

Teachers' Acceptance of Curriculum Reform in the Czech Republic: One Decade Later

KAROLÍNA PEŠKOVÁ^{*1}, MICHAELA SPURNÁ² AND PETR KNECHT³

Similarly to other Visegrád Group countries, the most recent curriculum reform in the Czech Republic brought substantial changes in the curriculum documents for schools. The purpose of this study is to investigate Czech primary and lower secondary teachers' current attitudes towards curriculum reform. The results of a survey ($n = 701$) indicate that teachers have adopted rather negative attitudes. The acceptance of reform tends to increase among the teachers who use curriculum documents regularly and among the teachers with higher self-efficacy. In addition, teachers with system-centred/curriculum-oriented approaches are willing to accept the reform. There is no significant difference between teachers' gender, their length of teaching experience, and their involvement in school management. Within the general frame of the Concern-Based Adoption Model (CBAM), the study draws on data from one country, but the implications for further educational development are potentially applicable across countries with similar educational policy backgrounds.

Keywords: curriculum reform, teachers' attitudes, acceptance, resistance, curriculum documents

1 ^{*}Corresponding Author. Institute for Research in School Education at the Faculty of Education, Masaryk University, Czech Republic; peskova@ped.muni.cz.

2 PhD student at the Department of Educational Sciences, Masaryk University, Czech Republic.

3 Faculty of Education, Masaryk University, Czech Republic.

Sprejetje kurikularne prenove učiteljev na Češkem: desetletje pozneje

KAROLÍNA PEŠKOVÁ, MICHAELA SPURNÁ IN PETR KNECHT

Podobno kot v drugih državah Višegradske skupine je najnovejša kurikularna prenova tudi na Češkem bistveno spremenila šolske učne načrte. Namen te raziskave je preučiti trenutno mnenje osnovnošolskih učiteljev o kurikularni prenovi. Glede na izsledke raziskave ($n = 701$) so ji učitelji precej nenaklonjeni, vendar pa učitelji, ki redno uporabljajo kurikularne dokumente in ki so učinkovitejši pri svojem delu, bolje sprejemajo reformo. Prav tako so učitelji, katerih pristopi se osredinjajo na sistem/kurikulum, pripravljeni sprejeti reformo. Ni pomembne razlike med spolom učiteljev, številom let izkušenj s poučevanjem in njihovo vključenostjo v vodenje šole. Pod splošnim okriljem modela, ki se osredinja na prilagoditve na osnovi problematike (Concern-Based Adoption Model – CBAM), se raziskava opira na podatke ene države, vendar so njeni učinki na nadaljnji razvoj izobraževanja potencialno uporabni v državah s podobnimi izobraževalnimi politikami.

Ključne besede: kurikularna prenova, odnos učiteljev, sprejemanje, odpor

Introduction

Curriculum reforms are often promoted as promising in terms of an increase in the quality of education. Therefore, the implementation of curriculum reforms as one of the forms of educational change is broadly reflected in manifestations of educational policy and programmes. In reliance upon Fullan (2014), we understand the implementation of curriculum reforms as a developmental process leading from the birth of a reform idea to its final implementation. The vitality of curriculum reforms depends on the teacher's acceptance of the reforms and their principles, because the teachers are expected to put reform ideas into practice (Park & Sung, 2013). Various forms of teacher resistance may block the implementation of new reforms, since responding to reforms is an interpretive act that is personal, interactive, and continuous (cf. Bantwini, 2010). Teachers' resistance is a natural reaction to the changes manifested in their effort to resist reform practices assertively (Berkovich, 2011; Noyes, Wake, & Drake, 2013).

Disconnections between educational policies and teachers' practices are extreme (cf. Meyer, 2010) as actors of curriculum reforms at different levels operate in 'relatively independent political arenas'; if their interests are in conflict, they might use resources to advance, sabotage, or ignore the efforts of actors at other levels (cf. Meyer, 2010; Spillane, 2002, p. 734). During curriculum implementation, teachers obviously ask substantially different questions than policymakers whose focus is on the system, not real individual classrooms, do.

