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Integration of Theoretical and Practical Undergraduate Training in the Processes of Developing Student Teachers' Professional Competences

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Abstract

The text presents partial results of research on theory and practice integration in future teachers' undergraduate training. The aim was to find out respondents' opinions on the level of theoretical and practical training integration in the processes of developing specific professional competences during study. Research tools consisted of a self-designed questionnaire and interviews (only partial questionnaire outputs are included because of limited content of study). The research sample was composed of 171 students of a master's degree in teaching at three MBU¹ teacher training faculties. The obtained data were processed by tools of descriptive and multi-dimensional statistics. Results indicate great discontent of the respondents with the low level of connection between theoretical and practical training in the processes of developing special professional competences during study and provide starting points for necessary system changes in the theoretical and professional practical training of future teachers.

Keywords: *professional competences and activities, future teacher, theoretical and practical training integration*

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Introduction

The level of theoretical and practical training integration during future teachers' study at Slovak higher education institutions is criticized in most of the post-communist countries (Koršňáková & Kováčová, 2010; OECD, 2014; Šimoník, 2008; Bendl et al., 2011; Spilková & Tomková, 2010; Rovňanová, 2014, 2015; Kosová & Tomengová, 2015). In various countries it varies by education types and stages (ETS, 2003). It is typical of the developed OECD countries that the extent of student teachers' teaching practice builds up already from the beginning of study. Its portion of teacher training for secondary education is much higher than in Slovakia. In some cases (Sweden, the Netherlands, Denmark, Iceland, Norway, etc.) it is more than 30–40 % of the time of study. There are institutions of higher education in Canada, Belgium, the Netherlands or Finland with 700–780 hours of direct practice over the duration of study. Students at MBU teacher training faculties, studying a combination of two subjects by new accreditation (2014), have practice only in the master's degree study, with the extent of 216 hours (approx. 102 hours before).

For the sake of comparison, the Finnish functional model of theoretical and practical training integration is characterized below. Finland is an example of a successfully developed school system, for a long time obtaining good results at the international level (TALIS; PISA, PIRLS, TIMSS). It is not governed by EU legislation, but accepts some recommendations. The system of teacher training is based on a sophisticated model of partnership between universities and their training schools in the area of education and educational research. Finnish teacher training universities (8) have 12 university training schools in their administration, as well as other regional partner training schools with carefully chosen teacher trainers. According to Sahlberg (2015), Průcha & Kansanen (2015), Niemi, Toom & Kallioniemi (2012), Simola (2014), there are three basic principles accentuated in Finnish teacher education: knowledge of the major subject; good theoretical knowledge of educational-psychological sciences, theory of teaching, curriculum and metacognition; building up students' teaching practice directly at school (basic, advanced and final practice). They are aimed at gradual individual development of professional competences in the reflective model of teaching under the supervision of a mentor at practice at training school. Teacher training has the character of research-based teacher education, where the aim is not to educate researchers, but teachers able to understand research. In Finland, a mutual agreement has been reached between academics and in-service teachers that teachers need a deep knowledge of the latest progress in research on subjects taught. They

must take up a research-oriented attitude to their work, which means that they are expected to reflect critically on their own activity and deduce conclusions in the context of various sources. Teacher training must itself be the subject of research (Sahlberg, 2015). As students, Finnish future teachers practice at training schools while also participating in some research. This results in the development of competences requiring a certain way of metacognition (Kansanen, 2006). In this way, students learn argumentation about their teaching (the teacher's understanding of teaching) on the basis of the knowledge gained from research findings, which they apply. The teaching profession is highly respected in Finland, has a high social status, teachers have high autonomy and responsibility. Its attractiveness raises also foreign experts' attention (Everton, Turner, Hargreaves & Pell, 2007). It is one of the most desirable in the first choice of Finnish secondary school leavers (Průcha & Kansanen, 2015). The admission procedure is very complex and only the most able applicants succeed. A similar situation is in Singapore and South Korea. The rate of those remaining in the profession from taking up employment until retirement is higher than in other OECD countries and teachers are well paid. In the international survey TALIS 2013, the question whether teachers are valued in society was answered positively by 59% of Finnish teachers, but only 4% of Slovak ones. Only less than a third of the participating countries (31%) believed that teachers' work is valued in society (OECD, 2014).

