobility for industrial innovation.

The research issue in this study is related to researchers'/scientists' work in higher education schools and is focused on intellectual leadership, which consists of different roles. It is worth to think about researchers as intellectual leaders and to discover how they recognize or identify their roles in higher education. In this study, findings answer the following research question: "What are the relationships between researchers' roles and their gender, work experience, dissertation defence date, and research field?" The object of the research study is the researchers' roles in higher education. The aim of the study was to reveal the relationship between demographic factors and researchers' roles in higher education.

2 Roles of researchers in higher education

The term researcher refers to being engaged, acting and performing a careful study at a university or college. Researchers should have skills that are needed to perform research, i.e. intellectual and leadership skills (Sugarman, 2005) (see Table 1).

Table 1

Explanation of the terms "research" and "researcher" in dictionaries

Dictionary	Explanation
The Free Dictionary by Farlex (2016)	Research: 1) careful study of a given subject field, or problem, undertaken to discover facts or principles; 2) an act or period of such study; 3) to engage in or perform research; 4) to study (something) thoroughly so as to present in a detailed, accurate manner; 5) to do research for.
Dictionary.com (2016)	Researcher: is someone who conducts research, i.e. an organized and systematic investigation into something. [Synonyms – investigator, researcher worker, scientist.]
Cambridge Dictionaries Online (2016)	Researcher: someone whose job is to study a subject carefully, especially in order to discover new information or understand the subject better.

Researchers at universities and/or colleges work in relation to academic duties and freedom. Academic duty and academic freedom are the two sides of the same coin (Kennedy, 1997) and both are related to researchers' roles under the intellectual leadership at a university and/or college. Academic freedom is about the freedom of thought and expression essential to creativity and criticism (Macfarlane, 2012). Researchers should follow their duties at universities or colleges with a focus on teaching, service and research (Theall & Arreola, 2003; Grayson, 2016) (see Table 2).

Table 2

Duties of a researcher in higher education

Teaching	Service	Research
Prepare lectures, syllabi, labs for classes	Advise students regarding course selection	Write grant proposals for submission to funding agencies
Grade class assignments	Counsel students on career opportunities and choices	Do ground-breaking verifiable and publishable scholarly research
Prepare, give make-up and grade exams	Write recommendations for students seeking jobs and applying to graduate schools	Monitor spending from grants obtained from funding agencies

Calculate grades	Edit academic journals	Maintain laboratories for faculty and student research
Meet with students outside class for help	Review papers submitted to academic journals and grant proposals submitted to funding agencies	Write papers for publication in academic journals
Integrate new learning into existing classes	Serve on review committees of funding agencies and on departmental committees	Present research at meetings of scholarly societies to promote the university
Develop new classes	Serve on committees and in elected positions of scholarly societies	Give presentations in other institutions within the higher education
Supervise and evaluate graduate student teaching	Participate in departmental faculty meetings and departmental retreats	Read scholarly journals with the focus on new developments
Evaluate teaching by colleagues	Serve in departmental administrative positions	
Lead the field trips	Participate in or host faculty searches	
Attend department colloquia	Serve in Faculty Senate and/or College or University Council	
Supervise graduate student research	Respond to information requests from administrators	
Help graduate students with their research	Serve on university committees	
Read, make suggestions to improve, and evaluate graduate student thesis proposals, MS student theses and Ph.D. student dissertations	Participate in university‘s convocations	
Read and evalute written PhD comprehensive exams	Participate in Commencement exercises	
Participate in Ph.D. oral comprehensive exams	Respond to public queries in faculty areas of specialization	

Participate in graduate student defences	Perform public service in faculty areas of specialization
	Give public lectures

The duties of a researcher are related to activities, which require intellectual leadership and empowerment (Theall, 2002; Theall & Arreola, 2003; Sugarman, 2005), for example, supervising, leading, making suggestions, developing, and counseling (see Table 2).

Universities or colleges have rules and regulations, which outline the steps to move up the ladder to the implementation of the researchers' roles in higher education. Usually, the researchers' roles are the following (Grayson, 2016):

- Teaching. Researchers must mentor students in laboratory or research centers, even though the instructors aren't assigned to a class.
- Scholarship. Researchers must publish scholarly articles in journals and magazines recognized by experts as high-quality publications.
- Service. Researchers volunteer for committee work, chairing projects, attending meetings and work with student groups as faculty advisers. The amount of service required from researchers varies with universities, colleges and the departments.

Macfarlane (2011, 2012) and Macfarlane and Chan (2014) described researchers' roles in regard to their intellectual leadership in higher education. The particular roles of researchers by implementing intellectual leadership in higher education are the following: a mentor, an advocate, a guardian, an enabler, an ambassador, a knowledge producer, an academic citizen, a boundary transgressor, a public intellectual, and a critic:

- Mentor indicates contributing to the development of less experienced colleagues by guiding and facilitating their scholarly activities, and nurturing their potential by collaborative studies.
- Advocate designates the following aspects: i) emphasizing the importance of a discipline and contributing its value by benefiting from disciplinary expertise in institutional services, ii) applying theoretical information and practical experiences based on their scholarly activities to the solution of social problems. Researchers as advocates should influence public debates by transferring their knowledge, ideas and suggestions to people via local, national and international levels by adapting theoretical understandings of their disciplines.
- Being a guardian means to keep up academic values and standards in scholarly platforms and contribute to the development of scientific fields in

new directions by unprejudiced peer review activities. When researchers become more experienced and well-known in their field, their guardianship roles start to increase with new roles in different editorial boards, scientific committees and research councils besides promoting academic titles.

- Enabler implies that researchers should acquire research grants, research and development contracts, patents and copyrights as an indispensable part of the reality of contemporary colleges and universities. Being an enabler covers supporting young researchers and junior colleagues and their research initiatives financially by coordinating and leading project teams to obtain research funds. Researchers are also important figures in establishing communication channels between younger researchers, effective faculty and academic leaders in their discipline from inside and outside of their higher education institutions.
- The role of an ambassador emphasizes the representation of higher education institutions and their interests by researchers in local, national and even international platforms. When researchers become more well-known figures in academia nationally and internationally, they can contribute more fully to the reputation of their institutions.
- Knowledge producers are seeking to have an impact on theory and/or practice through the creation of propositional or professional knowledge, through new theories, frameworks, critiques, analyses, models and discoveries.
- Academic citizens look to apply their disciplinary and/or professional specialism for the benefit of wider public understanding. They use innovative methods, occupy significant leadership roles and engage in public outreach work.
- Researchers as boundary transgressors seek to challenge the norms of established disciplines, and develop connections across the fields of enquiry through teaching, research and scholarship. Researchers transgress the conventional and enter adjacent academic territories.
- Public intellectuals engage with and seek to influence public debate on social, moral and economic issues through speaking, writing and campaigning.
- Being a critique needs to be understood as taking place in different contexts, from the inner world of the discipline through to the applied and societal context in which disciplines, politics and society intersect.

3 Methodology

3. 1 Design

Collection of information refers to quantitative research – a questioning survey. The essence of the survey concerns obtaining "facts in digital expression regarding human behaviour and situations, as well as self-reflection" (Fowler, 1981, p. 2).

3.2 Sample

The main sample attribute refers to already awarded doctoral (Ph.D.) degree. According to the data provided by the Department of Statistics of Lithuania, the number of researchers being awarded the Ph.D. degree in Lithuania has reached approximately 8100 in 2014 (http://osp.stat.gov.lt/services-portlet/pub-edition-file?id=3308). In accordance with the simplified Yamane formula (1967, p. 886), the sample size refers to $n \approx \frac{N}{1+N(e)^2} \approx 269$, herein e – calculation error (this research sample implies 6% calculation error, N=8100).

The simple random sampling was applied in the study by providing the request to fill in the questionnaire for each potential respondent. In total, there were 318 questionnaires filled in, however 14 questionnaires were filled in incompletely, therefore only 304 questionnaires were correct. The research participants have acquired the Ph.D. degree in the period from 1968 to 2015. The main part of the sample consisted of the representatives of social sciences (see Table 3).

Table 3

The defended Ph.D. dissertations within the sample

Research areas	No. of respondents	Percentage
Social sciences	148	48.8
Humanities	39	12.8
Engineering sciences	16	5.3
Health sciences	15	4.9
Medical sciences	12	3.9
Technological sciences	46	15.1
Natural sciences	15	4.9
Physical sciences	13	4.3
In total	304	100

The majority of respondents had more than 5 years' experience of working in higher education schools (see Table 4).

Table 4

Experience in higher education school

Experience in years	No. of respondents	Percentage
Approx. 1 year	5	1.6
1-5 years	27	8.9
6-10 years	64	21.1
11-15 years	69	22.7
16-20 years	59	19.4
> 20 years	80	26.3
In total	304	100

The majority of respondents were 41-45 years old (62 respondents/20.4%). The smallest part of sample consisted of 25-30-year-olds (4 respondents/1.3%) and over 65-year-olds (12 respondents/3.9%) participants. Females represented the majority of the research participants (197 respondents/64.8%).

3.3 Methods

Data analysis was based on the applied methods of mathematical statistical analysis using MS Excel and SPSS (Statistical Package for Social Sciences) 22 version. Statistical hypothesis testing was used for type I error - level of significance=0.05. Cronbach's alpha was applied for disclosing the internal coherence of the subscale. Coherence is considered to be adequate if Cronbach's alpha exceeds 0.7 (Tavakol & Dennick, 2011).

Parametric criteria (blocked data ANOVA) were applied with the aim to compare indexes between diverse groups of respondents. Comparison of mean using derivative indicators was applied for evaluation of researchers' roles' importance (roles' prioritising). ANOVA was also applied with the aim to compare the evaluations of roles referring to different demographic indicators: gender, research field, age, and experience.

3.4 Tool

The original validated questionnaire (Zydziunaite et al., 2015 a, b) on researchers' roles in higher education was used. The construct of the tool is based on the conception of Macfarlane (2007, 2010, 2011, 2012) on "Intellectual Leadership in Higher Education". The conceptual framework was enriched by other following publications of Dealtry (2001); Rowley and Sherman (2003); Yielder and Codling (2004); Blackmore and Blackwell (2006); Roy et al. (2008); Tseng et al. (2010); and Stevenson (2012).

The tool consists of 2 parts, 12 questions and 116 statements in total. The first part of "demography" incorporates 6 questions about the years of Ph.D. defence, academic/research work experience, research areas and subjects, and age. The second part "being an intellectual leader" includes 2 questions about academic duties and freedom with 24 items in total. The third part "researchers' leadership roles in higher education" consists of four questions with 58 items in total.
In the first part, the research participants are asked to choose 'yes' or 'no' regarding every statement. To measure every statement in the second and thirds parts, respondents are asked to use the Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree).

Cronbach's Alpha measures of every part were the following: 0.878 academic freedom; 0.895 academic duty; 0.857 critic; 0.804 mentor; 0.861 knowledge producer; 0.842 academic citizen.

3.5 Ethics

During the research, all the respondents received a reference letter explaining the research aim, anonymity of provided information, as well as its application for scientific purposes. An e-mail address was presented for available contact link. The questionnaire was filled-in only by respondents who were willing to participate in the research.

Whereas the questionnaires were shared through the internet, the research group made no impact or pressure on the respondents. There were no requests to provide personal data except particular general demographic information, for example, age, work experience, and research area. The questionnaire was anonymous.

4 Results

Comparing evaluations of researchers' roles according to gender, statistically significant differences were found in all cases (ANOVA, see Table 5).

Females' evaluations were higher in all cases. The obvious difference was determined by evaluating academic freedom and academic duty, though less significance was found by evaluating the role of a critic.

Table 5

Evaluation of researchers' roles according to gender

		Mean	Standard deviation	Freedom degrees	F	p
Academic freedom	Female	2.76	1.40	1	7.587	0.006
	Male	2.32	1.08	289		
Academic duty	Female	2.81	1.18	1	6.844	0.009
	Male	2.45	0.95	289		
Critic	Female	2.73	1.11	1	4.095	0.044
	Male	2.46	0.91	289		
Mentor	Female	2.78	1.02	1	5.200	0.023
	Male	2.50	0.92	289		
Knowledge producer	Female	2.64	0.92	1	5.781	0.017
	Male	2.38	0.81	289		
Academic citizen	Female	2.75	0.83	1	5.349	0.021
	Male	2.51	0.83	289		

If considering just females' evaluation, statistically significant differences were not determined ($p>0.05$). Meanwhile, evaluation of male was statistically significant (blocked data results' sphericity: Mauchly's $W=0.433$, $\chi2=77.125$, $df=14$, $p=0.000$, mean equals: $F=3.754$, $df=3.761$, $p=0.006$).

The lowest evaluation was expressed by males referred to academic freedom, the role of knowledge producer, while the highest evaluation was devoted for the roles of an academic citizen and mentor.

Dispersive analysis was applied and the roles among researchers representing different research fields were compared. Results showed that the role of an academic citizen is perceived equally to other roles, despite the fact that the researchers work in different research fields (see Table 6).

The highest estimates were given to the roles by the researchers representing medical sciences. The lowest estimates for the diverse roles (except academic duty) were provided by the researchers from engineering sciences.

Table 6

Evaluation of researchers' roles according to the field of research

		Mean	Standard deviation	Freedom degrees	F	p
Academic freedom	Social sciences	2.91	1.41	7	4.370	0.000
	Humanities	2.25	1.22	296		
	Engineering sciences	1.94	0.77			
	Health sciences	3.72	1.32			
	Medical sciences	4.00	0.87			
	Technological sciences	2.12	0.90			
	Natural sciences	2.16	1.10			
	Interdisciplinary research	2.41	1.33			
Academic duty	Social sciences	2.90	1.21	7	3.760	0.000
	Humanities	2.49	0.97	296		
	Engineering sciences	2.30	0.87			
	Health sciences	3.82	1.15			
	Medical sciences	4.00	0.69			
	Technological sciences	2.28	0.77			
	Natural sciences	2.23	0.89			
	Interdisciplinary research	2.48	1.26			
Critic	Social sciences	2.83	1.17	7	3.487	0.001
	Humanities	2.26	0.94	296		
	Engineering sciences	2.22	0.69			
	Health sciences	3.59	0.83			
	Medical sciences	3.78	0.83			
	Technological sciences	2.44	0.69			
	Natural sciences	2.32	0.91			
	Interdisciplinary research	2.43	1.02			
Mentor	Social sciences	2.89	1.00	7	5.341	0.000
	Humanities	2.48	0.90	296		
	Engineering sciences	2.08	0.63			

	Health sciences	3.74	1.00			
	Medical sciences	4.15	0.60			
	Technological sciences	2.28	0.78			
	Natural sciences	2.35	0.94			
	Interdisciplinary research	2.55	1.15			
Knowledge producer	Social sciences	2.70	0.95	7	4.184	0.000
	Humanities	2.39	0.88	296		
	Engineering sciences	2.12	0.49			
	Health sciences	3.49	0.83			
	Medical sciences	3.88	0.66			
	Technological sciences	2.28	0.56			
	Natural sciences	2.23	0.79			
	Interdisciplinary research	2.43	1.04			
Academic citizen	Social sciences	2.74	0.93	7	1.067	0.386
	Humanities	2.54	0.69	296		
	Engineering sciences	2.44	0.69			
	Health sciences	3.23	0.42			
	Medical sciences	3.33	1.12			
	Technological sciences	2.59	0.62			
	Natural sciences	2.62	0.91			
	Interdisciplinary research	2.53	0.95			

The dispersive analysis of blocked data indicated distinguished opinions of the researchers representing the humanities, technological and natural sciences (see Table 7).

Table 7

Research fields

Field	Quantity	Sphericity measurement				Mean equals		
		Mauchly's W	χ^2	df	p	F	df	P
Social sciences	152	0.199	218.027	14	0.000	2.003	2.725	0.119
Humanities	40	0.100	78.392	14	0.000	3.280	2.722	0.028
Engineering sciences	11	0.021	31.451	14	0.006	1.837	2.160	0.181
Health sciences	15	0.000	-	14	-	1.322	1.597	0.320
Medical sciences	13	0.000	-	14	-	4.249	1.359	0.140
Technological sciences	47	0.275	55.658	14	0.000	7.788	3.465	0.000
Natural sciences	12	0.036	26.904	14	0.024	3.966	2.622	0.022
Interdisciplinary research	14	0.124	23.147	14	0.063	0.258	5	0.934

The researchers representing both humanities and technological or natural sciences dedicated the highest estimate for the role of an academic citizen. The representatives of humanities evaluated academic duty and the mentor's role lower. Meanwhile, the representatives of technological sciences devoted the second place for the role of a critic. Evaluation provided by the representatives of natural sciences indicated the importance of the mentor's role in the second place. The lowest evaluations in all researcher fields referred to academic freedom. According to the researchers representing humanities, only 0.01 higher medium was obtained by evaluating the role of a critic. The researchers representing technological sciences evaluated academic duty and the roles of a mentor and a knowledge producer equally.

The method of two-way dispersive analysis was applied in order to compare the roles according to the factors within the pairs (gender and research field; research field and experience in higher education institution). Though statistically significant differences regarding general interaction of factors were not determined (in all cases $p>0.05$).

Evaluating the differences between statistically significant means by applying the repeated measures ANOVA, statistically significant deviations were derived

(sphericity: Mauchly‘s W=0.002, $\chi 2$=1714.727, df=54, p=0.000, mean equals: F=17.006, df=4.112, p=0.000).

Correlation analysis between distinguished minor roles’ descriptions revealed that the participation of researchers in society debates and public policy correlates with all the remaining roles of researchers very weakly or weakly. The strongest correlation with all roles referred to academic duty, a critic, personal development, and acting in one research field.

Neither age, nor work experience in higher education institution affected the statistically significant differences (p>0.05 referring to all the roles). Distribution of the Ph.D. dissertations according to the defence period till 1990, from 1990 to 2000 year, and the subsequent period didn’t reveal statistically significant differences either (p>0.05 referring to all roles).

If a mean comparison of the roles being grouped as “major” did not differ in the female group, then the roles being grouped as “minor“ pointed out the statistically significant differences between both males and females (sphericity for female: Mauchly‘s W=0.001, $\chi 2$=1260.029, df=54, p=0.000, mean equals: F=7.071, df=3.634, p=0.038; sphericity for male: Mauchly‘s W=0.003, $\chi 2$=529.842, df=54, p=0.000, mean equals: F=13.097, df=4.827, p=0.000).

While considering ANOVA and analysing evaluations being provided by the representatives from different scientific fields, it was determined that statistically significant differences do not refer to the activities such as „Scientists’ activity implementing interdisciplinary research” nor “Participation in society debates and public policy” (p>0,05). In all other cases, the differences were statistically significant. Namely, high estimates were attributed to the representatives of health sciences and medical sciences: the representatives of medical sciences presented the highest estimates for all the roles. Health sciences’ representatives appreciated scientific performance application for public interest at the highest level. In many cases the lowest estimates were provided by the representatives of engineering sciences.

The representatives of social sciences mostly appreciated freedom in association to inclusion, support and assistance, meantime, the lowest estimate was given to the ability to follow certain rules. The representatives of humanities, technological sciences and natural sciences preferred to evaluate the participation in society debates and public policy at the highest estimate, while the lowest estimates referred to following norms and academic freedom with the reference to new ideas, opinions, and actions.

5 Discussion

The findings reported that female researchers' evaluations were higher in all cases regarding their roles in higher education. These results could be explained by the fact that female researchers could perceive their roles as the possibility for developing scientific self-confidence (Giugno et al., 2015) and/or proving intellectual capabilities of the female within the higher education area (Georgeta, 2014). This empirical fact adds the value to the understanding that knowledge and skills are related to the wealth of society (Macfarlane, 2007).

In the particular research study, the highest estimates were given to the roles by the researchers representing medical sciences. These findings could be interpreted as medical researchers' interest in performing their roles within higher education on the highest performance level (standard) (Clark & Smith, 2003). This empirical fact reveals that medical researchers implement intellectual leadership through all their roles' performance on equal value (Myint et al., 2006). It could be also interpreted as medical researchers' wish to dedicate their time for all roles' performance in order to become intellectual leaders at universities and/or colleges. This empirical fact is not related to gender or work experience within a particular discipline (Paice et al., 2000).

Findings of the research revealed that the lowest estimates for the diverse roles in higher education were provided by the researchers from engineering sciences. Why are these results contrasting with the medical researchers' opinions? Considerations regarding these findings could be focused on the purposes of training medical and engineering professionals in higher education institutions. Medical professionals are trained to take responsibility in all stages of the process – from starting till ending - and this is related to health outcomes of the patient (Fong Ha & Longnecker, 2010). Medical professionals also relate their activity (work) outcomes to the social interactions regarding patients, their relatives and colleagues (physicians, nurses and other professionals) as team members. They are responsible for their own (as a team member's) results and all the team work outcomes (Torpey, 2015). However, engineering professionals are mostly focused on the intermediate phase and the product for which they are responsible. Other stages of the process are mostly the responsibility of other specialists. Here, the social interaction is not the core of the working process and the responsibility is transferred in different phases to different professionals (Why so few? Women in Science, Technology, Engineering and Mathematics, 2010). The findings of the current research could be seen through the training of future professionals, development and internalisation of professional values where the core focus is on the responsibility for own and the others' work results (Pinfield & Middleton, 2016).

Academic freedom is a crucial element for a free and civil society, but we must be able to have open discussions for it to flourish. If you can't express yourself in a university campus, doing so off-campus is usually even harder. Where academic freedom is restricted, it is a measure of the limits of free speech in the society at large (Timms, 2016). The findings from this particular research revealed that the lowest evaluation in all research fields refers to academic freedom. The estimates regarding academic duty are significantly higher compared to those that represent academic freedom. So, findings showed that for researchers, academic duty is more important than academic freedom, without reference to gender, research area, or years of work experience in higher education institutions. The findings of the particular research did not answer the question, "Why researchers value more academic duty than academic freedom?". Then this empirical fact can be interpreted by speculating with a variety of opinions and considerations. A lot of research participants are representatives who graduated from higher education institutions during the "Soviet times", where academic freedom was not the object of the researchers' work reality. Thus, this aspect could be the factor, which influenced the research participants to be more focused on academic duty than on academic freedom.