The situation is similar in the Czech Republic, where teachers act as implementers of the obligatory state curriculum. However, research evidence explaining how teachers perceive the implementation of the new curriculum is only limited to the research area in the Czech Republic. Generally speaking, the curriculum reform introduced in the Czech Republic 10 years ago is a typical representation of managerial accountability of technologies (Ball, 2003) that do not work well for effecting longer-term culture changes (Noyes et al., 2013). Therefore, it is necessary to investigate the teachers' understanding that enters the implementation because change (reform) is a subjective process in which teachers construct personal meanings from experience (cf. Fullan, 1982). To find a solution for the successful implementation of curriculum reforms, we first need to explore the teacher's interests and reasons for accepting or rejecting the reforms. Teachers are positioned differently in relation to the educational policy at different levels – at different stages of their careers, with different amounts of experience, aspirations and competences (Ball, Maguire, Braun, & Hoskins, 2011). These represent factors that have been taken into account when

researching the acceptance of reform. As international research predominantly deals with teachers' attitudes towards reform during or after a few years of its implementation (see further), this study examines the acceptance of curriculum reform in the late stage of its implementation (10 years after its introduction). A distinctive feature of the late stage of the reform implementation is teachers' emotional detachment, losing appeal for innovative procedures, and making the impact of reform visible such as (in)consistency between the expected aims, output, and outcome (cf. Becheikh, Ziam, Idrissi, Castonguay, & Landry, 2010).

The purpose of this study is to investigate the primary and lower secondary teachers'⁴ attitudes towards curriculum reform on a continuum from acceptance to resistance and to determine which variables are directly related to these attitudes. To better understand teachers' attitudes towards curriculum reform in a broader context, and to theorise about the areas of the teachers' attitudes, this study independently follows the comprehensive Concern-Based Adoption Model ("CBAM") as proposed by George, Hall, and Stiegelbauer (2013), which has been further elaborated by other researchers (for more detail, see Kwok, 2014). This model allows us to view the attitudes not as a single construct as is common in similar studies in this field (e.g., Kwok, 2014; Vrabcová, 2016) but in relation to other vital variables connected to the practical use of the new curriculum documents, for example, the length of teaching experience, or teachers' involvement in school management (for more detail, see Pešková, Spurná, & Knecht, 2017). The study aims to respond to calls for more comprehensive research on the implementation process (Altinyelken, 2010) by examining the experience from the Czech Republic. It draws on data from one country, but the research implications are potentially applicable across Central/Eastern European countries with similar educational policy backgrounds.

Setting the scene: Curriculum transformation in the Czech Republic

Similarly to other Visegrád Group countries (CZ, H, SK, PL), Czech curriculum transformation as a part of the broad-based educational transformation was initiated after the fall of communism in 1989. The process of educational transformation comprised specific phases of: (1) deconstruction (de-ideologisation), (2) stabilisation (characterised by 'hasty' changes in the

4 In the Czech Republic, the primary (ISCED 1, for 6 to 10-year old children) and lower secondary school (ISCED 2, for 11 to 14-year old children) levels are connected in one type of school. In this article, we refer to both levels separately to be clear in an international context.

legislative, organisational, and pedagogical dimensions of education), and (3) reconstruction and implementation implying 'systemic' discussions about the future development of national education and its application into curricula (see Birzea, 2003; Greger & Walterová, 2007). The centrally developed curriculum moved to school-based curricula and teachers were no longer regarded as the executors of the centre's decisions on curricula (see Švecová, 2000). A significant shift of this kind of curriculum transformation resulted in the curriculum reform introduced in 2007: A two-level system of curriculum documents, specific to the state level and the school level, was developed. The Framework Education Programmes (FEPs, see VÚP, 2007) **created the state-level curriculum**, while the school-level curriculum was formulated in the School Education Programmes (SEPs). The FEPs articulate the outcomes of education expected by the state to be attained by all students who have completed the particular educational stage. The FEPs emphasise the principle of applicability of acquired knowledge in practice as well as the idea of lifelong learning skills, and the introduction of key competencies. The SEPs support the educational autonomy of schools as well as teachers; it is an instrument that enables schools to define themselves. However, regarding the educational content and objectives, the SEPs have to be harmonised with the FEP.

The curriculum documents are based on various expert analyses of the situation of Czech education (Spilková, 2005) and reflect common European priorities and strategies in educational policy defined by the European Union around the year 2000 (e.g., in A Memorandum of Lifelong Learning; Commission of the European Communities, 2000), but the speed and conceptualisation of the changes apparently do not allow the teachers to interiorise them as their own. After the completion of the first decade of the implementation of this particular curriculum reform in the Czech Republic, small-scale studies suggest that the reform was not readily accepted (Janík et al., 2018; Tůmová, 2012) and, in the course of time, an increasing tendency to ambivalence or resistance became apparent (Vrabcová, 2016).