Slovakia belongs to countries with the lowest portion of practical training in teacher education (Kosová, 2012). The teaching profession is the second choice for most applicants (Rovnaňová, 2013a), applicants are admitted to most teacher training programmes without examinations, and salaries of Slovak teachers are the worst among the compared OECD countries (OECD, 2014). The lack of practical training in the development of specific professional competences is evaluated critically, as well as too academic theoretical training without required connection to practice. In the 1990s, the development in post-communist countries brought a fall in the extent, importance and continuity of teaching practice types. At present, teaching practice mostly does not reach the state typical of the period of socialism and today's teacher training at 34 teacher training faculties has reserves in its internal content and process (Černotová, 2006; Petrová & Duchovičová, 2013; Kosová & Tomengová et al., 2015). In this context, criticism of the didactic-practical training is justified. Despite the unfavourable development in this area, there are excellent workplaces (faculties or departments) successful in systemizing practical training in teacher education in compliance with the competence and reflective model in all practice types. They have built a stable network of training schools with teacher trainers and provide them with professional training (e.g., at University of Prešov).

On the basis of the above-mentioned, one of the research problems of modern pedeutology is the discrepancy – imbalance of theoretical and practical training in teacher education. Research findings in this area confirm that beginning teachers in our conditions are not sufficiently prepared for performance of the teaching profession (Rovňanová, 2013b; 2014, 2015; Sámelová, 2014) and their abilities to use theoretical knowledge to improve practical educational activities are at a low level. For some they are not prepared at all, or they are prepared only in theory, without connection to the needs of educational reality.

The objective of our research within MBU teacher training faculties (complex results for eight compared faculties have not been published yet) was to identify connections influencing the level of theoretical and practical training integration during study. The following was explored (research questions): *what is the level of importance attributed by respondents to the theoretical and practical training integration; how satisfied are they with its current state; and how do respondents of three MBU teacher training faculties evaluate the level of developing specific professional activities in the context of theoretical and practical training integration during study?*

Research Methodology

The research sample was composed of 171 respondents – student teachers in the first and second years of a master's degree study at three MBU teacher training faculties: Faculty of Education (n = 58; 14 men, 44 women), Faculty of Arts (n = 57; 14 men, 43 women), and Faculty of Natural Sciences (n = 56; 10 men, 46 woman), of 23.5 years of age on average and 7.2 months of practice (preceding the study course or as its part). The portion of men was 22.2% and women 77.8%. In terms of methodology, it was an intentional convenience sample. The sample was not representative. Therefore, the obtained results cannot be generalized to population, which is taken into consideration in the data analysis and interpretation. Research tools consisted of a self-designed questionnaire and interviews (with a separate output pending). When designing the questionnaire, the following were taken into account: results of a pilot study (N = 45) and three viewpoints (requirement of triangulation): theoretical (existing research tools), praxeological (professional erudition and experience of co-operating administrators) and legislative one. The legislative viewpoint was based on the draft professional standard for beginning teachers (Šnídlová, 2014; Rovňanová, 2015), from which 28 particular specific professional activities were chosen for the main questionnaire item. Within it, the respondents evaluated the level of educational activity development. For

the quantitative analyses of data, mean values were used – the mean, median, mode, standard deviation; the Kruskal-Wallis H test and Spearman's correlations (IBM SPSS Statistics 19). The controlled variable was the faculty attended by the respondent. Due to the research sample structure, the chosen level of statistic significance was $\alpha = 0.05$ ($p \leq 0.05$).