In contemporary higher education, the focus on academic duty is stronger than on academic freedom, in other words, the space of academic freedom in higher education is shrinking because of a lot of academic and non-academic duties and responsibilities, which are required by the global higher education area and the global academic market (Olivas, 2011). On the other hand, academic freedom implies that research and creative interests are a matter of individual choice, not a subject to directive. That does not assign complete license; some limitations are consistent with academic freedom. Faculty research and creative choices are subjects to the law, professional responsibility for openness and accountability, and the ethical principle that the researcher must avoid imposing undue harm (Duvall et al., 2004). It is therefore likely that research participants included their own understanding into academic duty and academic freedom, which is not possible to study deeper without a qualitative study (in the future).

6 Conclusions

Intellectual leadership is the scope of challenging processes regarding developing, designing, creating, defining, ensuring, critiquing, teaching, instructing, researching, mentoring, enabling questioning, generating, envisioning, advocating, encouraging, re-imagining, managing, representing, counseling, achieving, evaluating, acting, and providing. The general components refer to ideas, values, understandings, solutions, beliefs, visions, knowledge, approaches, purposes, and actions. These aspects must be acknowledged through collectively shared understanding within the academic

community and generated contextually for universities' and/or colleges' development in higher education with a focus on the academic duty and freedom. For researchers, intellectual leadership covers a wide range of aspects in association to their roles at universities and/or colleges.

The demographic factors that are worth to take into account when studying researchers' roles within intellectual leadership in higher education are gender and research areas. Years of work experience in higher education and the year of Ph.D. defence are not the factors, which are meaningfully related to the role performance, academic duty and academic freedom of researchers by implementing intellectual leadership in higher education.

Acknowledgements:
Financial support provided by the Research Council of Lithuania for the research and English language proof-reading is gratefully acknowledged (Project Reg. No. MIP-15268, Agreement No. 026/2015).

The author of the article expresses appreciation to dr. A. Rutkiene, who helped to manage the statistical aspects, and to V. Jurgile, who helped to manage the data collection process. The author is grateful to dr. E. Dailidiene for editing the English language.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

Psychometric Properties of the Slovak Version of sEMBU on General Adult Sample

Gabriela Rozvadský Gugová – Martin Eisemann*

DOI: 10.1515/atd-2016-0018

Received: June 27, 2016; received in revised form: September 29, 2016;
accepted: October 3, 2016

Abstract: The factorial stability and reliability of the 23-item s(short)-EMBU previously demonstrated to be satisfactory in the samples of students from Greece, Guatemala, Hungary, Italy (1999), East-Germany and Sweden (Arrindell et al., 2001). The Slovak translation of the original sEMBU was published in 2007 (Poliaková, Mojžišová, & Hašto, 2007). We decided to explore the psychometric properties of the translation of sEMBU on a general adult sample (N=970) in Slovakia, because the translated version of sEMBU is already utilized in research projects in Slovakia. The results show a very good alpha reliability of sEMBU. In the Slovak translation, we found similar scores of Rejection and Emotional warmth and Overprotection. A factor analysis with forced 3-factor solution sorted items to scales exactly as authors of sEMBU presupposed. Overprotection (father) has the highest share for classification and differentiation in the cluster. Emotional warmth (mother) has the highest share for classification and differentiation in the cluster. We discussed our results with the results from other studies and we suggest to continue in the research of the Slovak version of sEMBU focused on types of attachment, especially on the secure type of attachment.
Key words: parenting, attachment styles, sEMBU, experiences in attachment, psychometrics, parent and child interaction.

1 Introduction

John Bowlby (1969) and Mary Ainsworth are the founders of The Attachment theory (Ainsworth, Bell, & Stayton, 1975). John Bowlby formulated the basic tenets of the theory (Bowlby, 1991), and Mary (Ainsworth, Bell, & Stayton, 1975) helped expand the theory itself, she formulated the concept of maternal sensitivity to infant signals and its role in the development of the infant-mother attachment patterns. Ainsworth, Blehar, Waters and Wall identified three major

* Gabriela Rozvadský Gugová, Dubnica Institute of Technology in Dubnica nad Váhom, Dubnica nad Váhom, Slovakia; gugova@dti.sk
Martin Eisemann, Faculty of Health Sciences, University of Tromsø, Tromsø (Norway) martin.eisemann@uit.no

styles of attachment in infancy – secure, anxious-avoidant, and anxious-ambivalent – and traced them to the caregivers' parenting behavior (Ainsworth, Blehar, Waters, & Wall, 1978).

A relationship formative life experience has an impact on the regulation of neurobiological models and formulas to use defense mechanisms. More information regarding the memories of one's parents' behavior will allow us to know the process of creating a more focused model of education. The educational practices in childhood and the parent - child relationship convince us of their importance as the determinants of the personality characteristics and possible available for later mental disorders. As, in our environment, only a few authors pay attention to attachment (Hašto, 2005; Mojžišová, 2006; Poliaková, Mojžišová, & Hašto, 2007), we agreed to a apply factor analysis on the translated tool. We assumed to reach similar results as the authors' original version of EMBU (Jacobson, Lindstrom, von Knorring, Perris, & Perris, 1980; Arrindell, Emmelkamp, Monsma, & Brilman, 1983; Arrindell, Emmelkamp, Brilman, & Monsma, 1983).

In our research, we used the sEMBU questionnaire. This is the shortened version of the original 81-item questionnaire EMBU subscales with 15 and two additional issues related to consistency and strictness of parental educational behavior. The sEMBU consists of 23 questions grouped into 3 subscales - Rejection, Emotional warmth and Overprotection. The questions are answered separately for fathers and mothers on a 4-point Likert scale. EMBU is a Swedish acronym for Egna Minnen Beträffande Uppfostran (My memories of upbringing: My memories as I was raised).

Many national standardizations in different countries and samples found general support for the validity of sEMBU (Arrindell, Emmelkamp, Brilman, & Monsma, 1983; Arrindell, Emmelkamp, Monsma, & Brilman, 1983; Arrindell et al., 2001; Eisemann, Perris, Perris, & von Knorring, 1984; Perris, Arrindell, van der Ende, Maj, Benjaminsen, Ross, Eisemann, & del Vecchio, 1985; Richter, & Eisemann, 2001) and their items. As the translated version of sEMBU is already utilized in research projects in Slovakia, we found it necessary to look for the psychometric properties of the Slovak version of sEMBU. The shortened form sEMBU was filled by students in 11 countries in Europe, Asia, Australia and South America through an international study of individual personality and fears evaluation (Arrindell et al., 1999). The descriptive statistics of the sample made by Arrindell et al. (1999) showed that all the items were fed by factors of Rejection or Emotional warmth. General patterns of correlations between factors in the long version of EMBU were as follows: a significantly and considerably negative correlation between Rejection and Emotional warmth, statistically significant and positive association between Rejection and Overprotection and

statistically insignificant and negligible association between Emotional warmth and Overprotection. The coefficients of internal consistency (Cronbach's α) for all scales were satisfactory (≥ 0.72). Different versions of EMBU have been standardized and translated in more than 25 countries (Rojo-Moreno, Livianos-Aldana, Cervera-Martínez, & Dominguez-Carabantes, 1999; Livianos-Aldana & Rojo-Moreno, 2003; García, Aluja & Del Barrio, 2006; Oldehinkel, Veenstra, Ormel, de Winter, & Verhulst, 2006).

2 Methods

The goal of the study is to analyze the psychometric properties of the Slovak translation of sEMBU (Poliaková, Mojžišová, & Hašto, 2007) and investigate of the existing modeling patterns of education in Slovakia in the context of the future use of sEMBU as a research and diagnostic tool, as well as in the context of attachment theory.

Our final sample consists of 970 participants, who were recruited during their external pre-gradual studies in Dubnica Institute of Technology (DTI) between 2010-2014. Participants were selected on availability basis and willingness to participate without any rewards. All of them finished high school with final A-exam. They lived throughout whole Slovakia as DTI has many small local consultation centers in all regions of Slovakia. Age properties of the sample can be seen in Table 1. All participants filled in the Slovak translation (Poliaková, Mojžišová, & Hašto, 2007) of sEMBU (Arrindell et al., 1999).

We analyzed the psychometric properties of the Slovak version of sEMBU applying the following procedures: descriptive statistics, item-total correlation, alpha reliability, exploratory factor analysis, attachment styles analysis and correlation analysis of the relationship of sEMBU and the demographic properties. We focused on the general psychometric properties of sEMBU. The results are commented on and shortly discussed continuously in the study for better clarity and the part Discussion is focused only on selected topics.

3 Outputs of the study

The research sample for the study consisted of 507 women and 463 men. The mean age of participants was M=31.743; SD=8.7317 (from 18 to 62). Descriptive and frequency statistics for sEMBU subscales and percentiles in the whole sample are displayed in Table 2. The mean score sEMBU in our study for Rejection (father) was: M=13.88, SD=3.250; Rejection (mother) was: M=14.44, SD=3.768; Emotional warmth (father): M=14.24, SD=3.190; Emotional warmth (mother): M=14.24, SD=3.214; and Overprotection (father) was: M=18.90, SD=3.509; Overprotection (mother): M=17.69, SD=3.990. Our results are higher as to results published by Perris (Perris, Jacobson, Lindstrom, Von Knorring, &

Perris, 1980), who reports that the score for Rejection (father) was: M=11.11 and for Rejection (mother) was M=11.78; and for Overprotection (father) was: M=10.70 and Overprotection (mother) was: M=11.70. But our results are close to the results published by Castro (Castro, de Pablo, Gómez, Arrindell, & Toro, 1997), who reports that the score for Rejection (father) was: M=16.32, SD=3.00 and for Rejection (mother) was M=16.38, SD=2.74.

Table 1

Age description of whole research sample (N=970)

s EMBU	**Total**
N	970
Age range	18-62
Age mean	31.743
Age SD	8.7317

Table 2

Frequency statistics of the sEMBU scales and percentiles in the whole sample (N=970)

s EMBU		Rejection (father)	Rejection (mother)	Emotional warmth (father)	Emotional warmth (mother)	Overprotec (father)	Overprotec (mother)
N		967	968	968	968	968	968
Scale M		13.88	14.93	14.24	14.44	18.90	17.69
Scale SD		3.250	3.768	3.190	3.214	3.509	3.990
	Ptil 10	9.00	9.00	10.00	11.00	14.00	13.00
	Ptil 20	11.00	12.00	12.00	12.00	16.00	14.00
	Ptil 30	13.00	13.00	13.00	13.00	17.00	15.00
	Ptil 40	13.00	15.00	13.00	13.00	18.00	16.00
Percentiles	Ptil 50	14.00	15.00	14.00	14.00	19.00	17.00
	Ptil 60	15.00	16.00	15.00	15.00	20.00	18.00
	Ptil 70	16.00	17.00	15.00	15.00	21.00	19.00
	Ptil 80	16.00	18.00	16.00	17.00	22.00	21.00
	Ptil 90	18.00	20.00	19.00	19.00	23.00	23.00

Note: *Ptil = Percentil

Correlations

We found correlation between Rejection (father and mother) and Emotional warmth and Overprotection, we found correlation between “My parents separated” and Rejection (mother) 0.184 and Emotional warmth (father) 0.200, as well as between “I have… brothers and sisters” and “I have ... brothers and sisters older than me” 0.588.

Further, we found correlation between: Rejection (father) and Rejection (mother) subscale (r=.655, p<.001); Emotional warmth (father) and Rejection (father) subscale (r=-.212, p<.001); Emotional warmth (father) and Emotional warmth (mother) subscale (r=.643, p<.001); Emotional warmth (mother) and Rejection (father) subscale (r=-.293, p<.001), see results in Table 3. A mild to medium significant level of negatively correlation between Rejection and Emotional warmth scale is found in numerous studies (see results in Arrindell et al., 2001). We find these results to be supportive for claim of the Slovak version of sEMBU validity.

Table 3

Correlations of the sEMBU scales in the whole sample (N=970)

s EMBU	Rejection (F)	Rejection (M)	E warm (F)	E warm (M)	Protection (F)	Protection (M)	Gender	My parents separated	I have brothers...	I have...older brothers
Rejection (F)	1	.655**	-.212**	-.293**	.345**	.033	-.020	.047	-.067*	-.126**
Rejection (M)	.655**	1	-.068*	-.345**	.318**	-.048	.014	.066	-.047	-.040
E warm (F)	-.212**	-.068*	1	.643**	.404**	.405**	-.045	.027	-.051	-.008
E warm (M)	-.293**	-.345**	.643**	1	.308**	.434**	.029	.086	-.039	-.040
Protection (F)	.345**	.318**	.404**	.308**	1	.596**	-.008	.115	-.038	-.122**
Protection (M)	.033	-.048	.405**	.434**	.596**	1	-.037	.191	-.028	-.063
Gender	-.020	.014	-.045	.029	-.008	-.037	1	-.069	.113**	.038
Age	-.088**	-.067*	.033	.024	.000	.022	-.074*	.222*	.145**	.038
Ages category	-.090**	-.060	.051	.043	.020	.040	-.016	.254*	.162**	.054
I lived (s) with both parents ...	.048	.107**	.091**	-.013	.066	.053	-.110**	.346**	.019	.073*
My father is... years	-.071	-.035	.046	.023	-.010	.019	-.106**	.204	.218**	.289**
My father died ...	.099	.041	.129	.020	.193**	.184*	-.025	-.076	-.031	-.081
My mother is... years	-.112**	-.021	.031	-.011	-.045	-.002	-.088*	.224*	.205**	.325**
My mother died...	-.032	-.003	-.052	-.058	-.082	.003	-.046	.536	.111	.126
My parents separated	.067	.184*	.200*	.120	.212*	.190*	.059	.909**	.119	.131
I have lived with....	.047	.066	.027	.086	.115	.191	-.069	1	.073	.044
I have brothers ...	-.067*	-.047	-.051	-.039	-.038	-.028	.113**	.073	1	.588**
I have ... older brothers	-.126**	-.040	-.008	-.040	-.122**	-.063	.038	.044	.588**	1

Note: **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
F. father
M. mother

We analyzed separately for men and women. For men in the sample, there were positively correlated Rejection of both parents, Emotional warmth of both parents, Overprotection father and Rejection mother scale, Overprotection scale of both parents, there was no correlation with demographic items, families, number of siblings ...

For women in the sample there were significant positive correlations between "My parents separated" and Rejection mother scale ($r=.337$, $p<.001$); and Emotional warmth father scale ($r=.272$, $p<.001$); and Overprotection father scale ($r=.264$, $p<.001$); each highly correlated Rejection father and Rejection mother scale ($r=.626$, $p<.001$); Emotional warmth of both parents was $r=.712$, $p<.001$.

Differences
There were statistically significant differences between men and women in Scales of father: Rejection ($t(967)= 6.692$, $p<0.05$, $d=0.128$), Emotional warmth ($t(968)= 9.954$, $p<0.05$, $d=0.287$), and further there were statistically significant differences between men and women in Scale of mother: Overprotection ($t(968)=10.914$, $p<0.05$, $d=0.292$).

Our results of statistically significant differences between Scales of father and ages category are in Table 4. Our results of differences between Scales of mother and ages category were significant than those of father. We had categories: to 30 years, from 31 to 40 years, from 41to 50 years, over 50 years. All differences between Ages category and Rejection were $d \geq 3.674$, $p<0.05$; category over 50 years the most score in Rejection father and mother.
Next, we analyzed the relationship between sEMBU scale scores and family status. Statistically significant differences were found between parent families and single parent families, see in Table 5 (father) and see in Table 6 (mother).

Table 4

Differences between sEMBU scales (father) and ages category in the whole sample (N=970)

sEMBU scales (father) and ages category	ANOVA SS	df	MS	F	Sig.
Rejection (father)	275.642	3	91.881	8.915	.000[a]
	9925.202	963	10.307		
	10200.844	966			
Emotional warmth (father)	59.888	3	19.963	1.968	.117
	9779.463	964	10.145		
	9839.351	967			
Overprotection (father)	68.426	3	22.809	1.858	.135
	11836.830	964	12.279		
	11905.256	967			

Table 5

Differences between sEMBU scales (father) and family status (parent families/ single parent families) in the whole sample (N=970)

sEMBU	t	df	Sig. (2-tailed)	Sig.
Rejection (father)	1.102	862	.271	**o**
Emotional warmth (father)	4.134	119.358	.000	+++
Overprotection (father)	3.000	120.135	.003	++

Table 6

Differences between sEMBU scales (mother) and family status (parent families/ single parent families) in the whole sample (N=970)

sEMBU	t	df	Sig. (2-tailed)	Sig.
Rejection (mother)	3.806	863	.000	+++
Emotional warmth (mother)	2.437	863	.015	+
Overprotection (mother)	2.482	120.875	.014	+

Statistically significant differences were found only for Emotional warmth father scale, where the participants from parent families scored higher than those from single parent families, (t (970)=.134, $p<0.05$, d=1.414). Further, statistically significant differences were found only for Rejection mother scale, where participants from single parent families scored higher than those from parent families, (t (970) = 3.806, $p<0.05$, d=1.362). We found differences in evaluation of mothers between men and women, the differences were in items 4, 11, 12, 15, 18, 19, 20, limits, and fears punishment, favoring siblings …

Several studies found a relationship between Rejection and Emotional warmth (see Arrindell et al., 2001). They found the presence of the following correlations: Rejection with Emotional warmth -.45 and -.46, respectively in the East-German data and -.46 and -.49, respectively, in the Swedish data (P's< 0.001); Rejection correlated positively with Protection. Similar results were also found by other authors (García, Aluja, & Del Barrio, 2006) (Saleem & Mahmood, 2011).

Psychometric properties of sEMBU subscales
The internal consistency for the subscale were α=.820 for our factors of Father (without item no.9 α=.823) and α=.856 for our factors of Mother (without item no.20 α=.860). The Slovak version of sEMBU seems to be quite reliable. The mean Item-total correlation for Rejection father subscale was from .310 to .652; and for Emotional warmth was from .304 to .752; and Overprotection was from .411 to .709. Our results were the following: for Rejection mother subscale was from .303 to .762; and for Emotional warmth was from .371 to .616; and Overprotection was from .305 to .672. Our results are very similar to the results of other studies (see Arrindell et al., 2001).

We analyzed gender differences with point-biserial correlation. Items 9 and 20 showed some differences between males and females (rpbis=>.100). Item 9 had a higher reliability of mother .460 (than father .127); and also in rotation significant nourished by a factor. Item 20 had a higher reliability of father .425 (than mother .030).

A principal component analysis with Varimax rotation was performed on sEMBU (see the Table 7a,b). Keiser-Mayer-Olkin measure was adequate (KMO(father)=.820; KMO(mother)=.860). Bartlett's test of Sphericity was highly significant ($p<.001$). Data were suitable for Principal component analysis. Model (see Table 7a) best describes the items 14(.752), 13(-.534), 12(.709) of father and best describes the items 9 (.672), 7 (.762), 23(-.533) of mother (see Table 7b). Item no. 9 for father (see the Table 7a) and no. 20 for mother (see the Table 7b) were the worst was explained. Those items were in the next steps

excluded from the analysis. The items of sEMBU were grouped almost identically as the attachment theory behind EMBU assumes.

Table 7a

Pattern matrix and factor loadings of the sEmbu scales (father, N=970)

Item No.	Factor loading (father) a	b	c
14.	.752		
23.	.639		
11.	.613		
20.	.607		
2.	.572		
13	-.534	.422	.364
6.	.533		
17.	.477		
8.	.473		.310
12.		.709	
10.		.691	
19.		.598	
18.	-.355	.543	
15.	-.346	.481	.347
5.	.330	.411	
21.			.652
4.			.593
16.			.592
22.			.531
7.			.526
3.	.304		.386
1.			.380
9.			

a. emotional warmth (father)
b. overprotection (father)
c. rejection (father)

Table 7b

Pattern matrix and factor loadings of the sEmbu scales (mother, N=970)

Item No.	Factor loading (mother) a	b	c
9.	.672		
2.	.650	-.342	
11.	.646		
8.	.642		
18.	.614		
19.	.602	-.317	
12.	.546	-.337	
22.	.542		
5.	.530	.307	
10.	.513		
14.	.443		
17.	.374		
7.		.762	
1.		.641	
3.		.632	
21.	-.479	.579	
6.		.515	-.490
16.		.477	.371
13.			.616
23.		.303	-.533
15.	.305		.529
4.		.475	.484
20.			

a. overprotection (mother)
b. rejection (mother)
c. emotional warmth (mother)

4 Conclusions

The results of our study indicate that the Slovak translation of sEMBU is a reliable instrument for measuring the existing modeling patterns of education in Slovakia. Cronbach's reliability of the Slovak sEMBU was satisfactory (>.80). Although three dimensions of sEMBU: Rejection, Emotional warmth, and Overprotection were originally thought to be independent, most studies find at least a mild correlation between them. The correlation found in our study is comparable to the results obtained by Arrindell et al. (2001) and by others (Bogels, van Oosten, Muris, & Smulders, 2001). An exploratory analysis using a forced three-factor solution sorted the items of the Slovak version of sEMBU into relevant scales (Rejection, Emotional warmth and Overprotection). There were gender differences in sEMBU scale scores, statistically significant differences were found between parent families and single parent families, for men in the sample, Rejection of both parents was positively correlated – the result commonly found in many research studies.

Although our results present that the Slovak version of sEMBU is a reliable instrument for measuring the existing modeling patterns of education in Slovakia, we recommend to look into the relationship between the Slovak sEMBU and other measures of attachment. Particularly, it would be useful to analyze the relationship between self-report and interview based on behavioral analysis of attachment. Further research on at least short-term temporal stability of the Slovak version of sEMBU is advisable for further information on the reliability of the measure, gender differences and parenting (Richter, & Eisemann, 2001). It seems that Emotional warmth is an important protective factor and Rejection is a sign of criticizing, shaming and negative expectations.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

An Inclusive Secondary School in Bratislava

Eva Gajdošová – Veronika Bisaki – Silvia Sodomová*

DOI: 10.1515/atd-2016-0019

Received: August 21, 2016; received in revised form: October 1, 2016;
accepted: October 2, 2016

Abstract: The study presents a characterization of an inclusive secondary school in Bratislava and provides information about the forms and methods used in the work of the teachers, school psychologists, special teachers with regard to students with special needs (students with Attention and Hyperactivity Disorder, i.e. ADHD, with learning difficulties, with emotional and behaviour difficulties, etc.), who are educated together with mainstream students. It also provides information on the first results of the measurements of the socio-emotional health of the students in the inclusive school, both as to its overall level (covitality index) and as to the level of the four psychological dimensions of mental health. The pilot project of the inclusive school confirms that inclusive secondary schools and inclusive education operating within the intentions of positive psychology help the students to develop their cognitive and socio-emotional competences, to create favourable attitudes to diversity, to form the students' scale of positive values and to encourage positive interpersonal relationships, social cohesion and social classroom climate.
Key words: inclusion, inclusive school, multidisciplinary team, school psychologist, social-emotional health.