Teachers' acceptance of curriculum reform: State-of-the-art

Teachers' responses to changes might be understood as different manifestations of their agency when undergoing these changes ranging from supportive and proactive manifestations to resistant conduct (Sannino, 2010). Resistance is an affective, cognitive, or behavioural response aimed at maintaining the status quo, manifested as active resistance (disagreement, expressed

verbally), passive resistance (conformity, external consent to innovation, but no activity), or as an indifference manifesting a neutral attitude, unconcern, or lack of interest. Resistance ultimately delays active involvement as teachers look for reasons not to introduce innovation or similar elements (Van Veen, Slegers, & Van de Ven, 2005). **Acceptance represents positive evaluation, positive emotions, and a tendency to take action in favour of introduced change** (Roggenbrodt, 2008). Both acceptance and resistance are closely related to participants' experience and attitudes. They often involve several obstacles depending on the context and culture of the particular school and school system (cf. Park & Sung, 2013) and teachers' personal characteristics (Lee & Yin, 2011).

A link between teachers' attitudes towards curriculum and curriculum reform was pointed out by Vollstädt, Tillmann, Rauin, Höhmann, and Tebrügge (1999) who found that, considering the prevailing approach to curriculum, German teachers with a 'subject-matter-centred' teaching approach adopt the most negative attitudes. In contrast, teachers who primarily focus on learners and their needs and teachers who focus on fulfilling the content of curriculum tend to accept reform to a greater extent.

In relation to demographic variables, research generally showed that teachers with longer working experience (more than 15 years) tend to refuse curriculum reform more than their junior colleagues did (Porubský, Trnka, Poliach, & Cachovanová, 2015; Tůmová 2012; in contrast to Ha, Wong, Sum, & Chan, 2008). According to the results of Christou Eliophotou-Menon and Philippou (2004), novice teachers are less afraid of the consequences of reform but more sceptical about reform concerning collaboration than more experienced teachers are. Gender differences were proven to be significant in the study of Haney, Czerniak, and Lumpe (1996) who reported more the positive attitudes of female teachers. A higher degree of acceptance of curriculum reform is evident in members of school management – headteachers and their deputies (Roggenbrodt, 2008). According to Vanderlinde and van Braak (2011), and Charalambous and Philippou (2010), an essential factor influencing teachers' attitudes towards curriculum reforms is self-efficacy⁵ for implementing a new curriculum in their own lessons. For example, teachers who highly valued their teaching skills without using a curriculum were more critical of it (cf. also Liou, Moolenaar, & Daly, 2016).

To summarise, international educational research shows the dominance of research focused on finding the attitudes, commitment, and willingness of teachers to implement curriculum changes, particularly in the context of

5 The concept of self-efficacy originally introduced by Bandura refers to one's perceived ability to plan and execute actions to accomplish a specific goal (further see Bandura, 1997).

selected school subjects or educational settings. However, as of now, few quantitative studies have empirically tested teachers' attitudes towards curriculum reforms on a systemic basis at a national level. The literature overview shows a gap calling for large-scale studies reflecting on the implicit conditions involved in curriculum implementation policies and educational practices in post-communist countries.

Research questions and data collection

In our research, we aimed at answering the following research questions: (1) What attitudes do Czech primary and lower secondary teachers hold towards curriculum reform 10 years after its implementation? (2) What factors influence teachers' attitudes towards the curriculum reform? Following previous research, we monitor the dependent attitude variable in relation to the independent variables: *use of curriculum documents* (Tunks & Weller, 2009), *self-efficacy* (Charalambous & Philippou, 2010), a *teacher's approach to curriculum* (Vollstädt et al., 1999) and *demographic characteristics* of teachers, such as gender, the length of teaching experience, the position in school, and the role within the school curriculum implementation (Kwok, 2014).