Research Results

When assessing the importance of theoretical and practical training integration, it is considered to be extremely important by up to 86.9% of the respondents; and 83.6% of the respondents are dissatisfied with the current state. The most important findings are those relating to the evaluation of the level of developing selected specific professional activities during study on the scale: 1 – not developed, 2 – developed only theoretically, 3 – developed partially theoretically-practically, 4 – developed at a reasonable level of theory–practice connection and 5 – developed at a very high level of theory–practice connection. Results with descriptive statistics per faculties are shown in Tables 1, 2 and 3. They contain the first 10 activities reported as undeveloped or developed only theoretically, arranged in sequential order by low mean values and low values of modes (1 and 2) and medians (1 and 2). There are 11 activities in total in all groups, 9 of them repeated in each group.

Table 1. Faculty of Education – descriptive statistics

Order	Eda	Mean rank	Mean	St.dev.	Median	Mode	N mode	Min	Max
1	2	193.14	1.414	0.702	1	1	41	1	3
2	3	194.14	1.569	0.704	1	1	32	1	3
3	26	175.40	1.569	1.141	1	1	42	1	5
4	8	186.52	1.741	0.890	1	1	30	1	4
5	13	186.25	1.759	0.997	1	1	30	1	5
6	17	188.78	1.759	0.802	2	2	27	1	4
7	4	175.43	1.776	0.773	2	2	30	1	4
8	11	195.33	1.966	1.123	2	1	24	1	5
9	16	170.34	2.034	0.772	2	2	30	1	4
10	27	206.34	2.121	1.215	2	1	23	1	5

Legend: Eda – educational activity, 2 – work with pupils from MRC (marginalized Roma communities) and SDE (socially disadvantaged environment), 3 – work with pupils with SEN (special educational needs), 4 – work with underachievers, 8 – carry out action research in the classroom, 11 – conduct meetings with parents, – keep pedagogical documentation, 16 – solve problems with discipline, 17 – implement prevention and improvement of socio-pathological behaviour, 26 – undertake supervision of pupils, 27 – plan one's professional growth

Table 2. Faculty of Arts – descriptive statistics

Order	Eda	Mean rank	Mean	St.dev.	Median	Mode	N mode	Min	Max
1	2	222.11	1.561	0.708	1	1	31	1	4
2	3	197.41	1.561	0.598	2	1	28	1	3
3	8	214.35	1.965	1.017	2	1	23	1	5
4	26	245.66	1.982	1.009	2	2	26	1	5
5	17	233.84	2.053	0.875	2	2	23	1	4
6	4	245.41	2.211	0.773	2	2	27	1	4
7	13	233.47	2.228	1.296	2	1	25	1	5
8	27	225.21	2.228	1.053	2	2	23	1	5
9	16	208.49	2.333	0.970	2	2	25	1	4
10	11	253.19	2.386	1.065	3	3	23	1	4

Legend: Eda – educational activity, 2 – work with pupils from MRC (marginalized Roma communities) and SDE (socially disadvantageous environment), 3 – work with pupils with SEN (special educational needs), 4 – work with underachievers, 8 – carry out action research in the classroom, 11 – conduct meetings with parents, 13 – keep pedagogical documentation, 16 – solve problems with discipline, 17 – implement prevention and improvement of socio-pathological behaviour, 26 – undertake supervision of pupils, 27 – plan one's professional growth

Table 3. Faculty of Natural Sciences – descriptive statistics

Order	Eda	Mean rank	Mean	St.dev.	Median	Mode	N mode	Min	Max
1	2	171.06	1.268	0.556	1	1	44	1	3
2	3	185.63	1.571	0.871	1	1	36	1	4
3	11	158.86	1.643	0.943	1	1	35	1	4
4	13	179.97	1.679	0.855	1	1	29	1	4
5	26	195.98	1.679	1.046	1	1	35	1	4
6	8	185.76	1.732	0.798	2	2	26	1	4
7	17	206.33	1.839	0.733	2	2	25	1	3
8	27	172.49	1.857	1.227	1	1	32	1	5
9	4	225.76	2.107	0.846	2	2	28	1	4
10	21	166.25	2.196	0.699	2	2	36	1	4