1 Introduction

The area of inclusive education is the mater of not only some states, but it is incorporated into the agenda of supranational organizations as UNO, UNESCO and the European Union. These institutions have the largest share in making the inclusive policy part of the policies of all states and in directing the transformation of the school systems towards inclusiveness.

* Eva Gajdošová, Paneuropean University, Bratislava, Slovakia; eva.gajdosova@paneurouni.com
Veronika Bisaki, Paneuropean University, Bratislava, Slovakia; nikanika84@gmail.com
Silvia Sodomová, Paneuropean University, Bratislava, Slovakia; silvia.sodomova@gmail.com

In Slovakia, its ratification took place in the year 2010 and, in November 2011 when the government of the Slovak Republic signed the membership of the Slovak Republic in the European Agency for the Development of Special Needs Education, which enabled its becoming part of the international expert platform supporting the development of inclusive education within which the school respects the diversity and individuality of children. The problem of inclusion in education in Slovakia started to be defined namely after January 2012 when the government of the Slovak Republic adopted the conception of inclusive education, and, consequently, in February 2012, it pointed out the need for legislative specification of the notions of segregation and inclusion in the Antidiscrimination Act, in the Act on Education, and in the ensuing relevant legislation. In the conception of education dated January 11, 2012, it was stated that it is necessary to work out "a specified model of school inclusion for various situations and target groups with the ambition of creating a general model of inclusive schools". Only as late as at the beginning of the year 2014, the first model of inclusive schools was worked out and defended within the Project of Inclusive Education (PRINED) and, at present, it is being tested at about one hundred elementary schools, but only within the Roma ethnicity in Slovakia. An important role in the project of inclusive schools is played by the "inclusive team" at the school where, in addition to the teaching staff, also a school psychologist, a special teacher, a social worker, assistant teachers, and in the case of need also other specialists work.

UNESCO defines inclusive education as a process reacting to the diversity of the needs of all the pupils by means of increasing their participation in education. Daniels and Garner (1999), experts in the field, stressing the notion of inclusion point out the fact that the shift from integration to inclusion does not only mean a terminological shift which would be a result of political correctness, but it means a principal change of the perspective. It means a shift from a deficit model which is based on the premise that the difficulties and problems have their origin in the child, to a social model which states that barriers in learning exist in the very school structures and, more generally stated, in the attitudes and structures of the whole society. The inclusive approach stresses the premise that each child has the right to participate in everything that is offered in an ordinary class.

Nielsen (2014), a psychologist from Copenhagen, stresses the need to fulfil four conditions so that a school could be denoted as an inclusive school. They are the following ones: attendance, acceptation, participation and success.

Attendance concerns the time that students with special needs spend at classes in an ordinary school.

Acceptation concerns the attitudes of the classmates as well as of the teachers and their acceptance of children with special needs as active members of a class as a group of studentss in an ordinary school.

Participation means that children with special needs actively take part in all school activities.

Success means that children with special needs are enabled to experience success at school and develop a positive image of themselves.

Hence, at a school which is inclusive, students are not merely present in the classroom, just sitting there, but they are incorporated in the activities of the class, are accepted by their classmates and teachers, are praised, experience success, get feedback with regard to what they are good at and what the special strength of their personality are.

Also, according to Vančová (2008, p. 10), the application of the principle of inclusion means "creation of conditions for people with a disorder to fully participate in all social activities which are open to people without any disorder". The inclusive form of education represents the possibility of joint education of students with special educational needs together with mainstream students (Schmidtová, 2013). In real educational situations, this means that the jointly educated students in one "inclusive" class can be mainstream students and:

- Students with health disorders,
- Students who are ill and have impaired health,
- Students with developmental disorders,
- Students with behaviour difficulties,
- Students from a socially deprived environment,
- Talented students (Internal Methodological Material of the State School Inspection, 2014).

Nevertheless, as further stated by Schmidtová (2013), although today, in the territory of the Slovak Republic, we have the so-called pro-inclusive education, so far it is actually perceived with mixed feelings by all the parties concerned, which stems from the ideas on the direction of education on the systemic level that have not been fully specified. The author also stresses that the current situation in education requires the implementation of a humanistic-creative philosophy of holistic approaches to education with regards to all the students, in particular to students with special educational needs.

2 Methods

2.1 Characteristics of the inclusive secondary school

The secondary school with socially-oriented studies is a school with a pilot inclusive education. The educational process takes place within the 1st through the 4th class, each with only a few students (8-15 students in a class) aged 15-19. The mainstream students are educated together with students with special needs, above all with students with the diagnosis of specific developmental learning disorders (above all with dyslexia, dysorthography, and dyscalculia) and with emotional disorders (e.g. with activity and attention difficulties, with depressive behaviour disorder, with phobic anxiety disorder, and with elective mutism).

Students with learning and behavioural disorders entered the school with negative experiences from their school life at elementary schools, and many of them also with experiences of verbal and physical bullying, cyberbullying and violence.

We supposed that as a result of applying non-traditional, humanistically oriented forms, methods and procedures in education, and of applying positive psychology at school, above all by building a new relationship between the teacher and the student, with stress on the positive aspects and on the potential of the student, with the services of school psychologist and special teachers directly within education, not only the level of the cognitive development of students will be increased, but the level of personal and above all socio-emotional development will be considerably increased, too.

The personality of each student of the school, their uniqueness, originality and specificity are respected during education. In the process of education, each student is treated individually, taking into consideration the specific features of their psychic setup, the capacity of perception, memory, thinking, problem solving, their will, temperament, giftedness and talent, and the methods, procedures and the approach of the teachers are adopted to the above. In the school, there is a distinct tendency to search for the strong points and the potential of each student, including students with a handicap.

2.2 Primary principles of the school

The functioning of the school is based on the following five principles: cooperation, communication, competence, creativity, and career.

The cooperation principle applied in the inclusive type of school stresses the cooperation of all the partners – the participants of the educational process – in promoting the educational development of the strong points and the creation of a firm multidisciplinary team in the school. A school with inclusive education

needs a multidisciplinary cooperation of several specialists, both educationalists and experts, above all teachers, special teachers, a school psychologist, but as a part of external cooperation also clinical and advisory psychologists, psychiatrists and speech therapists.

The school psychologist and teachers meet and cooperate to promote the optimum social and emotional development of students. Within that cooperation, the psychologist's activities and procedures rely on the data, evaluation and the results of the pedagogical diagnostics undertaken by teachers, while, on the other hand, teachers make use of the psychological analyses and carry out the proposals of the school psychologist. At the same time, it needs to be borne in mind that teachers always remain the leading personalities in the educational process as most of the positive psychological interventions into the personality development of children and youth is realised by means of the activities of teachers.

The principle of communication – while in a traditional school, informal communication more often occurs among people of the same social status, in inclusive secondary schools, communication is open within various directions, i.e. in the direction towards the management of the school, as well as in the direction towards the students and their parents. Direct communication between the teachers and the students with expressing emotions and feelings openly, openness and discussion within submitting proposals, comments, and ideas, and cooperation in solving problematic situations are characteristic for the school. The relationships among the teachers, as well as the relationships between the teachers and the students, and the teachers and the parents are based on cooperation and partnership.

As the standards in an inclusive type of school incorporate pluralism and variety, the individuals are also prepared for the fact that, in the school, there will also occur problems and conflicts, and that their own opinions as to solving problems will be exposed to open criticism, often in disagreement with their opinions. At the same time, here it is accepted that each problem is to be solved jointly, in cooperation with others, and that in searching for the solutions, the interests of other people in the school are always taken into consideration.

The climate of trust, friendship, openness, discussion of ideas, informality and closeness are among the characteristics of an inclusive secondary school. The school tolerates diversity and supports the heterogeneousness of ideas, proposals and solutions, and the variedness of pedagogical applications, new ways of handling matters including some radical ways, while mistakes are considered a part of the experiment, and also from such an experience teachers draw lessons.

The role of the school psychologist is to assist in the exchange of opinions between the teachers and students, between the teaching staff and the groups or classes of students, to assist in direct, open, free and authentic communication among all the participants of the educational process, in organizing public discussions concerning the social dynamism of the groups, the social relationships, the solution of conflicts and improving the social class climate, and to assist in a critical evaluation of the organization and the management of the school by the teachers and the students. The management of the school makes decisions concerning the school and the educational process only after having discussed the possible proposals for solutions with all the participants, i.e. not only with all the teachers, but also the students.

The principle of competence foregrounds the fact that, in education, stress is laid not only on the development of the required knowledge, skills and habits of the students, i.e. their specialized competence, but above all on their social-emotional competence necessary for their appropriate functioning among people. It is generally known that social skills are extremely important in the school environment as they have their share in the general good functioning of the students at school, in their ability to participate in teamwork and being able to solve problems individually, openly express their feelings and opinions, have a positive attitude to themselves as well as to people around them, raise questions, and formulate arguments. Secondarily, their social skills are also reflected in their efficiency and success at school. Experience testifies to the fact that students who have a low level of social competence and social skills more frequently have behaviour problems at school with negative consequences upon their attitudes to school, to learning and to teachers, and, consequently, also have problems in learning.

Within the courses of Social Psychology and Social-Psychological Training, which are included into the syllabi, the focus is mostly on the development of the so-far neglected competences stressed above all by positive psychology as, e.g. altruism, philanthropy, team cooperation, belief in self, belief in others, stress management, solving conflicts and crises, wellbeing, responsibility, solidarity and spirituality. Schools aim at including the teachers as well as the parents into developing the social-emotional competences by means of short-term training, workshops, debates and discussions.

School psychologists get involved in this part, too, as they can help students form, develop and use adequate social skills at school, in their relationships with their classmates, teachers and other pedagogical staff, as well as to their parents and to the people in their wider social environment.

Creativity is the principle which stresses the development of students' creativity and creative thinking. It requires the identification of their individual abilities, giftedness and talent that gradually get further developed within education. Creativity is one of the highest ranking competences which can be applied within the educational process, as well as within self-education and self-development (Zelina, 2014).

At a secondary school of the inclusive type, it is presupposed that each student is gifted and talented in something and that by finding out and by developing these specific abilities, their self-confidence and belief in self can be increased, and that students can find their place among their classmates, experience success, head towards their future profession, etc.

The principle of career means to provide systematic and qualified assistance in decision-making and in the selection of the students' profession in compliance with their personal potential as well as the requirements of the labour market.

The process of school selection, the choice of the fields of study, specialization and profession are another area which requires an intensive cooperation and mutual coordination of activities of the class teachers, the school counsellor and the school psychologist with the students and their parents. All these persons involved in the decision-making process related to the appropriate selection of young people's profession share a common goal, i.e. an optimal harmonization of the interests and the preferences of students, their personal strength and potential for the selected profession with the current requirements of the labour market, social demands, and the supply of jobs so that both students and the society can profit from the situation.

2.3 Specific principles of the school
Students are in the centre of the school and their individuality, uniqueness and special character are respected.
Students with specific needs necessitate a school with a flexible structure and with alternative teaching methods. A low number of students in classes, acceptation of their differences, their special character, individuality and otherness are of importance, too. This way, students get into the focus of all the teachers' attention, of the special teacher and of the school psychologist. Teachers accept students without any prejudices and treat them equally.

Each student experiences success, appraisal and appreciation at school.
In an inclusive school, which has classes with a lower number of students, teachers can pay much more attention to particular students and help them with problematic areas. In such an environment, each student has a bigger chance to make his or her mark, to discuss things with the teacher and to show what is in

him or in her. In such a school, students give more encouragement to each other, they help each other and they have the feeling of togetherness. Each student experiences success and joy, and this way, they acquire a positive attitude to school. Students are often praised for everything that they do well, even if it is only a trifle. In this way, learning becomes joy and not an obligation.

There is a family and friendly climate at the classes.
The inclusive school creates a relaxed climate for their students. They start each day with a dialogue. The school class itself is different from the one that we know from traditional schools. Students with specific needs are not pushed towards an exact delimitation of the structure of the class as they cannot hold their attention for a long time. Hence, during the classes, they can also relax, e.g. by listening to music, by drawing, or else they can walk around, or visit the psychologist or the special teacher.

Grades serve for positive motivation.
In the inclusive school, students are not randomly called out and examined. If a student has learned a topic, he or she can ask to be examined. If the student has dysgraphia, dysorthography or some other problems with writing, he or she is not forced to take written tests, but is always tested orally. Students are graded on the classical scale, while worse grades are given only exceptionally. If a student wishes to try to improve his or her grades, teachers always appreciate such an intention and examine the student. In some cases, only verbal classification is used. The decision on the final grade is always discussed by the teacher, special teacher, and the school psychologist. Hence, the final grade is not the average of the grades, but it reflects the overall work of the student during the school year, his or her activity, effort, motivation and progress are considered.

Projects within the educational process.
The inclusive school has implemented several programmes into the process of education. Let us mention at least the preventive programme of the development of emotional intelligence the characteristics of which we present further on. The preventive programme is directed upon pro-social education and upon the development of the social skills and emotional intelligence of the students. The students learn to get to know themselves, the people around them, to communicate better with them, to handle negative emotions, and to solve conflicts more adequately. By means of model situations, they learn to develop their social communication, empathy and to control their emotions as bad temper, anxiety and anger.

Work of a multidisciplinary team.
The secondary school has a special teacher, a school psychologist and, in case of need, also an assistant teacher, who are at the disposal of the students during the process of education. They help them in learning, as well as in the development of their personality, they encourage and appreciate students, they support their belief in self, they are their confidants and good friends always ready to listen to them and help them.

2.4 Educational strategies
In the educational process, in the inclusive secondary school, the following new features are applied:

- the organization of the educational process;
- mutual relationships between teachers and students, but also mutually among the teachers and other pedagogical staff;
- a considerable participation of the school psychologist directly in the educational process and in the systematic everyday cooperation with the teachers, students, parents and the school counsellor.

2.4.1 Organization of the educational process
In the educational process, several new elements of organization and management contributing to fulfilling the goal of the experiment are applied:

- 90-minute classes for major subjects (Mathematics, Slovak language and literature, English language, Psychology, Education, Sociology, Social-Psychological Training, Methods of Social Work);
- Alternating 45-minute and 90-minute classes within the timetable;
- Optimally alternating “easier” and “more difficult” subjects, and scheduling the more difficult subjects so that, in the timetable, they occur on the days and at the hours of the highest activity of the students (Tuesday, Wednesday, Thursday, the 2nd through the 4th class);
- Stress is laid on short and long breaks and on lunch breaks;
- Beginning the classes by a meeting of the school psychologist with students, where the atmosphere for a peaceful, unstressed beginning of classes will be prepared;
- Absence of ringing at the beginning and at the end of classes and before breaks, and the possibility to shorten or extend the classes depending on the tiredness or the motivation of the students.

2.4.2 Didactic forms and methods of teaching
The focus is on problem-oriented teaching, within which individual and creative thinking of students is developed together with their constructive imagination, and concentration of attention and perception. Group forms of work, competitions, games and team work are often used in the educational process.

Differentiated education and differentiation of students based on their abilities, interests, and talent is carried out in the form of facultative subjects of differentiated education in the class depending on their interests (i.e. of groups as well as of individuals). The starting-point for teachers is their knowledge of their students' personalities, which is mediated to them by the school psychologist and the special teacher.

From among the frequently used activation methods, we can mention directed dialogues, discussions, talks with invited specialists, excursions, doing independent or team work, experiments and practical exercises. The principles of exemplification, adequacy, sequentiality, systematic activities, scientism, particularity and activity are respected. In addition to the traditional methods of written tests, knowledge assessment is also carried out in the form of didactic tests. The general and the intellectual abilities of students, their personality traits, interests and attitudes are identified by using standardized assessment methods.

2.4.3 Teacher – student relationship
In addition to professional knowledge, the zeal and the experience of a teacher with the application of new, non-traditional elements in the educational process, and a positive approach to students based on friendly relationships are decisive for the selection of teachers for an inclusive-type school.

The teacher selection criteria are:
- Mature and healthy personality of the teacher without any pathological elements;
- Pedagogical-psychological mastery, experience in applying the psychological aspects in education, application of non-traditional activation forms, methods and approaches in the educational process, and a creative approach to teaching;
- Good communication skills and respecting students' personalities.

2.4.4 The role of the school psychologist and his or her activities at school
The main mission of the school psychologist is to contribute to the development of the personality of each student in the school and to the mental health of students by optimizing the school as a system. The school psychologist participates in solving the problems and difficulties of the students in learning, in their conduct, and in decision-making. With regard to their profession, they

assist in improving the impaired social relationships between the teachers and the students, as well as in providing for the creation of psycho-hygienic conditions of the educational process.

The school has a school psychologist who is at the disposal of students during the process of education, he or she helps them in developing their personalities, encouraging and appreciating the students, supporting their belief in self.

School psychologists help inclusive schools in the most sensitive areas, not only in solving everyday problems in students' development and education, but also in supporting the mental health of teachers and students, in creating a healthy social climate in the school and good interpersonal relationships within the school environment, in providing the cooperation of the school and the families of students, in introducing non-directive methods of education, while taking into consideration the specific age and development-related features of the students, they help the teachers in getting to know the personality of each student, in introducing development and intervention programmes for the prevention of aggression, force, bullying, intolerance, racism, and in introducing programmes for the development of emotional intelligence and pro-social behaviour.

At an inclusive school, within primary prevention, the activities of a psychologist also include the following (Bisaki et al., 2014):

- Improving the social atmosphere and the climate in the school and in individual classes, improving the interpersonal relationships in the team, among the teachers and the students, aiming at better mutual acceptation, friendship, trust and partnership;
- Seeing to the psycho-hygiene of learning and of education;
- Improving the social skills of students, their problem-solving, stress-management, managing negative emotions and strain;
- Developing the social competences of teachers and promoting effective solutions of conflicts between the students and their parents;
- Increasing the psychological qualifications of the teachers and the students' parents (e.g. by discussions and lectures on selected psychological themes, e.g. "How to motivate students studying below their abilities", etc.);
- Getting to know the learning styles of students and their connectedness with the manner of teaching, and the procedures and approaches of the students;
- Teaching the teachers how to succeed in better knowing the personalities of their students, to carry out adequate pedagogical diagnostics and selection of interventions for working with problematic students (e.g. with students who are hyperactive, aggressive, not progressing, or else with talented and gifted students, etc.);

- Devoting special attention to gifted and talented students and psychological preparation of teachers for working with these students;
- Professional orientation of students and their preparation for an appropriate selection of a university and of their profession;
- Carrying out preventive and developmental programmes primarily aimed at the development of the emotional intelligence of students, they learn better to know themselves and the others, to solve problems successfully, to communicate with their social environment adequately, reduce violence, be tolerant, and develop assertive behaviour.

In an inclusive school, the role of social psychology is important. Especially the social factors such as the social school and class climate, the social cohesion of school classes, social competences, self-perception and belief in self, attitudes to the school, classmates and to their own self, and the social-emotional health which are decisive not only for the success of students at school, but also for their satisfaction, for their wellbeing and their happiness.

2.5 Preventive programme for the development of emotional intelligence of secondary school students

As a starting-point in developing this programme, we used the conception of emotional intelligence by D. Goleman (l997, 1998) as well as his recommendations and suggestions for carrying out preventive programmes of emotional (personal) intelligence development in schools.

As the above authors suggest, within the preventive programme, the students should acquire:

A. Emotional skills (identification of emotions, manifestation of emotions, control of emotions and impulses, reduction of stress, awareness of the differences between emotions and deeds);
B. Cognitive skills (self-consciousness, healthy self-esteem and belief in self, understanding the attitudes and opinions of other people, showing respect for the norms of behaviour, for the application of constructive approaches to problem-solving, to effective conflict-solving, and to a positive attitude to life);
C. Behavioural skills (verbal as well as non-verbal communication, application of the techniques of active listening, open assertion of their own opinions and requirements, and constructive reactions to criticism).

These most important elements of effective preventive programmes of development have been included into our one-year programme of the development of emotional intelligence of primary school students and of its integral part – the programme of effective conflict-solving.

The development of the above three types of skills in our programme aims at the following goals:

A. Cognitive skills
- Improved self-knowledge, self-consciousness;
- Developing healthy self-esteem and belief in self;
- Getting to know other people, understanding their attitudes and opinions;
- Application of constructive procedures in problem-solving;
- Effective conflict-solving in the school and at home;
- Development of positive life attitudes.

B. Behavioural skills
- Acquisition of fundamental capabilities of interpersonal communication (both verbal and non-verbal);
- Acquisition of social skills for optimum inter-personal communication in peer groups;
- Application of the techniques of active listening;
- Open expression of views and requirements;
- Constructive response to criticism;
- Self-assertion.

C. Emotional skills
- Identification of emotions;
- Manifestation of emotions to other people, especially to peers;
- Control of emotions and impulses;
- Understanding the differences between emotions and deeds;
- Coping with stress.

Consequently, all the above goals found their reflection in the structure and the contents of the programme.

2.5.1 Structure of the programme at the inclusive school

Module I

Getting to know oneself and getting to know the classmates, interpersonal perception, social sensitivity in interpersonal relationships in class (Getting to know personality traits, ways of experiencing situations, reaction and behaviour).

Module II

Verbal and nonverbal communication in class (Barriers to communication, possibilities of effective communication).

Module III

Conflicts in interpersonal relationships in class and their effective solution (Appropriate reactions in a stressful crisis).

Module IV

Tolerance (Developing good interpersonal relationships in class without stereotypes, prejudice, discrimination and violence).

Module V

Cooperation of the classmates in class (Creating cooperative interpersonal relationships in class).