Legend: Eda – educational activity, 2 – work with pupils from MRC (marginalized Roma communities) and SDE (socially disadvantageous environment), 3 – work with pupils with SEN (special educational needs), 4 – work with underachievers, 8 – carry out action research in the classroom, 11 – conduct meetings with parents, 13 – keep pedagogical documentation, 16 – solve problems with discipline, 17 – implement prevention and improvement of socio-pathological behaviour, 26 – undertake supervision of pupils, 27 – plan one's career

The respondents have the most difficulties and educational needs in all nine activities (listed below) occurring in the ranking of compared faculties. The Kruskal – Wallis H test was used to determine the statistical significance of differences found in the level of values in individual groups. All activities had the value

of $p \leq 0.05$. It means that the respondents of the compared faculties differ in their assessment of all activities significantly at the chosen level of significance.

It was also examined if there was a correlation between the level of theory–practice connection and the difficulty to perform the activities, by calculation of Spearman's correlations. First, the presence of the correlation ($p \leq 0.05$) and subsequently its strength (size), by the correlation coefficient value (r_s) the values of which can fluctuate within the interval of $<-1, 1>$. Positive values indicate a direct correlation. This was confirmed in 20 activities of various strengths: the lower the theory–practice connection in training, the more difficulties in performance of the given activity. The strongest correlations are marked in brackets at the specific activities: working with pupils from MRC and SDE ($r_s = 0.145$), working with pupils with SEN ($r_s = 0.222$), undertaking supervision, carrying out action research in the classroom, keeping pedagogical documentation, implementing prevention of socio-pathological behaviour ($r_s = 0.338$), working with underachievers ($r_s = 0.183$), conducting meetings with parents and communicating with them, and planning one's professional growth, also, classroom management at FE and FA of MBU, and modelling and dealing with educational situations at FNS of MBU.

Discussion

The theoretical and practical training connection during study is the fundamental prerequisite of the development of future teachers' professional competences. In teacher education, a well-tuned system of practice types is considered a source for development of the educational-psychological theory, an inspiration for the theory and a means of feedback on the theory functioning.

Our respondents were assumed to attribute a high importance to effective integration of theoretical and practical training because it facilitates the start to the teaching profession. Evaluation of the importance of theoretical and practical training integration shows that up to 86.9% of the respondents consider it to be of utmost importance and 83.6% are dissatisfied with the current state. They lack more hours of training and they consider the structured study of teaching as a serious obstacle for systematization of various practice types during the entire length of study. The result of statistical significance testing of differences in the respondents' opinions by faculties indicates their existence at a high level of statistical significance ($p = 0.000 \leq 0.05$).

Our findings are consistent with the findings of Šimoník (2008), who conducted a survey among teachers at Czech elementary schools on the level of future

teachers' training at Czech faculties of education ($N = 5350$), already in 1998. He found out that up to 53.7% of his respondents considered undergraduate training insufficiently linked to practice, out of whom even 63.4% of younger teachers with teaching experience of less than 10 years. They reported little practice (62.2%) and little attention given to didactics (87.8%), mainly in the area of developing specific professional activities, as the biggest shortcomings. In Slovakia as well as in the Czech Republic the fact is undervalued that the core of the teaching profession is psycho-didactic. Proposals for improvement aimed at the area of teaching practice types and their inclusion in teacher training already in the first year of a bachelor's degree study, their increased number, increased length of individual practice types, adoption of new practice types, more rigorous selection of teacher trainers and their pay rise. The situation is similar also today, especially in Slovakia, in addition complicated by structured teacher training not giving enough room to systematic elaboration of practice types with a high level of theoretical and practical training integration.