Within the particular modules, the programme stresses the following:

- Improvement of social perception – this concerns achieving a more differentiated perception of the reality. During the training process, we intentionally direct the students' attention towards the relationships of the students in classes, communication and behaviour, and we lead them to increasing their social sensitivity and to achieve a more differentiated ability of perception.
- Improving social skills – communication skills and constructive ways of solving interpersonal conflicts, abilities of cooperation, empathy, altruism, etc.
- Changing undesired stereotypes – revaluation of the adequacy of the so-far existing social habits and searching for new appropriate forms of social behaviour jointly.
- Deepening the knowledge of self and the knowledge of others – within training situations, favourable conditions are being created for a more thorough knowledge of oneself and of others. The limits of what the students know about themselves and of what the others know about them are shifted. A satisfactory social interaction can only take place when individuals possess sufficient information about themselves and about those with whom they are in interaction.
- Mediating insight – increasing the quality of understanding of oneself in relation to others, of relationships to others, of behaviour, attitudes, social relationships, social needs, insight into the process of own socialization.
- Optimization of self-regulation of behaviour – the experience that own behaviour can be at least partly regulated and changed leads students to realizing that in their social behaviour, they have certain possibilities of selection and to taking responsibility for this selection. The autonomy of students is being reinforced.
- Functional expression of feelings and emotions – this also includes the realization of each student's feelings and emotions and their verbalization. Emotions are of the same importance as thinking. Training supports experiencing emotions more intensively, but those who give full vent to their feelings should concentrate on increasing their self-regulation.
- Interpersonal openness – open self-presentation. The openness of a student increases the trust of the others and leads to mutually open communication.

Openness should be selective; we should realize that in each social situation the frontiers of openness differ.

- Self-acceptation and acceptation of others – orientation towards own social behaviour, confrontation with own limitations and possibilities leads to realizing the relationship between the student and his/her self, and a safe atmosphere of training situations enables own acceptation. Self-acceptation and acceptation of others help in doing away with internal defence, and they contribute to the acceptation of others, to tolerance to their opinions and experiencing.
- Understanding the social relationships in the group – understanding the dynamism of a small social group and the inherent laws of the development of the group.

3 Results

We present the first results of the pilot research aimed at the identification of social variables and of social-emotional health of the students of the inclusive secondary school

We were curious to see what the level of the selected social variables (social status of the students, the degree of their loneliness and social dissatisfaction, evaluation of own success at school and their social-emotional health) among the students at this secondary school of inclusive type is.

For measuring the social-emotional health of students we used the Social Emotional Health Survey SEHS-S by M. J. Furlong, Professor from California University, Santa Barbara.

The SEHS-S questionnaire (Furlong et al., 2014) contains 34 items and the students were assessed within a four-item scale from 1 (completely untrue) to 4 points (completely true). When evaluating the questionnaire, we concentrated on finding the level of health in four domains: belief in self, belief in others, emotional competence and engaged living. In Slovakia, this is a completely new diagnostic means for measuring social-emotional health, not yet standardized with regard to the conditions in Slovak schools. The reliability of the SEHS questionnaire, as well as of the particular subscales, is acceptable or even good, which means that we can consider this questionnaire to be a reliable measuring tool. The reliability of the scale of social-emotional health has reached the value $\alpha = 0.880$.

Table 1

Reliability of the scale of social-emotional health

	Social-emotional health	Belief in self	Belief in others	Emotional competences	Engaged living
Cronbach's alpha	0.880	0.707	0.744	0.653	0.799
Number of items	36	9	9	9	9

For measuring other social variables, we have selected the following well-known and generally used questionnaires: the socio-metric Questionnaire of awareness of success in school (Matějček & Vagnerová, 1992) and the Questionnaire of loneliness and social dissatisfaction LSDQ (Asher-Wheeler, 1985).

Within the research, we were above all interested in what the level of the social-emotional health of the students of the selected secondary school is, both in general and in four basic domains (belief in self, belief in others, emotional competence and engaged living), and we also examined the selected variables.

3.1 The overall level of social-emotional health

The overall level of mental health is expressed by the index of covitality. On the basis of the analysis of the obtained research results we can state that only 10% of the students of the inclusive school (N=3) have a low level of social-emotional health. The mental health of the others is within the following average levels: 38% students (N=11) on the level of lower average, 41% (N=12) on the level of higher average. A distinctly high average of covitality was achieved by 10% (N=3) of all the participating students.

As for the overall level of socio-emotional health, there was no statistically significant difference between the mainstream students and the integrated students with regard to learning disorders and conduct. The index of covitality representing the level of socio-emotional health blocked was on the level of higher average. Neither has the statistical analysis of the results shown any significantly important differences between boys and girls, including the overall level of mental health and the level of the indicators.

3.2 The level of the basic psychological dimensions of social-emotional health

Belief in Self
The analysis of the results has brought to our attention that as many as 59% (N=17) tested students have a high belief in self and 41% (N=12) have an average belief in self. This is a very gratifying result for the teachers and for the experts of the school, as it indicates that the educational approach of the school leads to developing healthy belief in self.

Belief in Others
In addition to belief in self, we were also interested in the results in another dimension of the social-emotional health, namely the belief in others. Again, the results are very encouraging, as many as 76% of the students of the tested sample (N=22) show a high belief in others, 21% (N=6) denoted their belief in others as medium, and only 3% do not have belief in others.

Emotional Competence
Another psychological dimension of the mental/socio-emotional health is emotional competence. Again, as many as 79% of students (N=23) of the school evaluate their emotional competences as being very high and 21% (N=6) considered them to be average. It is also noteworthy that none of the participants denoted his or her emotional competences as being low.

Engaged living
Engaged living as another psychological dimension of mental health, is evaluated by as many 66% the students (N=16) as high, 31% of those tested (N=9) consider their engaged living as being average, and, similarly, 3% consider it as being low. It is evident that namely in this area a number of students have certain limitations and reserves.

The results of the research concerning the overall level of socio-emotional health and its indicators were surprising for us. We did not expect that a school of inclusive type where mainstream students are educated together with integrated students who have specific developmental disorders in learning or have behaviour and emotional disorders, which requires the application of more demanding teaching styles and educational impact by the teachers, we shall find that in the case of nearly all students (90%) the index of covitality is on a high level or on an average level. We were similarly surprised by the level of the particular indicators of mental health, above all of belief in self, belief in others and of emotional competence which is high or average, none of the students having a low level of it.

These results testify to the fact that the conception of inclusive secondary schools and their orientation upon humanistic and positive psychology brings fruit in the form of a high level of mental health of students, their social emotional competences and of handling emotions by them. We can see some limitations of the school, namely in the sphere of engaged living of the students, where in the case of one third of the students we found this indicator to be on a low level.

3.3 Social indicators (awareness of own success in school, social popularity and influence, loneliness and social dissatisfaction, attitudes to oneself and to the school)

The awareness of students' own success at school is high, both of the mainstream students and the students with special educational needs. However, in the case of mainstream students, we found a higher degree of awareness of own success at school, but not on a statistically significant level.

The students of the inclusive secondary school can be characterized by an overall low level of loneliness and social dissatisfaction, and depending on the particular school classes, it was not statistically significant. Hence, neither of the two groups of students, i.e. the mainstream students and the students with special educational needs, feels lonely at school, and both groups of students have good mutual contacts. To some extent, the mainstream students have higher social influence, but from the point of popularity in class, there are no differences. Again, this is a favourable result for the inclusive school. It enables the statement that in the inclusive school, special attention is devoted to positive evaluation of students, to praising them, and that bullying based on handicap is prevented and blocked, what increases the belief in self, as well as the belief in the self-evaluation of students.

Also, we were interested in the attitudes of the mainstream students and the integrated students to their "self", to the school and to their classmates. We have found out that more than one half of the students have a positive attitude to their "self", to the school and to their classmates. However, their attitude to their "self" differs with regard to the year of studies; a distinctly more positive attitude to their self is held by the students in the last two years, which indicates the impact of positively oriented education stressing the appraisal and appreciation of students. A positive attitude of the students to the teachers and classmates, regardless of the year of their studies, their gender or integration, was also manifested.

A statistically significant difference between the level of social support among the students of the inclusive school and the standard school of the same type was also manifested, which was in favour of the inclusive school. At the same time,

this testified not only to the importance of the support by parents and friends, but also to the support by the school psychologist. The results accounting for a positive relationship between social support and the overall social-emotional (mental) health, as well as the results regarding the particular psychological indicators (belief in self, belief in others, emotional competences, and engaged living). It seems that social support positively influences the mental health of students, which is interesting and inspiring.

4 Discussion

The first results of the research indicate that the inclusive secondary school and inclusive education are functioning within the intentions of positive psychology with regard to all the students. Regardless of whether they have or do not have special needs, they, above all, help them in developing their social-emotional health, in creating appropriate attitudes to their differences, and positive attitudes to their selfs, to their classmates and teachers, help them in forming positive values and the scale of students' values, and in supporting positive interpersonal relationships, social cohesion and the social climate in classes.

After the pilot assessment of the inclusive school, which is currently continuing, it is already evident that an inclusive school faces higher requirements than a traditional school, which is a result of the heterogeneity of the composition of its students. The increased requirements concern the following areas:

a) Optimum change of the environment, above all the social environment of the school and of the classes;
b) The work of teachers within the overall development of the personality of their students, above all their mental health and the development of their key competences;
c) Cooperation, tolerance and altruism of the students in a class and high-quality interpersonal relationships;
d) The cooperation of the teachers and experts of the school who work in multidisciplinary teams aiming at creating a good social climate, good social atmosphere and good relationships between teachers and the students, however, with adequate demands and requirements taking into account their results in their studies;
e) Intensive cooperation of the school and families by means of non-traditional forms of work with the parents of students, and through communication with consideration and respect;
f) Career guidance and counselling in the professional orientation of students and in the process of adequate selection of their further studies and employment;

g) Training of teachers and experts in order to gain sufficient knowledge about children with mental, physical and social handicaps, about their behaviour and experiencing of the world around them, while the most recent findings from various fields of psychology (social, developmental, clinical, school, educational, and advisory psychology), special pedagogy, social work or sociology, but also from modern didactics and methods of education of children, above all of children with special educational needs, are important.

In the coming years, within carrying out inclusive education, supporting, implementing it, and increasing its quality, we shall probably come across the following weak points:

- Assistant teachers are not qualified for working with children with special educational needs;
- The parents of the mainstream children do not understand the merit of inclusive education;
- During out-of-school education (hiking, cultural events, etc.), the wider public at first does not have any understanding for students with special educational needs;
- School directors are not inclined to accept students with special educational needs if they consider a student's behaviour to be too "disruptive" for other students, as being worried about what the reactions of the parents of the other students will be;
- Class teachers does not "feel" to be qualified for teaching an inclusive class;
- Class teachers state that the assistant disturbs them when communicating with students during classes;
- Parents require the application of the same principles within the educational process as they use at home;
- Schools do not have sufficient material-technical equipment for inclusive education (e.g. easy-access entrance adapted for wheelchairs);
- Teachers are not sufficiently motivated to do their best in favour of inclusive education.

5 Conclusions

The basis of inclusive education is creating conditions for the meaningfulness of the educational process for all the students, motivating them to study and to provide to them with appropriate stimuli for supporting their individual development.

The main goal of inclusion is the social adaptation of the individuals with any health-related or social handicap. For fulfilling this goal, it is necessary to create such conditions for education which support the optimum development of knowledge and abilities (i.e. internal resources) of both the students with a handicap and the mainstream students, the parents, the teachers, the members of the managerial team, etc.

Although inclusion in Slovak schools depends on the educational policy, educational acts, financial subsidies, material conditions, on the training of teachers and other specialists, it above all concerns the attitudes of all of us, the values, tolerance, sincerity, confidence, altruism, and the acceptation of otherness.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

Civic Engagement and Environmental Sustainability in Teaching and Learning at Higher Education Institution in South Africa

Tererai Nhokodi – Thandiswa Nqowana – Dylan Collings – Roman Tandlich – Nikki Köhly*

DOI: 10.1515/atd-2016-0020

Received: August 31, 2016; received in revised form: October 11, 2016;
accepted: October 14, 2016

Abstract: This article seeks to provide an outline the scope of professional teaching and learning activities and their connection to civic engagement and the achievement of environmental sustainability at Rhodes University and in Makana Local Municipality. Activities in the context of rainwater water harvesting and sanitation research are used as examples. The improved hydrogen-sulphide test kit was used as the tool for the assessment of microbial water quality between April and July 2016. An approach to the improvement in the design and modelling of the performance of ventillated improved pit latrines under laboratory conditions is also described. All activities described have been taking place in the context of undergraduate and postgraduate student research projects at Rhodes University. They have implications for teaching and learning, civic engagement and environmental sustainability. Teaching and learning of the concepts of sustainability can facilitate the development of the necessary connection between academia and the society at large. This can have a significant positive effect on societal conditions in South Africa. Further endeavours similar those described in this article should be stimulated in South and beyond.
Key words: H2s test kit, experiential learning, South Africa, Bachelor of Pharmacy, Bachelor of Science of Biotechnology

* Tererai Nhokodi, Environmental Health and Biotechnology Research Group, Faculty of Pharmacy, Rhodes University, Grahamstown, South Africa; g13n2885@campus.ru.ac.za
Thandiswa Nqowana, Environmental Health and Biotechnology Research Group, Faculty of Pharmacy, Rhodes University, Grahamstown, South Africa; tnqowana@gmail.com
Dylan Collings, Environmental Health and Biotechnology Research Group, Faculty of Pharmacy, Rhodes University, Grahamstown, South Africa; dmacollings@gmail.com
Roman Tandlich, Environmental Health and Biotechnology Research Group, Faculty of Pharmacy, Rhodes University, Grahamstown, South Africa; roman.tandlich@gmail.com
Nikki Köhly, Office of Enterprise Risk Management, Rhodes University, Grahamstown, South Africa; n.kohly@ru.ac.za

1 Introduction

Civic engagement has been defined as human action which is based on the "heightened sense of responsibility" to improve of the common good and facilitate development of the society at large (Jacoby, 2012). The concept of civic engagement has played an important and implicit role in higher education in South Africa. This is best demonstrated through the three pillars of the academic project at tertiary institutions in the country, i.e. research, teaching and learning; and community engagement (Lazarus et al., 2008). Community engagement strongly encourages academic institutions to get involved in the communities they are located in (CHE, 2010). It can be said that the concept of community engagement is aimed at stimulating the development of a "working relationship" between academia and the community at large (CHE, 2010). This paradigm of human interaction and knowledge exchange has led to the development of new educational initiatives (Lazarus et al., 2010). Community engagement leads to mode 2 generation of knowledge by higher education institutions. This in turn helps document, develop and ethically exploit indigenous knowledge for the economic development of communities that are the source of such knowledge. In this context, local scientific expertise can be used to tackle pressing local challenges, e.g. in areas of service delivery in South Africa (Tandlich et al., 2014). Being drawn into the community and becoming part of it allows the academics and students from higher education institutions to nurture and develop a strong sense of civic engagement.

South Africa as a country faces many challenges which are not uncommon to developing countries. These include the following (NDP, 2012): societal challenges resulting from historical factors, current lack of skilled labour and increased need to graduate more Masters and PhDs, academic and financial challenges faced by students from underprivileged backgrounds, high unemployment rates, inadequate policy framework and slow pace of service delivery to some segments of the South African population. Under these conditions, it is often civic engagement, community engagement and the mode 2 knowledge generation mentioned above that can assist in finding solutions to societal challenges. These initiatives cannot and should not replace the need for adequate policy framework and action of all levels of government, but they can provide local solutions, as well as help develop short-term mitigation measures where necessary. When it comes to natural scientists and healthcare professionals, civic engagement in water and sanitation sectors has often led to successful interventions and proposals for long-term solutions among the affected populations (Tandlich et al., 2014).

Biotechnology at Rhodes University is taught as postgraduate degree and its core functions include the transdisciplinary engagement of biotechnology

scientists/students with the community (BICC, 2016a). This is in line with the principle of community engagement. The aim is to raise awareness about the problems in the geographical location of Rhodes University, namely Makana Local Municipality. Driven by the creation of a government-funded research professorship, named South African Research Chair in Biotechnology Innovation and Engagement, the respective academic department is attempting to use the developed research solutions and tailor them to the needs of the local community (BICC, 2016a). This approach to tertiary education can in theory achieve the civic engagement among the staff and the students in the Department, as well as the local community. As it is located in a rural area of the Eastern Cape Province of South Africa, Makana Local Municipality faces many challenges in sanitation (Hoossein et al., 2016) and potable water service delivery (Luyt et al., 2011a; Tandlich et al., 2014). Thus, civic engagement of the students from the BICC should be focused into these areas of service delivery.

Training of pharmacists in South Africa is governed by regulations and the professional body of South African Pharmacy Council (SAPC, 2016a, b). Bachelor of Pharmacy is one of the professional degrees regulated by the SAPC and it is taught as a four-year degree at accredited higher education institutions in the country (SAPC, 2015). After graduation from this degree and fulfillment of additional criteria, the Bachelor of Pharmacy graduates become practising pharmacists and serve as custodians of medicines in South Africa (SAPC, 2016b, c). Service learning and community engagement are the key components of the education of Bachelor of Pharmacy candidates. These activities take place through the visits to clinics and other healthcare facilities. They facilitate interactions between patients and future pharmacists as this is at the heart of the practice of pharmacy and plays and important role in the context of public health in South Africa. These interactions prime the pharmacy students to awareness about public health challenges such as the drinking water quality and diarrhoeal diseases (Luyt et al., 2012). Civic engagement can be strengthened among the Bachelor of Pharmacy students through teaching and learning activities focused on the issues of drinking water quality. This is done at Rhodes University in the context of the final year research project which takes place over the course of one semester.

Rhodes University has a commitment to sustainability as documented by the adoption of the Rhodes University Sustainability Policy (RUSP, 2015). The policy statement in the RUSP contains a strong commitment to environmental teaching and research in areas such as waste and water management (RUSP, 2015). In the Overview part of the policy, stimulation of research and decrease of the water footprint of the university is sought (RUSP, 2015). Directive 2.2 in the Directives for the Implementation of the RUSP call for the establishment and use of alternative water sources to potable water provided by Makana Local

Municipality on campus (RUSP, 2015). To achieve water sustainability and stimulate respective research and teaching activities at the Rhodes University campus, it is necessary to use strategies that also address water issues in Makana Local Municipality where the Rhodes University is located. Decreasing the water footprint of Rhodes University will require the use of rainwater and traditional water sources which have been used by the local population for decades. Relevant activities will therefore be at the interface between science, community engagement, teaching and learning, as well as civic engagement.

Rainwater tanks and harvesting systems have been installed around the Rhodes University campus and the stored water is used for potable purposes during water outages. One of the main public health threats here will originate from microbial contamination of rainwater which must therefore be assessed regularly. Use of alternative water resources is based on the indigenous knowledge from the local community. One of the non-municipal sources of potable water is a spring on at outskirts of Grahamstown, the largest urban settlement in Makana Local Municipality. In the context of their civic engagement, the fourth author and the fifth author have been involved in the monitoring of the microbial water quality of this resource since 2013. This monitoring programme was expanded in 2016 to include the monitoring of the microbial water quality in the low-income settlements located in the Eastern part of Grahamstown. At the same time, monitoring of microbial rainwater quality at Rhodes University campus was run as part of a fourth-year Bachelor of Pharmacy project. An outreach with non-scientist environmental representatives from the student residences was also initiated. Sustainability in the wider context of South Africa requires achievement of sustainable sanitation. This article seeks to provide an outline the scope of these activities in the course of professional teaching and learning activities, civic engagement and the achievement of environmental sustainability at Rhodes University and in Makana Local Municipality. Activities in the context of rainwater water harvesting and sanitation research are used as examples.

2 Methodology

The first author is a Bachelor of Pharmacy student who has been working on his final year project in the 2016 academic year. The second author is a Bachelor of Science Honours in Biotechnology candidate who has been working on her research thesis since May 2016. Both student projects have been focused on the monitoring of microbial quality of rainwater at Rhodes University campus and the Makana Local Municipal bulk drinking water supply. The implicit goal behind both projects has been to use sound scientific strategies to develop a water monitoring approach where the results are easily disseminated to general public who can benefit from it. Therefore, the testing procedures were to be

simple and it should be possible to disseminate results to a wide range of audience with varying level of literacy.

The testing procedure fitting these criteria has been the improved hydrogen-sulphide test kit (designated as test kit in further text; Luyt et al., 2011a), with one exception. The sampling taps inside the houses were sterilised using baby wet wipes instead of 70 %. The efficiency of sterilisation was deemed comparable to the original method. The test kit has the comparable sensitivity to the standard indicator microorganism tests that are used to assess microbial water quality for human consumption (Luyt et al., 2013). The test kit results are read as a positive or negative for faecal contamination of drinking water based on a qualitative colour change (Tandlich et al., 2014). On the other hand, the test can be performed by citizen scientists and laymen after a 15-minute training session and no laboratory equipment is required (Luyt et al., 2013).

On the scientific side, the initial task in both student projects was to ensure that the test kit results are of the exact same quality as the standard indicator microorganism tests and not just comparable. Previous studies in the Environmental Health and Biotechnology Research Group showed that the test kit was 64 % as reliable as standard indicator microorganism tests when the indicator microorganism concentration is around the regulatory detection limit for drinking water quality (Luyt et al., 2011a, b; Luyt et al., 2013). Therefore, the original testing protocol of using of a single test kit per sampling site on a given sampling occasion was modified and five test kits were used per site. The test kits were prepared and the sampling was performed as described previously (Luyt et al., 2011a, b; Luyt et al., 2013; Tandlich et al., 2014). A rainwater or municipal drinking water sample is considered positive for faecal contamination, if all five test kits turn black within 72 hours of incubation after sampling. Water samples are considered negative if all five test kits are negative after 72 hours of incubation. Reliability of the test kit results using this modified protocol is 99.4 %. Intermediate cases (1-4 test kits per site were positive or negative) will be discussed further in the Findings section below.

In the context of student projects, a combined selection of sampling sites was followed. The first author sampled three rainwater tanks at the Rhodes University campus. The tanks were located in the various parts of campus. One tank was located in a public area outside an academic department and it is used as a source of water for drinking by the staff of this department. The site was chosen due to ease of access, but also due to the concerns of the academic department's staff about the microbial water quality of the sampled rainwater. This sampling site is designated as Department in the further text. The second sampling site was a rainwater storage tank located outside a student residence in a public area at Rhodes University campus. This tank serves as a source of

potable water for students and residence staff during a municipal drinking water outage. This tank will be designated as Residence in further text. The last rainwater tank was located at a Bed and Breakfast facility on Rhodes University campus. The purpose of the tank as a drinking water source and its selection as a sampling site were based on the same reasoning as in the case of the student residence. This tank is designated as BNB in further text.

Sampling took place between April and July 2016; and a total of six separate samples were taken at each site. Permission for sampling of all rainwater tanks was obtained from the relevant Rhodes University officials (Infrastructure Division) and the results of the analyses were provided to them. All sampled rainwater tanks were located in public areas where no one can have an expectation of privacy. Finally, no data on human subjects was collected during any part of the current study and no interviews with tanks users were run. Therefore, no ethical approval for the sampling or any part of the study was required. Selection of sampling sites was based on the authors' expertise (first, fourth and fifth author) and would provide the most relevant information to the university authorities on the use of alternative water sources, as it intersects the entire spectrum of water consumers on campus. Collecting information on microbial rainwater quality will facilitate the achievement of the goals of the RUSP in the area of Rhodes University's water resource management and water footprint (see above).

The second author sampled municipal drinking water taps between May and August 2016; and a total of three separate samples were taken at each site. The first municipal drinking water source was located inside the second author's private house (designated as East 1 in further text), while the second one was a communal tap located inside a municipal settlement in the Eastern part of Grahamstown, close to where the second author resides (designated as East 2 in further text). Third sampling site in the Eastern part of Grahamstown was a fire hydrant supply of potable water/water tanker which was provided to meet the domestic water consumption of the residents during a municipal drinking water outage or during the low pressure in the municipal drinking water supply grid. The third site was only sampled once, as there was only one municipal drinking water outages during the study (designated as Water tanker). The second author chose all three sampling sites based on her scientific understanding of public health and water microbiology. She also chose the sites based her knowledge and understanding of the water supply in the area and her concerns about possible implications of inferior microbial drinking water in her community. The second author sampled all the sites herself. These sampling sites were located inside the second author's house or in a public area where no can have an expectation of privacy. At the same time, the second author's initiatives demonstrate a combination of scientific expertise and civic engagement.

The choice of the sites was also based on the second author's "heightened sense of responsibility" to improve of the common good through providing the information about public health implications of municipal drinking water quality. Her activities thus constitute civic engagement (Jacoby, 2012). Based on these facts, no ethical approval for the sampling was required as no personal information about any human subjects was collected in any fashion whatsoever. Significance of civic engagement as a direct and indirect outcome of both above-mentioned student projects in Makana Local Municipality lies in the fact that water quality problems are common and water outages occur at least once a year (Luyt et al., 2011a). This was the case again in 2016 when a water outage throughout the entire supply grid which took place and could potentially affect the running of the National Arts Festival in Grahamstown (NAF, 2016).

This event is a major source of revenue for Grahamstown, Makana Local Municipality and Rhodes University and it took place from 30th June until 10th July 2016 (NAF, 2106). On 29th June 2016, the municipal drinking water supply was interrupted, potentially posing logistical problems for the organisers of the 2016 National Arts Festival. The authors, driven by the fourth author, conducted an opportunistic sampling to ascertain microbial water quality in Grahamstown and at Rhodes University campus. This took place at various times after the municipal water supply had been re-established following the outage. Two samples were taken at Rhodes University Campus, two in a private house in Grahamstown, one in commercial premises in Grahamstown. Results were communicated to the Rhodes University official, house and business owners. All relevant ethical considerations were adhered to and no personal data or involvement of the human subjects in the study was conducted. The civic engagement of the authors was again the driving force behind this effort.

Besides drinking water supply, sanitation is another major challenge in Makana Local Municipality and in South Africa at large (Hoossein et al., 2014; 2016). The third author has been working on his Bachelor of Science Honours degree in Biotechnology and his research work commenced in May 2016. The topic of the project was the use of fly ash as an additive for the ventillated improved pit latrines (VIPs). These systems have been designated as the minimum standard of improved sanitation by the South African government (Hoossein et al., 2014). Advantages of VIPs include that they can be built in decentralised settings and in areas of uncontrolled/unregulated urbanisation, i.e. in informal urban settlements. However, the problems arise when the pits become full and their emptying is not done due to skills and financial shortages (Still & Foxon, 2012). Traditional methods of waste management of the faecal sludge from VIP pits requires removal by vacuum tankers and/or the in-situ treatment via anaerobic digestion is assumed/stimulated (Still & Foxon, 2012). The problem is that stabilisation of faecal sludge through anaerobic digestion proceeds very slowly,

or not at all, while emptying technologies available in developing countries also suffer from limitations (Thye et al., 2011). Therefore, a novel approach to in-situ treatment and management of such faecal sludge is required. The third author's Honours project was aimed at attempting the use of alkaline hydrolysis via the addition of fly ash to achieve the VIP faecal sludge stabilisation and volume reduction.

Justification for this approach is based on preliminary experiments in the Environmental Health and Biotechnology Research Group which indicate that addition of fly ash can raise the pH of the VIP faecal sludge to 13.0 or above (data not shown). This should facilitate the alkaline hydrolysis of polymers which are normally found in faecal sludge, e.g. cellulose from toilet paper and proteins from faeces and greywater (van Loon & Glass, 1997). To test practical feasibility of this approach, the topic of the Honours project of the third author became the "Optimisation of the fly of ash as a pit additive in VIPs". The first task of the project was to optimise/build a miniature version of the VIP pit in the laboratory. The small-scale model would provide a possibility to optimise the dosage rate of fly ash, investigate the structural integrity of the VIP vault and ascertain the factors controlling the stability of VIPs under field conditions.

The third author was empowered to take ownership of the project and to use his skills from the bee-hive making industry to achieve the goals of the project. Completing the project goals should facilitate the improved management of faecal sludge in informal/peri-urban settlements in South Africa. This way Rhodes University academics and postgraduate students will help the community deal with pressing public health challenges which originate from the improper management of the VIP faecal sludge (Still & Foxon, 2012). All these activities should contribute to the achievement of the goals of the RUSP through the development of research and teaching of environmental sustainability. At the same time, if the findings of these Honours projects are implemented in sanitation provision in South Africa, the civic engagement of the biotechnology Honours students could be strengthened.

3 Findings

Results from the water testing are shown in Table 1.

Table 1

Results from water testing

Sampling site	Result 1	Result 2	Result 3	Result 4	Results 5	Result 6
East 1	Negative	Intermediate	Negative	NA[a]	NA[a]	NA[a]
East 2	Negative	Negative	Negative	NA[a]	NA[a]	NA[a]
Water tanker	Intermediate	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]
Department	Positive	Negative	Positive	Positive	Positive	Positive
Residence	Positive	Negative	Positive	Positive	Positive	Positive
BNB	Positive	Negative	Positive	Positive	Positive	Positive
Private House	Intermediate[b]	Negative[d]	NA[a]	NA[a]	NA[a]	NA[a]
Campus	Negative[c]	Negative[d]	NA[a]	NA[a]	NA[a]	NA[a]
Business	Negative[c]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]

a Not applicable
b Sample taken 3 hours after restoration of municipal drinking water supply following the outage on 29th June 2016.
c Sample taken 7 hours after restoration of municipal drinking water supply following the outage on 29th June 2016.
d Sample taken 30-39 hours after restoration of municipal drinking water supply following the outage on 29th June 2016.

All field blanks, i.e. boiled or autoclaved water sample which was processed in the same way as field samples, were negative. Therefore, the sampling procedure did not have any effect on the test kit results obtained. A total of 30 samples were taken during the water sampling part of this study. Fifteen samples or 50 % of all samples were positive for faecal contamination and all of these samples were taken from rainwater tanks at Rhodes University campus. Three samples or 10 % were classified as intermediate, i.e. between 1 and 4 test kits turned positive after 72 hours of incubation. The remaining 40 % of all samples taken were negative for faecal contamination. Out of the 11 samples from municipal drinking water supply or emergency water supply, 8 samples or 72 % were negative for faecal contamination. This percentage is lower than the drinking water percentage of compliance, i.e. negative microbial quality results, reported by the Makana Local Municipality website (Makana, 2016). Therefore, the study results seem to indicate that the potable water supplied by Makana

Local Municipality is likely not meeting the regulatory requirements for microbial water quality.

To address this, a two-fold strategy has been adopted and will be used by the authors going forward. An information brochure is being designed by the authors in English and isiXhosa (both the main languages spoken in the area of Makana Local Municipality) and these will be distributed to the population. An awareness campaign about possible problems with microbial water quality will be run in the community, pending ethical approval from the respective institutional committee. A website has been designed by the Environmental Health and Biotechnology Research Group where results will be presented to the public. Social network platforms will also be used for this purpose. A "traffic-light" system will be applied, where the results will be presented as negative (green light/colour) being reported as no danger is present, as intermediate (orange light/colour) being reported potential danger is present and mitigation measured (such as boiling of water might be required by the population before municipal drinking water consumption); and finally as positive (red light/colour) being reported definite danger to public health exists if the municipal drinking water is consumed. These messages can be sent via smartphones or disseminated in other avenues to be explored during future research.

The second part of strategy will include the expansion of the rainwater testing initiatives from this article to the entire Rhodes University campus. This has been running in part for two years now, but the new test kit protocol with five kits per site has only recently been adopted. The results from the first author's student project indicates that this activity of critical importance to public health on campus. This is the case as microbial quality of emergency water supply and alternative water supply which can be used to achieve the goals of RUSP is problematic. Civic engagement of the authors, especially the fifth author, has driven the testing programme at Rhodes University campus in collaboration with student representatives from the various residences on campus. These are elected as environmental representatives of the particular residence. The results are evaluated in collaboration with the fourth and fifth author and any treatment required is executed by the Infrastructure Division of Rhodes University.

The third author started researching building methods which can be used to build a scaled-down version of a VIP pit/vault. Over a course of this activity and while taking ownership of his Honours project, the third author designed a mould that is depicted in Figure 1. The mould allows for the preparation and testing of various concrete mixtures and setting of a complete VIP. The outer jacket of the mould can be opened on one side which allows for the removal of the final model VIP after setting (see Figure 1a). The inner prism is pushed into the mould to give shape and allow for the setting of the desired shape of the VIP pit

or vault (see Figure 1b). This demonstrated in more detail in Figure 1c) where the tested concrete mixture has been placed into the mould. Finally, the VIP pit/vault is shown in Figure 1d). The third author used the mould to design a functional and scaled-down VIP pit after various attempts as shown in Figure 2. Removal of the model VIP pit/vault was a problem as the scaled-down VIP pit collapsed upon removal. This was the case even when the inner prism of the mould was greased with wax (see Figure 2 a). However, the attempt was successful with lining the inner prism with plastic rubbish bag (see Figure 2b).

The design of the mould is very simple, or even basic. However, the simplicity is what it makes an ideal research and teaching tool. The system allows for the testing of various concrete and/or cement mixtures to see which one can be used to set properly and form a stable VIP under field conditions. On the other hand, the skills shortage and inferior construction of VIPs have been an ongoing problem in South Africa (Hoossein et al., 2014; 2016). The mould devised by the third author provides a simple tool to demonstrate and educate sanitation and construction workers from local municipalities about proper constructions about the VIP pit/vaults. The mould can easily be reproduced from local materials anywhere around South Africa and used to test available construction materials for their suitability in building of the VIPs. At the same time, the mould can easily be modified to use for other purposes, e.g. building of rainwater tank models in rural areas. Model VIPs which are produced in the moulds devised in the third author's Honours project can also provide the chance for detailed study of the mechanism of faecal sludge stabilisation in the VIP pit/vault.

a)

b)

c) d)

Figure 1. The mould for building the scaled-down model of the VIP. Outer jacket of the mould without any cement/concrete mixture (a), complete mould with the outer jacket and the inner prism which is lined with a plastic rubbish bag (b), complete mould with a concrete mixture (c) and the mould before the removal of the final scaled-down version of the VIP (from the outer jacket; d).

The structural stability of the pit/vault can be examined visually, or the pit/vault can be dissembled and used in the electron microscopy examination of its structural integrity. This is of particular use if the pits/vaults will be exposed to highly alkaline pH, such as those which can be expected in the VIP pits/vaults upon addition of fly ash.

Teaching and learning of a complex discipline, such as that of environmental sustainability, is not an easy task (Kerekes & Wetzker, 2013). The fourth author provided guidance and supervision on the overall scientific nature and execution of all student projects described above. However, the student authors were allowed to proceed and come up with details of the project themselves. Such empowerments is likely to lead to students taking ownership of their projects. It will also stimulate sustainability teaching and learning; and research at Rhodes University. As a result, such activities and those similar to them can lead to the fulfillment of the aims of the RUSP. This is especially the case as the students have gained skills they can use in training of municipal environmental health practitioners, sanitation and construction workers could improve the reliability of the VIP and the significance of microbial water quality. This can help decrease the extent of environmental contamination due to leaching of the VIP pit/vault contents into the groundwater, as well as help raise awareness and

improve citizen understanding of microbial quality of municipal drinking water and rainwater.

a) b)

Figure 2. The mould for building the scaled-down model of the VIP. Failed attempt using wax as a releasing agent (a); Successful attempt of the model VIP vault (b).

Pharmacy synthesises the knowledge from chemistry, biology, biochemistry, pharmacology and social sciences, among others (RUPDS, 2015). Biotechnology is based on the foundation of biochemistry, microbiology, molecular biology and knowledge from other fields (BICC, 2016b). Therefore, both Pharmacy and Biotechnology are inter-disciplinary fields, i.e. the students studying them must synthesise knowledge from various fields of knowledge. Topics of all student projects described in this article required the students to synthesise knowledge to achieve the project goals. Therefore, the projects are based on the same skills as the degree that the first, second and third author have been studying towards. The project topics build on the foundation of the tertiary education that the students have received thus far. The added value comes from the real-life dimension of the knowledge/the study activities described in this article and all related activities that the first, second and third author have been exposed to. Using the same fundamental principle in the project, as the students were required to use during their undergraduate studies, is likely to facilitate the linking the students' undergraduate and postgraduate education and gained knowledge to the real-life problems that South Africa faces as a country.

The fourth and the fifth authors have experience with civic engagement through their prior activities in the context of the water monitoring and water research (Tandlich et al., 2015), as well as sanitation research in South Africa (e.g. Whittington-Jones et al., 2011). Therefore, the interactions between the student co-authors and the fourth and fifth authors can help develop a sense of empowerment among the students taking part in practical project work. The sense of empowerment is mainly based on the students' gaining "meaning/self-efficacy" and "self-determination" (Nicolaidis & Koutroumpezi, 2008). Such empowerment can in turn be a positive motivator in the students to achieve develop and implement solutions to the studied problems (Reilly et al., 2008). These solutions are extremely important in the local context of the teaching and learning activities described in this article. This will be of critical importance in the undergraduate and postgraduate research projects in South Africa. It helps equip the young professionals in the country to tackle challenges from complex and interdisciplinary phenomena such as climate change.

4 Conclusions

The initiatives described in this article point to the synthesis of scientific expertise, postgraduate teaching and civic engagement. Teaching and learning of the concepts of sustainability can facilitate the development of the necessary connection between academia and the society at large. It also empowers students to take charge of their own learning, achieve maximum benefits out if it and make them aware of the challenges facing South Africa in the water and sanitation sectors. This can have a significantly positive effect on societal conditions in South Africa. Further endeavours similar those described in this article should be stimulated in South and beyond.

Acknowledgements:
The authors would like to thank the Biotechnology Innovation and Communication Centre at Rhodes University for funding the study in part.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

University Kindergarten: The Story of a Little Big School

Jana Majerčíková – Anna Rebendová*

DOI: 10.1515/atd-2016-0021

Received: August 23, 2016; received in revised form: October 9, 2016;
accepted: October 10, 2016

Abstract: The study is of empirical character. It presents a story of a kindergarten which is a private, a company and a university kindergarten. The establishing authority is a university that can preferentially accept children of its employees. The parents of the children financially contribute to running the kindergarten.
The research was based on the strategy of a one-case study. This integrated quantitative and qualitative research approach. Data from two types of questionnaires were used in the study presenting interviews with parents, teachers, students in teacher training and members of the school board, as well as data from observations of the educational process and from the analyses of the available school documentation. The aim was to describe the kindergarten and the contexts in which it operates, explain its operation and clarify the mechanics, circumstances and subjects it is most influenced by. Three basic factors influencing the school's operation and fulfilling its function emerged from the collected data: the relations with the establishing authority, the community of university-educated parents and the status of a faculty school providing space for practical training of the students in teacher training. The major conclusion that emerged from the study is: The kindergarten works in specific conditions with strong contextual conditioning linked to the university environment and the authority's conditions.
Key words: company kindergarten, university, parents, practical training of students, case study.

1 Introduction

The title of the paper is an analogy of a story about a school that on one hand fulfills the goals of preschool education, i.e. it is aimed at the little ones, and on

* Jana Majerčíková, Faculty of Humanities, Tomas Bata University in Zlín, Zlín, Czech Republic; majercikova@fhs.utb.cz
Anna Rebendová, Faculty of Humanities, Tomas Bata University in Zlín, Zlín, Czech Republic; arebendova@centrum.cz

the other hand it is located in the university context aimed at the big ones. Such a location of a kindergarten in the university context brings benefits as well as risks to all the participants – to children, their parents and the staff of the kindergarten, too.

The issue of university kindergartens can be viewed as a topic bordering social policy and preschool education. On one hand, there is a potential of the kindergarten as an institution that specifically aims to coordinate the parental and work-related roles, on the other hand there are the educational possibilities of a standard educational institution for pre-school children. Both of these aspects diffuse and variously determine the running of the kindergarten.

2 Terminological Basis

The crucial parameter that differentiates university kindergartens from the other types, predominantly public ones, is the fact that their establishing authority is a public higher-education institution – a university. Specifically, it is the academic staff and students who are for the most part the parents of the children attending the kindergarten. A university kindergarten also typically presents a space for pedagogical practical training of university students provided the university is accredited to offer degrees in such programs. In the terminology of university teacher training, it is a faculty training kindergarten. The links described appear to be interesting and troublesome at the same time. The question posed here is, what influence they have on the educational reality of the university kindergarten.

Preparing the conditions for establishing university kindergartens is a part of family-supporting measures enforced in the Czech Republic in the recent years. The support of pro-family measures via promoting the availability of child care-taking services is to ensure higher participation of Czech mothers in the labor market, which is generally considered low in the young age of their children. After 1989, the availability of such services dropped considerably especially for children under the age of three. This contributed to lowering employment of women.

The establishment of university kindergartens in the Czech Republic is also a reaction to the lack of available placements of pre-school children in the kindergartens in a given region. It should contribute to coordinating parental and professional roles of employees, the young parents. These circumstances became one of the main reasons for establishing university kindergartens. The intention of the university kindergartens was to cover the requirements of the universities' academic staff and students to accelerate their return to the workplaces or continuation of studies after their parental duties during the young age of their

children. A university kindergarten thus appears to be an effective tool applied specifically towards young families with children at pre-school age, in the early stages of their parenthood. Another fact which deserves mentioning is that the possibility of placing a child in such a type of school is an employment bonus that raises the credibility of the workplace.

University kindergartens are based on the principle of private educational institutions authorized by a legal person – a public higher-education institution. The subject of operation of university kindergarten's activity is providing education, so the School Act with its subsequent regulations applies. In the case that a university kindergarten is listed in the Register of Schools and School Facilities, it operates as a school legal person and concerning its curriculum it follows the Framework Educational Program for Pre-school Education. Such a school is entitled to funding from the state.

University kindergartens also fulfill the criteria of the so called company kindergartens. Their rules allow preferential placement of the employees' children based on the employer's decision so that children's discrimination is avoided. Each kindergarten's own criteria for placement of children are also followed. Except for its other duties, this is also a duty of the School Board.

3 Methodology

The aim of this research survey was to depict the uniqueness of the kindergarten determined by its contextualization in the academic environment combined with its environment of pre-school education. A case study was used to describe and understand the activities in the university kindergarten. The case study integrates quantitative and qualitative research orientation. It also offers an opportunity to study, learn and understand one case or a few cases in a detail.

Following K. Yin (2014), we believe that the combination of qualitative and quantitative approach can be an effective device with a potential of enabling and grasping the reality under investigation in all its complexity. At the same time, a complex view of the events under investigation should be reflected in raising the credibility of the possible research findings and it should lead to the accuracy improvement of the theory and to possible practical applications of the outcomes (Mareš, 2015).

3.1 Research aims

In the Czech pre-school education, there are eight university kindergartens. One was chosen for the purposes of the research. Via a single case study, the ambition was to "depict the intricacy of a case and describe the relations in their complexity" (Hendl, 2005, p. 104). In this context, the following key research

question was formulated, "How can a school be characterized by factors that most significantly determine its functioning?". The question was further specified into the following aims:

1. To describe the school and the contexts in which it operates.
2. To understand how the school operates.
3. To clarify the mechanisms, factors and subjects by which the school is most influenced.

3.2 Research methods and obtained data processing

A case study is a research strategy, a research approach. Its frame presumes combining various sources of information obtained through several research methods. A unit of such research is one case – a university kindergarten. It is thus a single-case study of an organization – a social unit.

The data were collected in the research via the following research methods:

- contents analysis of the official, pedagogical and other documents connected to the running of the university kindergarten (available records of various meetings, plans, inspection reports, school educational program, rules and regulations, minutes from parents' meetings and pedagogical board discussions, criteria for children's placement, the concept of school development, etc.);
- interview with the university kindergarten's principal;
- interview with two teachers of the university kindergarten;
- interview with five parents;
- interview with five students in practical training;
- interview with two members of the Board of the School Legal Person of the university kindergarten;
- a questionnaire administered to the parents;
- a questionnaire administered to the teachers;
- non-structured observation inside the university kindergarten.

The combination of the non-structured observation with the interviews seemed to be the most effective from the point of view of data collecting. Observation should provide the material for the description of behavior of the participants; the interviews are aimed at uncovering the experience of some participants. It is considered natural to analyze the available school documentation. The questionnaire for parents should provide for a more significant generalizing of their opinions.