In the area of developing specific professional activities, the assumption was repeatedly confirmed, in accordance with results of international measurements OECD TALIS 2008 and 2013 and also our findings that some very important professional activities are not given sufficient attention in undergraduate teacher training. None of the presented activities was evaluated by our respondents by the option *development at a high level of theory – practice integration*. Negative evaluation prevails in 25 activities (89.3%). In their assessment of all activities, the respondents of the compared faculties differ statistically significantly at the chosen significance level (all values of $p \leq 0.05$). At the same time, a direct correlation was confirmed in almost all activities: difficulties in the respondents' performance increase with insufficient theory–practice connection. In addition, most activities correlate positively also with each other (values of Spearman's correlation coefficients r_s). Those activities were reported by the respondents also as the most demanding in terms of performance, and declared needs for education.

According to the international survey TALIS 2013 (OECD, 2014), young beginning (not only) Slovak teachers are interested the most in education in the area of teaching pupils with special educational needs (66%; TALIS 2013, average 20%), acquisition of ICT skills (60%; TALIS 2013, average 19%), pupil discipline (57%), pupil assessment (46%) and classroom management (42%). Schleicher (2011) gives the ranking of professional activities where teachers feel a high level of need for development: teaching pupils with special educational needs, ICT teaching skills, pupil discipline and behavioural problems, instructional practices, subject didactics, pupil counselling, content and performance standards, practice

in facilities and schools, teaching in a multicultural setting (in our country, also work with pupils from MRC and SDE, not only foreigners, there are not as many of them here as in other European countries), classroom management, and school management and administration. The given data strongly correlate with the teachers' shortcomings in their previous professional didactic-practical training similarly as in our country.

Conclusions

The comparison of various research findings with our findings has led us to the conclusion that it is not decisive how many graduates complete teacher training annually. It is much more important whether and how well they are prepared for actual performance of the teaching profession in the practice of educational reality, whether they are sufficiently prepared to overcome related obstacles to gradually become good (effective) teachers. We do not see correction of shortcomings in practical training only in the area of teaching practice types. In our opinion, it is important to improve the effectiveness of the system of integrated theoretical and practical teacher training so that theory is intertwined with practical activities. Students' gradually growing teaching experience should be followed up by its theoretical reflection. We consider teaching practice in teacher training to be a source for the development of the educational-psychological theory, an inspiration for the theory and a means of feedback on the theory functioning. At present our results in comparison with others show that if practical training should be of a university character, it definitely needs a system change. On the basis of the above starting points, analyses, comparisons and research findings by various authors some recommendations can be formulated that would lead to overall improvement of future teachers' professional practical training: adopt a minimum framework professional standard for teachers as a starting point curriculum for teacher training; strengthen practical training by increased time (to at least 20% of the overall study time) for individual practice types and optimize their model into the full length of study (these two recommendations should be implemented also in descriptions of teacher training programmes and taken into consideration in the accreditation process) and provide financing for all teaching practice types.

In conclusion: we are aware that a well-thought organization of undergraduate and subsequent post-graduate teacher training will not provide a perfect teacher at its output. The final form and quality gets fine tuned gradually in the process of a teacher graduate's transformation into a teacher only in the actual practice of

educational reality at the chosen school type and stage. This process is influenced also by such factors as the health condition, physical condition, intelligence, motivation for the teaching profession, personality characteristics and specific working conditions.