The structure of the topics in the interviews was similar among different participants. The introduction concerned the first associations of the school

under investigation. Further on, the opinions on the advantages and limitations of the school, its equipment, material and personal background were elicited. The subjects of the research interest also included experiences with the environment and development inside from the point of view of education, practical training of students, relationships among the school employees, etc. Our interest lied in the parameters of mutual cooperation inside the school, and further on with parents, the board and the school authority in general. We also wanted to know the specifics of children in the school under investigation. The participants were asked about various aspects and topics arising from their positions in the environment of the given school (parents, students, teachers, etc.).

The obtained documents and interview transcripts were processed by a traditional technique of open coding. In accordance with recommendations for data processing in quality-oriented research, the data were analyzed and codes appearing in the data were noted continuously. Subsequently, we grouped the codes into concepts and categories and we tried to interpret them.

The quantitative approach in the case study was represented by distribution of two questionnaires. We administered a standardized questionnaire with a scale to measure self-efficacy of teachers in parents' involvement (Majerčíková & Gavora, 2013) to become acquainted with this issue. This four-dimensional questionnaire that originated in Slovakia was adapted to the conditions of the Czech Republic in 2014 (Majerčíková & Syslová, 2014). The possibility of a simple comparison of the results of Slovak and Czech teachers in the school appeared under investigation.

We used the second questionnaire for communication with the whole community of the kindergarten parents. The research tool created for this purpose was administered to the parents in the electronic form. The questionnaire consisted mainly of scale items; it also contained several open and closed questions. In terms of topics, it was supposed to cover the opinion range of the parents on the management of the kindergarten that was derived from their experience with the school and from their own opinions on the education of pre-school children. The reasons for choosing the school, experience with other schools of their own kind, cooperation with parents, the level of educational activity, child's feedback on the school, opinions on the activity of students in practical training, etc., created the contents of the second questionnaire.

3.3 The Case Choice

Similar to other kindergartens of the type described above, the school under investigation was established with the financial support from the European Social Fund. The idea of their own university kindergarten that should cover the

needs for care for employees' and students' pre-school children during their work and study time accelerating their return to work and studies was a part of employment policy of the progressively advancing university (the establishing authority) for several years before its actual establishment. The actual space and material facilities of the university kindergarten were provided by the university. The research showed that the facilities are modern, pleasant, supporting the work of the school; it was evaluated as children-friendly by all the participants.

The university kindergarten under investigation is one of eight kindergartens of this type that operate in the Czech Republic. The university kindergartens established after 2009 originated through ESF projects and they are located in larger university towns and cities.

In our case, the original aim of the university was to build a kindergarten with a standard limitation of three to six years of age. The employees' requests uncovered in a service demand survey were aimed at a lower age of children as well – from the age of 18 months in average. That is why the university decided to implement the establishment of a kindergarten and a linked babysitting children's playroom for children under the age of three in the project phase. It was for such a project structure that the university requested the ESF funding and the request became successful and funded. The kindergarten was to operate according to a standard and tested routine of pre-school institutions in the Czech Republic. The aim of the babysitting playroom was to ensure a short-term care for children under the age of three, for example during lectures, exams, etc. Eventually, the university kindergarten was founded as a single-class kindergarten with a mixed age group with a separate babysitting playroom with the maximum capacity of 10 children.

During the functioning of the university kindergarten, it turned out that the parents of children under the age of three are also interested in a full day care using the educational activity of the kindergarten. That is why another form of family friendly employment policy was introduced – the establishment of a class for children of approximately two years of age within the organizational structure of the kindergarten which is evaluated as one of the major benefits of the school. There are not many school institutions in the classical routine of pre-school education in the Czech Republic that would react to such a request in the same way. The reason is in higher demands for care and education in terms of the needs and developmental possibilities of children of such a low age.

Deriving from the assumption that it is a private school where higher quality is reflected in higher price (Bastos & Straume, 2013), with functioning under a specialist supervision of a university training future kindergarten teachers, the kindergarten gained a potential to offer above-standard services.

3.4 Ethical aspects of the research

The research was specific in many ways. The declared specificity was underlined by the circumstances and their consequences that were significantly connected to observing the rules of ethics in the investigation. These were among the crucial parameters determining the research process and its results.

We consider it important to clarify the relationship and motivation of the researchers in the research. An important criterium of the school choice was its accessibility. In this case it was the local and social accessibility but comfort and various possibilities of communication with the participants providing data played a significant role as well. In the project phase of the research, in this case study, we based on an interpretative social-constructivist paradigm that Hyett et al. (2014) position within personal relationships of researchers and informants; in our case the institution under investigation. The researchers had easy access and relatively strong working relations with the university kindergarten under investigation. It transpired during the research that such relations tend to complicate the whole process. That is why the researchers had to change the perspective into a positivistic direction, which relies on a precise research plan a part of which is checking the validity of the results, the risks and potential distortions (Hyett et al., 2014).

As specified above, the kindergarten under investigation is an integral part of the university which is its establishing authority. This fact significantly influenced all the decisions and processes in individual areas of its operation; naturally, relations based on the employer – employee supervision were a part of it. A tight relationship of the university and the university kindergarten was considered a critical prerequisite for realizing the research from the very beginning, the university being the recipient of the research results as well as the employer of the university kindergarten's staff. It appeared essential to provide an ethical framework of the research, specify the formally shared rules that would navigate and follow the ethical behavior of the researchers, their conduct and advancements during the whole research process.

During the whole research investigation and especially prior to publishing the research results, we had to closely observe the research ethical aspects. We paid attention to observing the rules we had stipulated in the project phase of the research before applying each of the research tools. The rules included, among others, obtaining a written permission from the participants to be a part of the research investigation and publication, the possibility to withdraw from the project in any phase, preservation of absolute privacy and discretion, participants' eligibility for acquired data, authorization of interview transcripts and participants' validation of the final report.

4 Results and discussion

Within the analysis of the empirical data three major dimensions of school operation emerged in sequence; each dimension originating due to certain factors. These identified dimensions offered a draft of the school under investigation. The dimensions were clearly observable in the data obtained from the mentioned sources. In certain connotations and through various prisms, they resonated mainly in the statements of all the participants and respondents. We handled them as three major parts of the interpretative frame of the research investigation. They are:

- administrative and economic dimension – originating in the agenda of cooperation between the school and the Board of School Legal Person (further on referred to as the Board) representing the authority;
- educational dimension – originating in the agenda of cooperation between the school and the faculty of the establishing university which runs a teacher training program (cooperation via pedagogical practical trainings of the students);
- dimension of cooperation with the parents – originating in the agenda of communication between the school and the children's parents (mostly members of the academic body and students of the establishing university).

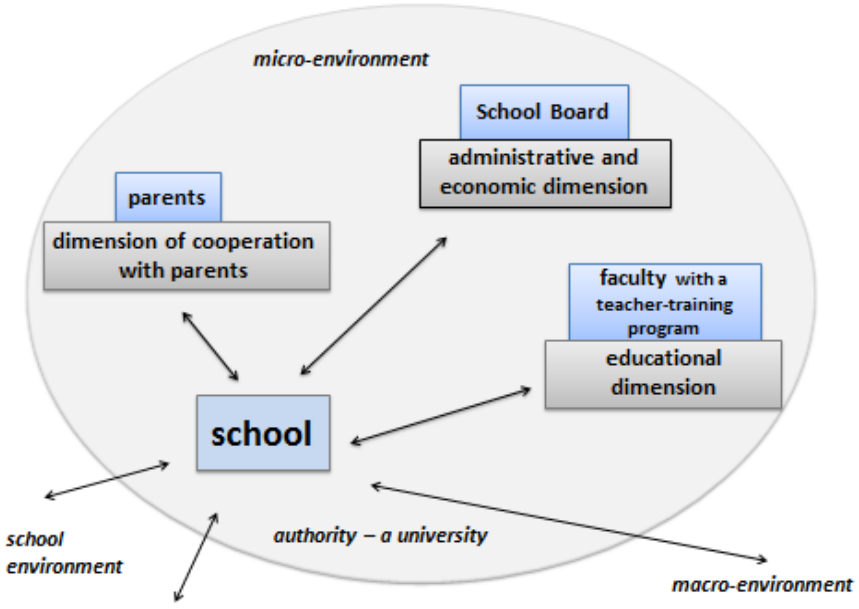

Figure 1. Interpretative frame of the research.

The three mentioned dimensions (Figure 1) had already been indicated earlier in connection with the school status as a university, private, company and faculty kindergarten. This setting was the point of departure for the requirements placed on the school; the school was confronted with them when fulfilling its mission which is a considerable part of its story. Based on our investigation, the indicated requirements can be described and summarized as follows:

- The school under investigation is thus a university one, its establishing authority being a university, which means that it covers the remaining costs and bears responsibility for its operation (it answers to the Rector, the Bursar and the parents – co-workers). The university is considerably engaged via the Board.
- The school under investigation is also a private one, which means that the parents contribute to its funding; the school fee they pay is understood to be paid for above-standard, above-average conditions.
- The school is also labeled as a company one, which enables it to preferentially accept the children of the employees of the university. It is "our kindergarten and our university kids"; everybody wants their best; the school is here for them and their parents with all the advantages.
- Finally, the school under investigation has a status of a faculty school where future teachers "go to learn"; the education should be on a very high specialist level; the teachers must be qualified and able to provide supervision and mentoring.

Eventually, how does the school operate depending on the fact that it is established by the university, what is the interaction with university-educated parents and what happens in the pedagogical practical training of students taking place in the kindergarten?

4.1 The establishing authority with three S's – Screening, Supervision, Support

The necessary links between the authority and the school are performed through the cooperation of the school's headquarters and the Board of School Legal Person. The Board is one of the organs of the School Legal Person which is the school under investigation. It is noteworthy that the school is established by another legal person – a public higher-education institution. Representatives of the authority as well as parents comprise the Board of School Legal Person of the school under investigation. In the case of the kindergarten, it is a double position that the parents comprise – they are both representing the authority and parents, which sometimes leads to complications in decision-making processes. It is not always a rule that the interests of the parents and that of the authority overlap. A typical case is the school fee paid by the parents and the salaries of the kindergarten employees.

The mission of the Board is in accordance with the legislation aimed primarily at the economic activity of the school. The Board approves of the school budget and its changes, funding prospects, internal salary regulations and annual balancing of the books. Obviously, the school's rules of procedure, the rules and regulations of the organization, the subject, conditions and range of its supplementary activities and staffing are all part of the Board's missions. Upon the Board's proposal, the principal of the school is appointed and dismissed by the school authority – the Rector in office, to whom the principal also answers.

After two years of the kindergarten's functioning, the financial support by the ESF has been terminated and the costs and the operation were transferred upon the parents, the establishing authority and the state. As the establishing authority intensively began to participate in the kindergarten's funding, it became clear that mutual relations and competences would have to be extended and clearly defined. The parents started to voice their issues as they had found themselves in the positions of the clients of a private facility in which they had to start paying the appropriate school fee along the meal allowances after the ESF funding was no longer available.

The establishing authority is exceptionally engaged in the school's operation via the Board. The head of the Board is a Vice-Rector of the establishing university. The teachers characterize the relationship with the authority as relatively tight, sometimes limiting their pedagogical autonomy in comparison with kindergartens they have experiences with. The "expectation" of operative adaptation to suggestions and claims of the authority (performances at various university events, production of gifts for guests, visits of the university's guests, etc.) are sometimes perceived by the teachers as a pressure. In the staff's interpretation, the claims do not have sufficient basis, which would be expected in a private facility. This is a subject of the communication between the school's headquarters and the Board.

The kindergarten was established in the interest of the university's employees. It is a company school agenda which shows that acceptance of the Rules for Newly Placed Children is a thoroughly elaborated document that originated in a vivid discussion; it ensures of a responsible approach of the school as well as the authority. As soon as the circumstances indicate a funding-related problem in the school's operation, there is an elegant solution from the point of view of the school – offering placements to the wide, non-university public. However, a problem appears of placing potential new university children in the following year when the school would be full with – in the school's terminology – "foreign" children. The solution is a limited placement of "foreign" children for the duration of one year, which, on the other hand, predicates a problem for the

parents as it does not offer security and continuity of pre-school education from entering the kindergarten to entering a primary school.

The authority's representatives in the Board are obviously strongly interested in the school's prosperity. It is presupposed in every relationship of an establishing authority and a school; nevertheless, in case of the kindergarten under investigation, this attitude is determined by two important circumstances: first, the establishing authority and the kindergarten are closely linked through intensive contacts between both institutions. The second is the fact that the establishing institution has the kindergarten in its authority as the only facility of its kind. The attention paid to the kindergarten is most probably far greater than the usual attention paid by an authority to a school it established. This fact is a factor that places more significant claims on the school's headquarters not only in the kindergarten's operation but also towards the establishing authority. In the form of the Board, the authority is on one hand significantly helpful when solving the kindergarten's problems on which the headquarters regularly informs and turns to the Board for help. On the other hand, the authority requires from the Board a clear and elaborate organization and school management, suggestion of problem solutions when they appear, specialist pedagogical competence and rigorous communication with parents.

The unconventional relationship of the establishing authority and the kindergarten is reflected in how the Board reacts to critical situations in the school management. The school management answers to the Board in full range; the Board not only helps but also supervises and checks. When failure or a problem appears that would call for a tougher intervention that the Board is obliged to take, eventually the Board acts so that the staff's positions are not endangered. It is all done in the interest of the kindergartens's stability and the comfort of the children and their parents. The Board is very demanding but it is ready to help; it has confidence in the kindergarten and supports it. We suppose it is caused by the interconnection with the children's parents. The Board members are quite often the colleagues in the employment relation to the establishing university; the responsibility stemming from the financial participation on the operation of the kindergarten within the university budget also plays a role here.

4.2 Just and demanding parents

One of the specific areas of the operation of the kindergarten was clearly identified as the relationships with parents. Parents, as the representatives of under-age children responsible for the children's proper development, now figure as customers seeking their education. It transpired that the attitudes of parents were determined by various factors. With an intensive interest in their child always featuring as a background, the research showed three other factors

– the parents' affiliation to the establishing authority, i.e. the university, the education of parents and the financial side of education in the university kindergarten (fees paid by parents for the services to cover the investment costs). These determinants contributed to certain reactions and attitudes of parents.
A double role of some parents emerged as remarkable from the data. Primarily, it was the role of parents performing their parental duties. This role was dominant as it was based on an acute and distinctive interest in well-being and comfort of their child. The second role was a parent as an employee of the establishing authority contributing to searching for problem solutions and defending the interests of the kindergarten as well as the university, which sometimes results in unpleasant situations.

Another aspect that influenced the relationships and approaches of the parents to the university kindergarten was of a financial character. The school fee which the parents contributed to the school operation was understood as a signal for expecting adequate services without exceptions; the most significant interest of the paying parents was raised towards the kindergarten's meals. Experience from educational practice reveal that the quality of food and its attractiveness for children is a never-ending story in schools. In case of the university kindergarten, however, the parents were expressing clear objections and suggestions for changes in this area. Intensified answering to parents gradually became an agenda of the university kindergarten; it intensified from the moment of terminated financial support by the ESF, i.e. from the time when the new financial burden was transferred to the parents themselves.

As was already stated, the highest obtainable education was graded as an important parameter contributing to the character and quality of the parents and the kindergarten. One of the best known theses on the influence of the children's environment on their school results is a positive correlation between the socioeconomic status of the family and the school success of the child. In our conditions, a similar link has been verified by Katrňák (2004) who proved that university-educated parents preserve a tight relationship with school. Positive reactions to the kindergarten's appeal for cooperation are also assumed. The parents of children in the kindergarten under investigation held a Master or a Doctoral degree. Quite often they formulated their requirements in clear and understandable communication with the kindergarten; similarly, they showed their interest in observation and co-decision-making. In case the parents showed dissatisfaction with the headmasters' approach or with the personnel policy they were not reluctant to contact and initiate meetings with the Board. This indicated their interest in being involved in decision-making processes and the prerequisite to pass more legitimate decisions towards the benefit of children. These activities of parents are being closely linked with their socioeconomic status and experience. The parents were interested in participating in the school's

management via the Board in available positions. This phenomenon is not quite common; the willingness of parents to cooperate mostly focuses around the personal interest in their own child. In the Czech Republic as well as abroad, it is not perfectly easy to get parents to participate as members in the School Boards or Boards of Parents (Munn, 1993). The interest to participate in school management is usually lower.

At first sight, the manifestation of parents' engagement appeared to be a sign of their client approach (Rabušicová & Emmerová, 2003). That is based on a premise of expectations of the provided services to the clients of the kindergarten, i.e. the parents. This approach was further fortified in the followed case by understanding the affiliation and predetermination of the kindergarten to help the employees of the university; it was "our kindergarten", a benefit from the employer. What slightly disrupted the model, though, was the active participation of parents in the school issues. Parents in the roles of consumers tend not to have ambitions to actively participate in school management (Šeďová, 2004). This could not be stated about the parents of the given kindergarten. Through their approach, they tended towards the partner role as well which is based on an active participation and cooperation with the kindergarten. The parents so far have not come to establishing their own voluntary organization; however, they have had their representatives in the Board who "looked after" the parents' interests.

The parents manifested themselves as highly ambitious and demanding when it comes to the educational activities in the kindergarten. In some cases, it was felt as endangering, disturbing the kindergarten's and the teachers' autonomy. We have to keep in mind that the autonomy of teachers includes the possibilities and competences to judge the needs of a child and to exercise the teacher's own will and independence. Eventually, it is the decision-making (Team of authors, 2006) on the issues of school predominantly linked to the area of pedagogical activity. The "strongest" suggestions and recommendations of parents in the given context concerned the educational procedures as such (e.g., "such a small child is not ready to…", "I recommend more activities developing fine motor skills in art activities") or similar pedagogical intrusions. These were guided by parents' conviction of justification of their suggestions when not taking the context of the kindergarten, its conditions and pre-school education as such into consideration. They relied more on the direct interest in the child and their personal ambitions to develop the child. We can see a parallel here with Štech's (2004) statement on imperatives of modern education based on personalization and psychology insight on the child care that frequently direct parents to ambivalent attitudes towards schools and teachers. As the author claims further, on one hand it is the acceptance of the mission of the school as an institution, which the university kindergarten's parents reflected in their effort to have and develop "the best, the

highest quality kindergarten", on the other hand it is the parents' own demarcation of their independence and competence in the relationship to teachers through questioning their opinions. In case the school and its teachers are not able to argument well and defend their strategy, or at least enter discussions on these issues, a door opens to possible problem-creation in the relationship to the kindergarten's parents.

As a result, despite the objections and critical comments, the parents perceive the kindergarten in a very positive light, as was revealed mainly from the questionnaire survey. They trust the teachers and their specialist competences, they value the interest groups and other above-standard activities of the school. They are able to lucidly formulate problems they see and very often they present suggestions for solutions as well. They are ready to value and recognize the difficulty of a teacher's profession. They are interested in reflecting the causes of situations (both positive and negative) which, in our opinion, is significantly linked to their education.

4.3 Students in practical training – Help and burden

In case a kindergarten is listed in the Register of Schools and School Facilities, it has to realize its education based on a curricular document – the Framework Educational Program for Pre-school Education [Rámcový vzdělávací program pro předškolní vzdělávání] 2004, further on referred to as FEP PE). The kindergarten creates its own school educational program in the second round of contents creation. The kindergarten under investigation is also a "register" school which is not necessarily a rule with private and company kindergartens. Its activity is inspected by Czech School Inspection.

The security of realization of a state-guaranteed curriculum on a certain level was one of the pre-conditions for realizing practical pedagogical training of teacher trainees of the establishing university. The student pedagogical training was presented in the kindergarten as a school agenda on all levels of its work, with both positive and negative connotations.

On one hand, the students were seen as the bearers of new ideas and sources of inspiration, as those who enable the realization of a truly individual approach to children and who help teachers. The majority of parents also appreciated the attention paid to the children by the students, their presence for the sake of variety and the positive reactions of children were also noted. Furthermore, the parents accepted the premises of the school as an instructional workplace, which we ascribe to their experience with students, even if on a different content platform. One parent convincingly assessed it in one sentence, "The students will benefit, the teachers will get help and the kids will get to know new people."

These positive points were a unifying element of positive reactions to the presence of teacher trainees in the kindergarten.

On the other hand, negative features can be observed; there are certain disadvantages stemming from the duty of the school under investigation, which is an instructional, faculty school. The disadvantages of students being present at school were interpreted mainly by those directly involved in the process, i.e. by teachers and parents. The other surveyed participants, whether the Board members or the students, perceived the demanding character of the situation, but as they were not directly touched by it and it did not limit their activity at the kindergarten, they did not reflect it as a problem. Understandably, the kindergarten presented the ideas on how difficult it is to manage the activities of the students so that all the participants in the role of educators were working effectively. Sometimes, an unfavorable effect of "new authorities" taking turns arose (students themselves became authorities for the children especially during the long periods of pedagogical training). It was with them that the self-confident and intelligent children were testing the limits, they were trying to get the power and superiority on their side, which eventually appeared as indiscipline perceived mainly by the teachers. This was considered as "over-work" by teachers which has not been duly appreciated. The genesis of practical trainings of students in the kindergarten has its roots in the requirements of the kindergarten towards the teacher-training faculty with the aim to obtain help. In the words of the principal, changing staff caused by "accepting young employees" created problems for which students in their practical trainings were to be a part of a solution by helping the teachers.

What is perceived as another problem with both teachers and parents is the presence of students in training in the class of the youngest children. As was already mentioned, the school under investigation features benefits among which, without a doubt, is accepting children from the age of two. It is in this class of children between the age of two and three where "overload of practical trainings" is seen as a destabilizing element for the necessary conditions for work with such young children. The conditions are based on the homogeneity of the environment and people in it which is disturbed by the students. The teachers in the university kindergarten are very important people in their lives and "their changing causes the children's confusion".

The fact that the kindergarten would provide an opportunity for pedagogical training of students was declared already in the project seeking the ESF support and further on in establishing the kindergarten. It appears that it is the kindergarten's staff inside its demanding school operation who forget about it. It is a fact that it requires willingness to "teach practically" (with everything it entails), it is built not only through professional loyalty to pass on what one

knows to the younger and less experienced ones. It is also a sign that should be a part of the kindergarten profile thus predicting the acceptation of this condition at the very beginning, when entering the kindergarten. This presumes sufficient communication of the "over-work tasks" from the side of the headquarters and everybody competent, which probably did not always happen.

5 Conclusions

The kindergarten under investigation functions according to a set of rules in a specific space. This specificity is given by a high context conditionality of a university and pre-school education. The sources of data were documents, interviews and observations; the empirical data analysis gradually showed certain dimensions for their interpretation. Three factors determining life in the school under investigation and telling its story were identified. They were the links with the establishing authority and the parents with university education as well as the status of a faculty kindergarten providing space for practical training of students in teacher training. These determinants eventually contributed to the fact that the kindergarten is on one hand being exposed to the requirements from the establishing university via a demanding Board, the parents or the faculty with teacher training programs. On the other hand, these subjects intensively help, they are interested in supporting the school and participating in its running; they want to be parts of decision-making thus accepting a share of responsibility and actively contributing to its prosperity and quality.

Acknowledgement:
The text is published with financial support of Internal Grant Agency of TBU in Zlín and it is a part of the IGA/FHS/2015/009 University kindergarten – a case study project.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

ARTICLES

Teachers in the Context of Vocational Education

Gabriela Gabrhelová – Lenka Pasternáková*

DOI: 10.1515/atd-2016-0022

Received: June 22, 2016; received in revised form: November 2, 2016;
accepted: November 3, 2016

Abstract: In the presented article, we deal with teachers' personality and their tasks in vocational education. Based on the opinions of professionals, we characterized teachers and the factors influencing the creation process of their personality. Teachers can be characterised based on their job positions in schools, e.g. a class teacher, the school counsellor, the director, there are plenty of them in every school. Teachers' personality is being formed throughout their teaching practice by the experience they gain. They get the basics during their teacher training when they are getting prepared for the teaching profession. We focused our attention on the issues of teachers' professional identity. In this context, we were interested in the students of Dubnica Institute of Technology in Dubnica nad Váhom and in their perception of their studies. Our partial goal was to analyse students' motivation to take part in teacher training which we deal with in our paper.
Key words: teacher, school, vocational school, teaching profession, motivation.

1 Introduction

In every description of the teaching profession, it is important to have in mind that the socio-professional groups of teachers are internally differentiated. This way, various typologies of teachers are created. The most notable typology of teachers is based on the type and the level of the school they work at. From our point of view, in pedagogy, personality is seen in the context of personality development or in relation to the specifics of teachers' personalities. Not in

* Gabriela Gabrhelová, Dubnica Institute of Technology in Dubnica nad Váhom, Dubnica nad Váhom, Slovakia; gabrhelova@dti.sk
Lenka Pasternáková, Faculty of Humanities and Natural Sciences, University of Prešov, Prešov, Slovakia; lenka.pasternakova@unipo.sk

every profession do personality traits play such an important role as it is in the case of teachers. It is the teacher who inspires students to develop their professional and human potential to the greatest possible extent. Teachers should deal with specific problems. On one hand, teachers have much less freedom in their profession than creative artists but on the other hand, they operate in a space completely different from the space of a technician.

2 Teachers' personality

Teaching competencies are not only what teacher trainees earn during their studies, but also the extent to which a particular employee is personally equipped for working in the teaching profession. Fontana (2010) divided personality components as follows:

- professional competencies – pedagogical, didactic, psychological;
- performance competencies – working ability, physical ability, coping with stress;
- personal competencies – volitional characteristics, character, social skills, communication skills, interpersonal relationships;
- social competencies – moral values, bearer of values;
- motivational competencies – identification with the role of a teacher, realization of the teacher's role.

It is a very demanding task to define the notion of personality exactly as its understanding changes in accordance with the point of view of psychologists, pedagogues or sociologists. Teachers' personality should be understood as a general model of personality characteristic by its psychical determination (Hupková & Petlák, 2004).

Teachers' influence and personality development are determined mainly by their innate characteristics, i.e. teaching giftedness, self-education, the intensity of teachers' interest. In this context, it is natural to expect certain educational giftedness, talent and skills. It can be defined as a sum of personality traits determining the success of educational work. Especially loving children; cognitive characteristics (thinking, imagination, memory, attention); personality traits (character, volitional qualities, working qualities, emotional temperament, and social character traits); particularities of personal life and behaviour belong here (Ďurič & Štefanovič, 1977).

Teachers' personalities are influenced by the characteristics and the quality of their relationship with students. The character and the quality of teachers' relationships with teachers have an impact on their personalities, too. Teachers influence the classroom climate and promote or inhibit students' interest in the

subject that they teach. They also manage students' development, their knowledge and whole personality. That is why there are high requirements on teachers and their personalities regarding a high degree of moral and volitional qualities. They should become role models for their students. They influence students by their personality, by their appearance and their overall behaviour not only in school but also in private lives. It applies to teachers' personality in general and so does to the teachers of technical subjects.

For the reasons mentioned above, teachers' personality is the key to their success in their teaching practice. Whether a teacher is an authority for students or not, is popular or hated by students, depends on him/her. And it is up to them whether they have a small, big or no impact on students in the educational process. Based on our experiences and as stated by various authors (e.g. Határ, 2012; Dupkala, 2004; Tamášová, 2015), students do not like teachers which are strict and critical, because they are losing their self-confidence, are neither initiative nor independent. In the case of liberal teachers, students are pushing the limits of how far they can go and, thus, create unfavourable conditions for learning. Psychological particularities of teachers are reflected especially in their relationships with others. They are sensitive personalities with a sensitive approach to others. They are willing to help, give advice and to sacrifice (Škvarková, 2005).

In the process of creating teachers' personality, verbalization and thinking are very important. It is the ability to express own thoughts, an increased level of intelligence, and the ability to express oneself briefly, clearly and comprehensibly. Personality traits such as mental freshness and youth, openness to new stimuli, a good sense of humour, a sense of justice, etc., are especially important. In accordance with the findings by Błażejewski and Lewicki (2011), a teacher should be empathic, friendly, responsible, systematic, personally mature and mentally healthy. Successful teachers plan their lessons more carefully, dedicate more time to after-school activities and show more interest in students than the less successful ones. It does not mean that teachers should build an emotional relationship with students. Those teachers who develop an emotional relationship with their students are not fair to each student, they are not able to approach their students with an objective professionalism and, on the other hand, students may have the feeling that they have to fulfil very high requirements. In the case of teachers, it is important to have a positive relationship with their students and like the work with them, but they must not forget about the emotional distance and responsibility.

According to Dytrtová and Krhutová (2009), novice teachers should bear responsibility for the organization and planning activities in the classroom, to have developed professional competencies and a good base of knowledge that

they use to make their students' learning easier; should use appropriate methods of assessment and to lead students throughout the educational process properly; should be able to create a good social climate; to maintain professionalism (to behave and act properly); and be capable of self-awareness and self-evaluation also through others, e.g. colleagues.

In the Middle Ages, the teaching profession was connected to religious education, i.e. education took place in cathedral and monastery schools for the purposes of training the clergy. The teachers – priests – taught mainly theology or scholastic philosophy in Latin. Universities founded in Europe in the 12th century, e.g. in Oxford (1168), in Bologna (1224) or in Prague (1348), brought a turning point in the teaching profession. Universities not only did contribute to the development of education in general (to some extent independently from church) but also did they produce a new type of professional educators – university teachers. From the beginning of the 17th century, the development of the teaching profession has been influenced by pedagogical theories by great humanist thinkers such as J. A. Comenius, J. J. Rousseau or J. H. Pestalozzi. These pedagogues and philosophers focused their work above all on school and education theory and thus brought changes in the character of the teaching profession. In the history of the Slovak teaching profession, the school reforms during the reign of Maria Theresia became an important milestone. The substance of this model lies in the introduction of compulsory education and establishing three types of elementary schools: trivial, main and normal schools (Dupkala, 2014).

Based on the overview of typologies of teachers' personalities, we can state that there is not one particular type of teachers' personality as there is no ideal teacher. Also individual typologies are interconnected and overlapped. It is not possible to specify what kind of interaction with students is the most appropriate. For future teachers, a good orientation in various typologies and the ability to answer a huge amount of questions are very important as well as dealing with demanding situations.

Finding own professional identity is a long-time process which is closely connected to searching for personal identity. It is not easy to define the notion of identity. In general, we can say that in the process of searching for identity, people try to find themselves, to become themselves. The professional identity of teachers can be characterised similarly to personal identity, but it is determined by their professional confidence, self-confidence, self-reflection, self-knowledge and awareness of own professional qualities. Being a teacher is not only a profession, it is a mission as well. It represents self-sacrificing care and participation in the development of new generations. Independence and responsibility are important in the work of teachers, they reflect their mental

stability, power and the resilience of their personality. Teachers are professionals which educate and lead towards wisdom and love.

Every teacher needs time to become a good teacher in order to survive various pedagogical and didactic situations. The length or the period of adaptation is not the same with every teacher. It depends on the novice teachers' interest in their job, individual systematic studies and the collective in which they work. It means that their pedagogical competencies develop gradually and the whole process can be characterized by several levels. The process of "becoming a teacher" takes several years. The opinions regarding the length or the duration of this period differ. Some professionals talk about five years, others about eight to ten years. For sure, every teacher needs some time to become a good teacher, to try out and to experience various educational and didactic situations.

In the context of pedagogical competencies, we must mention the types of pedagogical competencies, too. Švec (2002) divides pedagogical competencies into the following three groups:

a) teaching competencies: diagnostic, psychological, educational and communication skills;
b) personal competencies: e.g. teachers' responsibility for own decisions during the educational process, authenticity, acceptance of oneself and others;
c) developmental competencies: adaptability, information, research, self-reflection and self-regulation skills.

According to Višňovský and Kačáni (2005), we can distinguish the following competencies:

a) interpretation – when teachers mediate knowledge, update it and use optimal teaching methods in the process of education;
b) self-creation – teachers make inquiries for the purposes of self-development, they are the creators of own pedagogical knowledge;
c) realization – when the work of teachers is focused on the realization of the set educational goals and values with not only one class, but the whole school.

3 Survey

People choose the teaching profession for various reasons. In our survey, we deal with the motivation of students to study at Dubnica Institute of Technology in Dubnica nad Váhom. This institute provides candidates with teacher training. In this context, a survey on the sample of 195 respondents consisting of external students in the second year of the Master's program at Dubnica Institute of Technology has been realised.

3.1 Survey objectives

The partial objective of the survey was to learn about the respondents' opinions regarding a particular institute. In this context, we were interested in their motivation for studying at Dubnica Institute of Technology and how satisfied they were. By means of a survey, we intended to find out what the source of information regarding the possibilities of studying at Dubnica Institute of Technology was and whether they intended to work in the field of their studies in their future lives.

3.2 Key findings

In the first round of the survey, we intended to find out the reasons why the respondents, i.e. DTI students, had decided to study at this particular institute. By means of a questionnaire, we found out that the most frequent reason was the "reasonable" or "acceptable" school fee (36.92%). One quarter of the respondents made their decision based on the fact that the institute was near their residence (25.13%). 23.08% of the respondents was interested in a particular study program offered by Dubnica Institute of Technology and, therefore, decided to study there. 6.15% of the participants responded that they did not care what they studied, they only needed a Master's degree. Dubnica Institute of Technology was recommended by their parents to 5.64% of the respondents; by their school counsellor to 2.05% and by their friends to 1.03% of them.

The respondents' most frequent answer regarding the reasons for choosing a particular field of study was that they wanted to continue in their studies (54.37%) and wanted to become teachers (20.51%). 13.33% of the participants indicated that they only wanted to earn a Master's degree; these respondents were not satisfied with their Bachelor's degree. 7.69% indicated that their studies were required by their current job position. 4.10% of the participating students responded that after finishing the Bachelor's program, it was the only available option (Table 1, Figure 1).

Table 1

Participants' reasons for choosing a particular field of study

	N	%
a) I want to become a teacher	40	20.51
b) I only want to earn a Master's degree	26	13.33
c) My current job position requires it	15	7.69
d) After finishing the Bachelor's program it was the only available option	8	4.10
e) I want to continue in education	106	54.37
f) Other response	0	0
Total	195	100

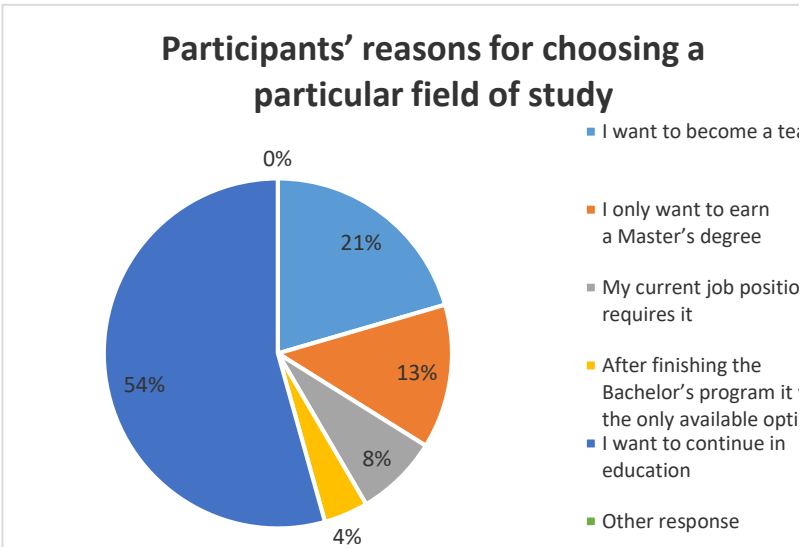

Figure 1. Participants' reasons for choosing a particular field of study.

Taking into account the large scale of available study programs offered by colleges and universities in Slovakia and abroad seeking to attract students, we tried to find out about the respondents' sources of information regarding the opportunity to study at Dubnica Institute of Technology.

In Table 2 and Figure 2 we can see that three thirds of the respondents heard about the opportunity to study at Dubnica Institute of Technology from friends and acquaintances (77.44%). 7.18% got the information from the university portal and 6.67% form the school counsellor. 5.64% had information from advertisement boards and 3.08% from the website. These data are interesting as the fact that "the best advertisement" is someone's personal experience distributed, e.g. verbally, was approved again.

Table 2

Respondents' sources of information regarding the opportunity to study at Dubnica Institute of Technology in Dubnica nad Váhom

	N	%
a) From friends and acquaintances	151	77.43
b) From advertisements in newspapers	0	0
c) From advertisement boards	11	5.64
d) From the university portal	14	7.18
e) From the website	6	3.08
f) From the school counsellor	13	6.67
g) Other response	0	0
Total	195	100

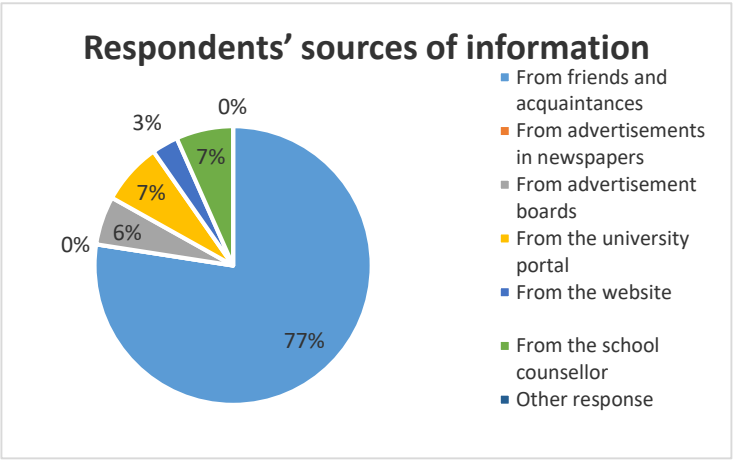

Figure 2. Respondents' sources of information regarding the opportunity to study at Dubnica Institute of Technology in Dubnica nad Váhom.

We also asked the respondents, i.e. students of the second year of the Master's program, whether their studies at Dubnica Institute of Technology in Dubnica nad Váhom had fulfilled their expectations. In the case of this item, we received mainly positive answers, which is a pleasant finding. 61.03% of the participants indicated "rather yes", 18.97% "yes" and 11.79% "rather no". In this item, 8.21% of the respondents did not express their opinions. Based on the above mentioned, we can state that the expectations of the students of Dubnica Institute of Technology related to their studies were fulfilled.

In the next step we intended to inquire into the extent of satisfaction with the quality of education at Dubnica Institute of Technology in Dubnica nad Váhom. The findings were positive again. The option "rather yes" was selected by 65.13% of respondents. 28.21% of the participants was satisfied, which is almost one third of the respondents. 6.67% respondents was unable to comment on it. We were pleased by the mentioned findings again as it is extremely important that students are satisfied with the quality of education in which they take part and which they pay for.

In one part of the questionnaire, we asked the participants whether they intended to find a job related to the studied profession. One half of them (49.74%) responded "yes". One quarter of the respondents (25.64%) responded "rather yes" in this item. Basically, they would like to work in the studied profession. 9.74% of the respondents indicated that they would rather not work in the studied field. Only one respondent from the whole sample indicated that he/she was sure that would definitely not work in the studied field (0.51%).

We also asked the respondents whether they were interested in the job position of a class teacher in case of working in the sphere of education after their graduation. 34.36% of the respondents answered "rather no". 10.77% of them indicated "no". 18.46% of the participating students would like to become a class teacher and 6.15% of them indicated the option "rather yes" in this item. As much as one third of the sample (30.26%) was unable to comment on it. Based on the gather data, we can declare that the survey participants do not want to become class teachers or they do not know yet. This fact may be an indicator of their level of responsibility, but also of a lack of experience in the particular profession. Their responses might be a reflection of their experience gained during their teaching practice which is a part of their studies.

We were interested whether they would decide to study at Dubnica Institute of Technology again. More than one half of the participants responded "yes" to the question. 13.33% of the participants answered "yes" and 40% "rather yes". It is a positive finding for the management of Dubnica Institute of Technology in Dubnica nad Váhom. One third of the respondents (27.18%) was unable to comment on it. 15.90% of the respondents would not choose Dubnica Institute of Technology for their studies again. 3.59% of the sample indicated "no" in this item. We received positive answers for the question whether the respondents – students of Dubnica Institute of Technology – would recommend studying at this institute to other applicants. 32.31% of them responded "yes" and as much as 46.67% responded "rather yes". 14.87% of the participants could not decide. Only 6.15% of the participants indicated the option "rather no". Our findings show that the respondents are satisfied with their choice of the institute and the selected field of study. The participants study what they are really interested in, which is a positive finding (Table 3, Figure 3).

Table 3

Recommendation to study at Dubnica Institute of Technology in Dubnica nad Váhom to other applicants by the respondents

	N	%
a) Yes	63	32.31
b) Rather yes	91	46.67
c) I do not know	29	14.87
d) Rather no	12	6.15
e) No	0	0
Total	195	100

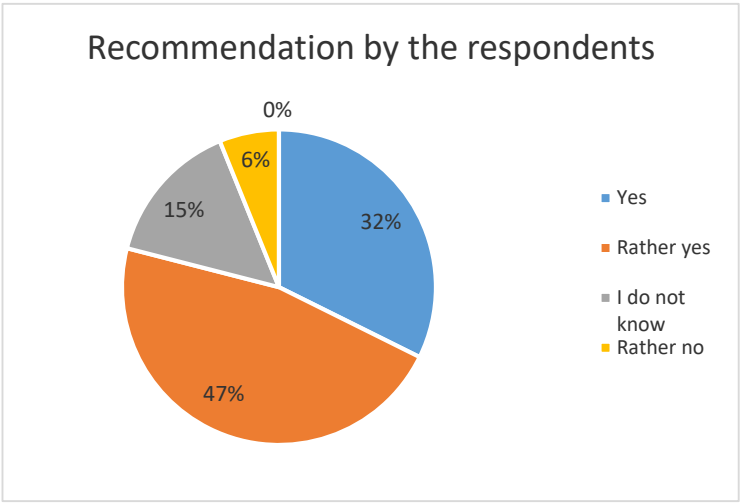

Figure 3. Recommendation to study at Dubnica Institute of Technology to other applicants by the respondents.

By means of one of the survey questions, we intended to find out what would the participants do to avoid burnout if working in the teaching profession. They most frequently responded that they would try to spend their leisure time actively, to relax and get energy for working in the sphere of education. Others

would, according to their responses, consider a change in their approach to their job, they would definitely live an active life. The respondents highlighted the importance of "changing the environment". They found "not taking work home" important, otherwise there would be no time left for their hobbies and "themselves". Some of them mentioned the importance of further education.

In this context, we would like to highlight the response given by one of the female participants who wrote, "It is important to search for the positives in what we do, to move further and to set new goals". According to some respondents, being a part of a good working collective characterised by mutual help and support is crucial. Many of the participants also highlighted the importance of approaching problems with ease. Some of them responded that they were not endangered by burnout as being "very active people".

Finally, we can state that the respondents have an idea how they would handle with or prevent the burnout syndrome. They know about the risks of being a teacher, despite it, most of them would like to work in the teaching profession. The respondents were motivated to study at Dubnica Institute of Technology in Dubnica nad Váhom mainly by the height of the school fee and the fact that it was close to their residence. They chose their field of study because they wanted to continue in their education and really wanted to become teachers. In most cases, they learned about the opportunity to study at Dubnica Institute of Technology from their friends and acquaintances. According to the participants, their studies at Dubnica Institute of Technology in Dubnica nad Váhom have fulfilled their expectations. They are "rather satisfied" with the quality of education at the institute. In the future, the participants intend to work in the studied profession but they would rather not be at the job position of a class teacher. If they had to decide, they would have chosen Dubnica Institute of Technology again and they would recommend this institute to other applicants, too.

It is generally known that the teaching profession is a demanding one. For a teacher, it is extremely important to be a mentally healthy personality. Both traditional and modern pedagogues have introduced various requirements on teachers' personality, e.g. Comenius required piety, virtue, didactic skills and a positive approach to their job. Pestalozzi emphasised the "educational substance". Herbart accentuated "scientific knowledge". Diesterweg required teachers' mastery of the subjects they teach and that they should love their job, be universally, but, above all, pedagogically and psychologically educated and emphasized permanent self-education. L. N. Tolstoy considered good teachers those who "are able to explain topics to their students", to discover new methods and love children as well as their profession. The Polish pedagogue J. W. Dawid called for intellectual and emotional relationship which he calls "love of human

souls". Besides that, Comenius called for teachers' wisdom, sanity and decency, according to him, teachers must love their profession and have to learn the art of teaching (Černotová, 1997).