References

- Bendl, S. et al/ (2011). *Klinická škola: místo pro výzkum a praktickou přípravu budoucích učitelů. Výzkumný záměr Učitelská profese v měnících se požadavcích na vzdělávání*. Praha: PF UK.
- Černotová, M. (2006). Pedagogická prax – nutnosť transformácie. In *Pedagogická prax – súčasnosť a perspektívy*. (13–18). Nitra: UKF.
- Everton, T., Turner, P., Hargreaves, L. & Pell, T. (2007). Public perceptions of the teaching profession. *Research Papers in Education*, 22, (3), 247–265.
- Kansanen, P. (2006). Constructing a research-based program in teacher education. In Oser, F.K., Achtenhagen, F. & Renold, U. (eds.), *Competence oriented teacher training. Old research demands and new pathways* (11–22). Rotterdam & Taipei: Sense Publishers.
- Koršňáková, P. & Kováčová, J. (Eds.). (2010). *Prax učiteľov slovenských škôl na nižšom sekundárnom stupni z pohľadu medzinárodného výskumu OECD TALIS 2008*. Bratislava: NÚCMV.
- Kosová, B. et al. (2012). *Vysokoškolské vzdelávanie učiteľov. Vývoj, analýza, perspektívy*. Banská Bystrica: PF UMB
- Kosová, B. & Tomengová, A. (eds.). (2015). *Profesijná praktická príprava budúcich učiteľov*. Banská Bystrica: Belianum.
- Niemi, H., Toom, A. & Kallioniemi, A. (eds.). (2012). *Miracle of Education. The principles and practices of teaching and learning in Finnish schools*. Rotterdam: Sense Publishers.
- OECD (2014). *TALIS 2013 Results: An International Perspective on Teaching and Learning*. Paris: OECD Publishing. doi:10.1787/9789264196261-en.
- Petrová, G. & Duchovičová, J. (2013). Vysokoškolská príprava učiteľov v kontexte transformačných procesov. *Lifelong Learning – celoživotné vzdelávanie*, 3 (1), 8–37.
- Preparing Teachers around the World*. (2003). Educational Testing Service. Retrieved 6/11/2016, from <http://www.ateel.org/uploads/pla_practical_classroom_training_vilnius_oct2009.pdf>
- Průcha, J. & Kansanen, P. (2015). *Školní vzdělávání ve Finsku*. Praha: UK.
- Rovňanová, L. (2013a). Motivácia výberu učiteľskej profesie. In *Učiteľ na ceste k profesionalite: recenzovaný zborník vedeckých prác* (76–84). Prešov : PU.
- Rovňanová, L. (2013b). Subjective Evaluation of Demands on Performance of Teacher Professional Activities. *The New Educational Review*, 34, (4), 292–306.
- Rovňanová, L. (2014). Profesijné pedagogické činnosti v pregraduálnej príprave budúcich učiteľov. In: Malach, J. & Červenková, I. (eds.), *Hodnocení klíčových kompetencí ve školní edukaci* (117–137). Ostrava: OU.

- Rovňanová, L. (2015). *Profesijné kompetencie učiteľov*. Banská Bystrica: Belianum.
- Sahlberg, P. (2015). *Finnish Lessons. What Can the World Learn from Educational Change in Finland?* New York and London: Teachers College Press, 2nd ed.
- Sámelová, S. (2014). *Žiak a jeho postavenie vo vyučovacom procese*. Banská Bystrica: Belianum.
- Schleicher, A. (2011). *Building a High-Quality Teaching Profession: Lessons from around the World*. Paris: OECD Publishing. [www:http://dx.doi.org/10.1787/9789264113046-en](http://dx.doi.org/10.1787/9789264113046-en).
- Simola, H. (2014). *The Finnish Educational Mystery. Historical and sociological essays on schooling in Finland*. London: Routledge.
- Spilková, V. & Tomková, A. a kol. (2010). *Kvalita učitele a profesní standard*. Praha: PF UK.
- Šimoník, O. (2008). Pedagogická praxe v přípravě budoucích učitelů – teorie a praxe v pregraduálním učitelském studiu. In J. Havel, O. Šimoník & J. Štáva (Eds.), *Pedagogické praxe a oborové didaktiky. Sborník z mezinárodního semináře*. Brno: PF MU.
- Šnídlová, M. (2014). Profesijné štandardy – nový prvok v systéme profesijného rozvoja pedagogických a odborných zamestnancov. *Pedagogické rozhľady*, 23 (1), 16–19.