As times have changed, the opinions and the requirements on good teachers have changed as well. We agree with the opinion of authors which named those teachers' basic predispositions that transform their teaching activity into a functional educational process. Many teachers are good, some of them are bad but we were interested in what the students, i.e. the objects of the educational process, understand under these attributes. Based on other realized research, according to older school-age children, a good teacher has a friendly approach to all students, is strict and is able to explain topics. Good teachers can be characterised by understanding their students, knowing how to mediate knowledge to them, by their willingness to give students advice, they are sincere, straightforward and honest. Good teachers treat all their students equally, have good relationships with them, do not keep too much distance, are able to attract students, are willing to help them and are happy to do so, but, above all, good teachers are good psychologists as not only do they teach but they educate. They are fair in assessment, are optimistic with a good sense of humour, are calm, have self-control and conscientiously fulfil their duties. Middle school-age children have described a bad teacher very similarly to the older school-age children. According to them, bad teachers are those which do not possess sufficient knowledge from the school subject they teach, are too strict, keep distance from their students and do not treat their students equally. Dytrtová and Krhutová (2009) mention that these teachers keep making fun of their students, are ironic, are scolding them, giving them nicknames, yelling at them for nothings, do not understand them, have bad relationship with them or are not strict enough. Those are the teachers which are not able to explain topics well, create a bad social climate, require memorizing, have negative personal qualities, are moody and do not conscientiously fulfil their duties.

It is the sum of teaching knowledge, skills, personality traits and behaviour that makes a teacher. They are the key elements leading towards the success of the educational process. Teachers' personal qualities depend on the application of their teaching knowledge and skills. Teachers' personalities have an impact on the character and the quality of their relationship with students, determine the classroom climate, the development of their knowledge and the whole personality. By their behaviour, teachers educate children and serve as role models to children which imitate them (Jakúbek & Tej, 2015).

4 Conclusions

Based on the analysed issues, we can state that there does not exist a single definition of a teacher including all the positive characteristics mentioned by every author. Each personality contains something from positive personality traits but no one will ever become an ideal teacher who is unmistakable or perfect. Teachers can make a step towards excellence only if they are interested in their own permanent development and have in mind that their profession is one of the most important ones and teachers are those which, after parents, help to create children's personalities most, who mediate information and knowledge. Unfortunately, this profession is not appreciated by the society enough.

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

Stress of Students and Social-Pathological Phenomena

Jana Hanuliaková – Lívia Hasajová – Dáša Porubčanová*

DOI: 10.1515/atd-2016-0023

Received: July 27, 2016; received in revised form: October 9, 2016;
accepted: October 11, 2016

Abstract: In the contribution, we focus on the social, emotional and behavioural factors of students' stress and their influence on the occurrence of social-pathological phenomena. We analyse the statements of teachers who mention the preferences of occurrence of single elements of students' stress. In the interpretation of data, we search for statistical significances of selected variables – stress and its influence on the occurrence of social-pathological phenomena in the educational reality.
Key words: factors of stress, school environment, social-pathological phenomena.

1 Introduction

Scientific research of stress in various environments and connections dates back to the end of 1950's. Primarily, stress became the subject of research of psychological sciences. Stress has penetrated all spheres of human life and, thus, its research acquired an interdisciplinary dimension. It became the object of scientific research of biological sciences, social sciences, pedagogical and neurodidactic sciences.

Research of the stress was done by Hart and Cooper (2005) and Sonnentag (2009), who focused on work stress; manager´s stress was described by Kentoš and Sláviková (2013) or Hrazdilová Bočková, Dohnanská, Hilčíková and Vaníčková (2016), Hrazdilová Bočková and Škoda (2015), Wilhelm, Dewhurst-Savellis and Parker (2000) or Kyriacou and Sutcliffe (1977) researched the stress

* Jana Hanuliaková, Dubnica Institute of Technology in Dubnica nad Váhom, Dubnica nad Váhom, Slovakia; hanuliakova@dti.sk
Lívia Hasajová, Dubnica Institute of Technology in Dubnica nad Váhom, Dubnica nad Váhom, Slovakia; hasajova@dti.sk
Dáša Porubčanová, Dubnica Institute of Technology in Dubnica nad Váhom, Dubnica nad Váhom, Slovakia; porubcanova@dti.sk

in the teaching profession and the stress of teachers as well as their strategies of coping with stress; Folkman and Lazarus (1980) concentrated on coping oriented on problems and coping oriented on emotions; Tobin, Holroyd, Reynolds and Kigal (1989) or Tobin and Griffing (1995) have created a hierarchic model of coping strategies; Balážová and Zahatňanská (2007) dealt with the perception of stress situation by university students in Slovakia; Mederiová (2001) aimed at secondary school students. Research undertaken in this sphere was analysed by Kyriacou. He states that, "American psychologists focused their attention on seeking the answer for what the main reasons of school stress are" (Kyriacou, 2005, p. 90).

Two most common phenomena were resonating in the results of several studies. Stress from fear (examining and tests) and stress from change (beginning of school attendance, starting or changing school, other school grade). In his research, Denscombe (2000) concentrated on the diagnosticd of the factors of stress of adolescents at the age of 15-16. On the sample of 1648 students, he found out that adolescents are mostly threatened by psychical stress that was most commonly associated with examining, testing during classes, or passing final examinations. Consequently, experts world-wide started to be interested in this issue. Melgosa (1998) observed anxiety of students related to written tasks in relation to the cognitive elements of stress. Kyriacou (2005) selected the relation between failure in written exams and the occurrence of students' self-confidence as the objective of his studies.

Murberg (as cited in Kyriacou, 2005), based on his extensive study, grouped the sources of stress into four areas:

- pressure on achieving good school results,
- overload of schoolwork,
- problems with parents or teachers in connection with school,
- problems with children of the same age, with inclusion in social groups.

He declared that the fields defined by him are closely linked to psychosomatic symptoms (headache, pain of the spine, etc.).

The sources of school stress were similarly classified by Kim (2003). According to his findings, sources of stress are the following:

- fear of exigent work,
- students' fear of the future,
- concerns related to future education,
- study stress, problems with a particular subject.

Kyriacou and Moutantzi (2003) decided to study everyday stress present in the common activities in the class and they gathered information on what students link everyday stress to:

- teachers' rebuke of undisciplined students,
- teachers' feedback on students' work with many errors,
- students' inability to answer the teacher's questions.

Analysis and research of stress require a theoretical grip. Nakonečný understands stress "on one hand as a certain external, mostly threatening situation. On the other hand, as the internal psycho-physiological consequence of this situation" (Nakonečný, 1998, p. 68). Vinay perceives stress as "events that usually cause reaction in the form of distress (bad stress), but sometimes also as a tense situation that leads to positive emotions. The expression is used in the sense of causing events (stressors), but also in the sense of the answers to these events (stress reactions)" (Vinay, 2007, p. 32). Janiš indicates as stress "such a change in the organism that in certain state of threat may cause a high pressure level, can disrupt the routine scheme of everyday actions, weaken mental productivity and cause subjective unpleasant states of affective exhaustion" (Janiš, 2008, p.18).

While under the expression "stress" we understand internally difficult, heavy situations; those incentives, conditions or circumstances that have an effect on individuals and bring them to unfavourable situations are known as "stressors" (Křivohlavý, 1994). Cungi states that „stressors are situations to which individuals are exposed and in order to face them, have to adapt to them" (Cungi, 2001, p. 20). Rule and Nesdale divide stressors into "those primary, i.e. those that affect the organism directly, and those secondary that bring obstacles during an activity" (Nesdale, 1974, p. 68). For example, we can also divide stress into physical and emotional stress. Also, social stressors or individuals' health have an important role. These stressors influence each other also jointly. The influence of stress on an individual is not necessarily of a negative character. According to its effect on a person, we divide it into (as it is cited in Vinay, 2007):

- distress – stress with a negative effect,
- eustress – stress with a positive effect.

When students are not able to manage situations anymore, when they feel overloaded, they lose certitude and a detached view, they are in distress. The negative stress of students may be caused by the break-up of the family, feeling lonely, negative thoughts and visions, pain, disease, time deficit, low self-realization, lack of prerequisites to manage their studies, etc.

Eustress is linked to overcoming obstacles, with positive and pleasant expectations. It shows up in situations which we have under control.

According to Ďurdiak (2001), distress and eustress have similar physical manifestations. From the point of view of health, the level of stress and frequency in which it shows up are important. It becomes harmful when a certain individual limit is crossed and it also depends on the fact how strong the stress experienced by man is and how often it appears.

Kuric (1992) considers as the most important stress factors of students:

- preparation for a profession and the selection of a profession,
- accepting changes of body construction,
- acquiring addictions,
- love, sexuality and preparation for marriage, family life,
- problems with forming their own personality,
- taking the right attitude,
- problems in social relationships,
- other serious problems (traumas or other significant and unfavourable events).

For this period, Melgosa (1998) indicates the following possible stress factors:

- continuing with education,
- leaving parents' house,
- intimate relationships with the opposite sex,
- conclusion of the marriage,
- planning of the family,
- birth of children,
- professional growth,
- unemployment.

The study by Gabrhelová, Hilčíková and Dohnanská (2015) dealing with stress analysis in the process of university quality management or the paper by Tamášová and Barnová (2011) aimed at school climate as the determinant of the relationship between the level of students' resilience and school satisfaction bring very interesting results.

In light of the mentioned facts, in the empirical part, we focus on research of stress in school conditions.

When assessing stress and stress factors at school, it is necessary to investigate, to diagnose, to analyse, to evaluate and to propose possible solutions of

elimination. Classification of starters of stress is evaluated by teachers and students in a different way.

In the research, we aimed at two dimensions under evaluation of stress by teachers. We focus our attention on the investigation of sources of stress of high school students (starters, stressors) through statements of teachers, and we indicate the results of an experimental research made in conditions of high schools.

2 Methodological investigation of the issue in question

We have differentiated investigation of stress and pathological phenomena into three fields:

- within the first part, we were investigating and making diagnostics of high school students' stress factors and determinants,
- in the second part, we made a long-term experimental research in the selected field of research,
- with the intention of recommendations for pedagogical practice, we have focused on programs of elimination of stress from the point of view of teachers' support of students when dealing with social-emotional symptoms.

The objective of the research was to identify and classify the stressors, stress situations that are involved in formation of social-pathological phenomena in high schools. Within the framework of the experimental group, we have eliminated stress factors and we have consequently evaluated the occurrence of social-pathological phenomena.

The main methods of realisation of the empirical investigation were a questionnaire of own construction, the method of experiment and the following statistical methods: F-test for equality of variances, two-sample t-test with unequal variance, nonparametric Wilcoxon signed-rank test (Mann-Whitney U-test), and descriptive statistics.

3 Results

We intended to find out about stressors and starters of students' stress at high schools through the questionnaire method with open items. In their statements, teachers addressed the stated examples and situations, evaluated by them as stressful for students.

We have processed framework groups based on the number of their occurrence.

As the most frequent source of stress, examining and testing of knowledge of students are considered. The way teachers assess knowledge and the teachers' skills are evaluated as stressful. A significant number of teachers stated that students were stressed by oral testing, performing in front of the whole group of students and by project presentation.

Achieving positive results of the educational activity of teachers and learning of students is the primary objective of high school students. Aspects that put students under stress while achieving it are represented by bad grades, overloading through the quantity of assigned tasks, the quantity of written exams, fear from not managed schoolwork or school subjects. Teachers and their methodical-didactical approach are an important factor of education.

For high school students, teachers represent the starter of stress mainly through the placed demands, excessive authority, selective behaviour under which they do not treat students equally. Teachers influence students by a broad-scale of activities (motivation manner, quality of pedagogical communication, level of interactions, form and manner of mediation of housework, possibility of knowledge testing, evaluation manner, approach to students, respecting the principles, etc.).

In the context of stress experienced in school conditions, we have to make an appeal to the fact that in many cases it can develop into social-pathological phenomena and improper manifestation of behaviour. High school students most frequently experience bullying, aggressive behaviour, alcohol, smoking, drugs and the contemporary phenomenon of cyber-bullying.

Also, aggressive classmates are mentioned as a significant stress element for students. The occurrence of stress in school conditions often leads students to thefts as well as to truancy. An important part of the quality of students' life at school is positive experiencing of interactions in the class on the teacher-student, student-student and student-group levels. Students' social competences must be appreciated in every activity within the educational framework as well as during the events organised by school. For high school students, their inability to become integrated in a social group is perceived as the most stressful. Ridiculing and derision from the classmates is perceived by students very sensitively as a significantly stressful factor.

Teachers also consider stressful factors the following: bad group, superior classmates, students' complexes, performance in front of the class, no friends. From the point of view of students' personalities, stressors are failure, disinterest in studies, schoolwork and weak social family environment.

4 Discussion

An analysis and investigation of the occurrence of stress situations and the starters of students' stress in the conditions of schools require to process the possible proposals on the elimination of stress factors that negatively influence the performance of students, their success, as well as the educational demonstrations of behaviour. Being able to make diagnostics, describe and verbalize what is stressful for students requires the adoption of skills that will help students to achieve that.

In psychological literature, dealing with stress is named coping (Křivohlavý, 2001). Under this expression, we understand intra-psychic, but also intentional effort to manage, tolerate, and reduce internal and external prerequisites placed on individuals. Those prerequisites are particularly high, they put people under stress and burden considerably or they exceed the resources that they have at their disposal (Křivohlavý, 1994).

There are more classifications and categorizations of coping behaviour or coping strategies. There is a vast amount of literature on the similarities and differences of women and men experiencing (close) relationships and using different strategies of coping with daily stress and significant life events. Western psychology expects women to be generally more anxious and men to be more avoidant while solving close-relationship conflicts and experiences in long term relationships. Rozvadský Gugová and Heretik (2011) used the Experiences in Close Relationships-Revised (ECR-R) questionnaire that is based on the Attachment-style theory that suppose four distinct attachment styles – secure, anxious/ambivalent, disoriented/disorganized and avoidant. Based on more classifications of coping strategies and their orientation, this division is currently steady according to Stuchlíková (2005):

- orientation on problem solving,
- orientation on dealing with emotions,
- escape reactions – escape, avoiding written exams, taking calming substances, negation of incurred situations, etc. Compared to the two previous reactions, this type of a reaction is only rarely adaptive.

Among these coping strategies, we put also religion, mental tension, acceptance, searching of instrumental, social or emotional support, behavioural tension, humour, use of alcohol and drugs, planning of problem solving, active coping, coping by suppressing, taking attention away, retreat, self-criticism, confrontational way of coping with stress, accusing the others, searching for the positive sides of an event, taking personal responsibility for solving a situation, self-control, an attempt to avoid stress situations and to escape, resignation,

monitoring (tendency to search for information on threats), etc. Thus, coping strategies represent certain ways of behaviour in various load situations. Several authors dedicated their work to investigation of resources for stress reduction in the context of different variables (sex, personality, sense of life, etc.). Resources for stress reduction are addictive, trans-situational, relatively consistent patterns of coping on behavioural, cognitive or experience level, used by individual when meeting internal or external stressors (Ruiselová, 2006).

According to Gerbová (2011), the repertoire of ways of proper stress elimination includes:

- effective time management,
- social support,
- correct dietary habits,
- relaxation (yoga, Macháček's relaxing-activating method, Schultz's autogenic training, Jacobson's progressive relaxation, meditation, biofeedback, massages, fast relaxation techniques),
- art therapy, music therapy, dance and movement therapy,
- breathing exercises,
- positive thoughts, etc.

4.1 Teachers in the process of stress elimination in the educational environment
The ability of self-knowledge, self-control in interaction of relationships and environment represents a lifelong journey of personality development. Family is the source where we acquire the first skills in order to form our own identity. The school continues in this influence. As well as we cannot ensure "perfect" conditions for the social-emotional development of all the parents and families, also teachers have different levels of social-emotional competences. Since schools are professional institution, in the last years, many programmes and trainings for teachers focusing on the development of students' social competences have been prepared.

Stress is a part of the life of individuals (teachers and students) in the school environment. We think that the development of students in the area of soft-skills is a form of natural prevention for dealing with situations causing students' stress. In order to strengthen students' soft-skills, it is necessary to support and to dedicate attention to intervention by teachers.

5 Conclusions

The submitted paper presents a theoretical analysis of stress, stressors of high school students and the consequent empirical investigation. The objective was to analyse the most frequent reasons or starters of high school students' stress from

the point of view of teachers. By comparing statements of teachers, we have processed the sequence of most frequently mentioned stressors of students. We have focused on searching for the mutual dependence of stress and social-pathological phenomena and the verification of the stated hypothesis. Diagnostics and evaluation of students' stress require the application of teachers' competences in a multispectral influence. After diagnostics and the consequent evaluation, the pedagogical reality requires teachers to work with students in order to eliminate and manage students' potential and real stress. There are more possibilities, programs, through which it is possible to work with difficult situations (stress).

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Acta Technologica Dubnicae
volume 6, 2016, issue 3

INFORMATION

A Personality of Andragogical Science: Dr. h. c. prof. PhDr. PaedDr. Ján Perhács, CSc.

Ctibor Határ*

DOI: 10.1515/atd-2016-0024

Received: October 26, 2016; accepted: November 2, 2016

The current science dealing with the education of adults belongs to fully established human sciences. Until the year 1989, it was intensively being developed in our territory under the name of "Pedagogy of Adults" and since the year 1990, it has been called "Andragogy". Such a development is possible only thanks to many outstanding professionals. One of them is, indisputably, professor Ján Perhács who is now celebrating a very significant life anniversary of being 80 years old.

* Ctibor Határ, Constantine the Philosopher University in Nitra, Faculty of Education, Slovakia; chatar@ukf.sk

Professor Ján Perhács graduated in the subject fields of Hungarian Language, Slovak Language and Pedagogy (1961). He passed his rigorous exams at the Faculty of Arts of Comenius University in Bratislava and at the University of Lóránd Eötvös in Budapest (1971 and 1978). In 1978, he earned his Candidate of Science degree in the subject field of pedagogy at the Hungarian Academy of Sciences in Budapest. He was awarded a Professor of Pedagogy in 1996 and, in the year 2005, the University of Pécs awarded him the degree of doctor honoris causa. Since the year 2009, professor Ján Perhács has been a honorable member of the committee of the Pedagogical and Andragogical Science of the Hungarian Academy of Sciences and since the year 2010, he has been a honorable member of the Czech Andragogical Society. At the same time, the professor is a holder of several national awards.

Professor Ján Perhács is one of those academic teachers who created their academic careers in connection with their practical experience of educational work at primary and secondary school (1955 – 1962). In the years 1962 – 1973 he already worked as an Assistant Professor and the Head of the Department at the then-called Pedagogical Institute in Nitra. From 1973 to 1975, he was a group leader at the Institute for Further Education of Teachers of the Comenius University in Bratislava. In 1975, he signed a contract with the Faculty of Arts of Comenius University in Bratislava where he worked as an Assistant Professor and later as an Associate Professor and Professor until the year 2002. In 2003, the professor returned to the present Department of Pedagogy at the Faculty of Education of the University of Constantine the Philosopher in Nitra where he worked until the year 2013.

His contribution to the development of the scientific and study subject field connected with the education of adults in the former Czechoslovakia and later also in independent Slovakia has been not only in the human area but mainly in the specialized-professional level. Besides his work on the scientific research projects of the Scientific Grant Agency which were approved to the individual departments thanks to him (I will mention his last solved projects VEGA SAV – MŠ SR č. 1/2644/05: Theoretical Basics of Developing the Andragogical Pedeutology and Social Andragogy in Conditions of Social Practice of Education of Adults and VEGA SAV – MŠ SR č. 1/0244/08: Innovations of Professional Competences of Teachers and Social Andragogues), he was present at the foundation of the Andragogical Scientific School in Bratislava and also in Nitra. Professor Ján Perhács supervised 16 postgraduate students and he held the function of the chairman of the Corporate Specialization Committee for the postgraduate study field of Andragogy which resided at the Faculty of Arts of Comenius University in Bratislava by 2010. Professor Ján Perhács was also one of the founders of the Czechoslovak scientific periodical Andragogical Revue (Prague).

Within his scientific research and pedagogical activity, professor Ján Perhács has mainly dealt with the theory of education of adults, rhetoric communication and social andragogy, the theoretical-methodological principles of which were set by him in the year 1990. He is the (co-)author of many book publications (scientific monographies, textbooks, an encyclopedia and a dictionary) and scientific studies published in local and foreign journals as well as proceeding books. At the same time, he is the editor of several scientific proceeding books. Until now, the professor's work has been abundantly quoted.

For many years, professor Ján Perhács cooperated very effectively and intensively with several local institutions in the area of education of adults, as well as with universities and foreign institutions.

In the personality of professor Ján Perhács, the educational science has found an excellent professional. The Slovak school system considers him to be a very qualified and responsible teacher, and for the wide laic and professional community he represents a very valuable friend and colleague. I wish you so that your scientific work finds its place also in the work of the current contemporaries of the andragogical science and so that your "human" heritage is present in the life of further generations of scientists, teachers and andragogues.

Acknowledgement:
The author of the presented profile, which has been elaborated on the basis of the below mentioned sources and personal memories of the author, would like to express his sincere gratitude to the professor's wife Ms. Valéria Perhácsová for checking the personal and professional biography and for providing the photograph of Dr. h. c. prof. PhDr. PaedDr. Ján Perhács, CSc., which is a part of this profile.

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Vedecko-pedagogická charakteristika pracovníka Dr. h. c. prof. PhDr. PaedDr. Jána Perhácsa, CSc. z 23.02.2010.

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Key words:	3-5 words that describe key aspects

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Periodicity: Three issues per year
Publisher: Dubnický technologický inštitút v Dubnici nad Váhom, Ul. Sládkovičova 533/20, 018 41 Dubnica nad Váhom, Slovakia
Place of Publication: Dubnica nad Váhom, Slovakia
IČO: 36342645
Date of Issue: December 20, 2016
Journal Website:
http://www.degruyter.com/view/j/atd
http://www.dupres-group.com/index.php?id=1&company=5&action=show_page&id_menu_item=218
http://www.neoweb.sk/ATD.rar
ISSN 1338-3965 (print)
ISSN 1339-4363 (online)
EV 4309/11