When investigating Czech teachers' acceptance of curriculum reform, we primarily focused on the variables relating to the dimensions of attitudes based on the *Concern-Based Adoption Model* (CBAM; George et al., 2013). The CBAM is applicable to this current study for two reasons. Firstly, the model corresponds to the personal, social, and context-related factors that have emerged in the literature review. Secondly, the model has previously been successfully applied to investigate teachers' attitudes towards curriculum reforms (Cheung & Yip, 2004; Kwok, 2014). The CBAM indicates the integral components of teachers' perception of implemented changes (innovations), such as cognitive (beliefs), affective (worries) and behavioural (conduct, use). The overall model consists of three components: 1) characteristics of innovation (*Innovation Configuration Map*), 2) dimensions of attitudes (*Stages of Concern*) and 3) dimensions of use (*Levels of Use*). As with other studies that used the CBAM to measure the teachers' attitudes (see Anderson, 1997), it was necessary to modify the dimensions of attitudes (*Stages of Concern*) to fit the data better and to reflect the other factors, such as the cultural contextual factors and the type of innovation being carried out. The CBAM model was freely adapted for the purpose of the survey to reflect the context of Czech curriculum reform ten years after its introduction. For the development of the questionnaire items, we used individual dimensions of two crucial components of the CBAM: *attitudes*

(concerns) and use.⁶ They constituted the framework for the development of a scale. Individual items were freely adapted from the questionnaires based on the CBAM (Charalambous & Philippou, 2010; George et al., 2013), other questionnaires dealing with teachers' attitudes and use of curriculum documents (Broadhead, 2001; Sargent, 2011) or were developed according to our design. A five-level Likert scale for specifying the level of agreement (strongly agree – strongly disagree) was used for the items regarding a variable of attitudes (29 in total), a four-level frequency scale for specifying the frequency of activities related to curriculum documents (always – never) was used for the items regarding a variable of use (25 in total).

The questionnaire consisted of items of a variable *self-efficacy*⁷ (12 in total, adapted from the Czech School Inspectorate, TALIS 2013) measured on the five-point Likert scale. The questionnaire also included a variable *teacher's approach to curriculum*, which was identified using three labels (items) representing attitude to the curriculum: learner-centred, field of study/subject matter-centred, and system-centred/curriculum-oriented approach (cf. Vollstädt et al., 1999)⁸. Complementary contextual and demographic characteristics of respondents included 22 items in total.

The questionnaire was piloted in seven schools; consequently, a component analysis was carried out (including reliability analysis and construct validity assessment). The final version of the questionnaire after minor adjustments included 91 items (for more detail regarding the development and description of the research tool, see Pešková, Spurná, & Knecht, 2017).

Participants

The final version of the questionnaire was distributed among 56 out of 200 addressed primary/lower secondary schools in the Czech Republic selected by means of random sampling (response rate at the school level was 28%). The

-
- 6 The component *attitudes* monitored these dimensions (stages): *awareness, informational, personal, management, consequences, collaboration* and *refocusing*. The component *use*, related to the use of curriculum documents, included similar dimensions like the model: *orientation, mechanical, routine, refinement, integration* and *renewal* (for more detail, see Pešková, Spurná, & Knecht, 2017). The third original component of the CBAM called the *Innovation Configuration Map* was operationalised in our tool in the static form to grasp the construct of curriculum reform and related changes (within objectives, content, forms etc.). It served only to illustrate the context and is not in the centre of our attention.
- 7 This variable was operationalised by means of the three areas: a) managing learners, b) learners' motivation and active involvement, and c) teaching procedures, which corresponds to Bandura's definition of self-efficacy, preferred by Charalambous and Philippou (2010).
- 8 The items (three short paragraphs) reflected teachers' priorities in teaching in different relation to the curriculum. Teachers selected one from the three approaches which described the best their priorities.

questionnaire was distributed to teachers mainly in an electronic version via headteachers or persons acting under their responsibility during the spring of 2016.

A total of 701 respondents completed the questionnaires. Our research sample consisted of 107 men (15%) and 594 women (85%), which corresponds to the gender distribution in the teacher population in the Czech Republic. The respondents taught at the primary (34%), lower secondary (38%) or at both levels of school (29%). They were predominantly teachers with teaching experience longer than 10 years (83%). The highest proportion of respondents was comprised of teachers (76%), while members of school management (headteachers and deputy headteachers) represented only 13%. Regarding qualification to teach the particular subject, the largest category group was respondents teaching different subjects at the lower secondary school level (see Appendix A – combination, 48%) or subjects at the primary school level. More than half of the respondents participated in the SEP development (53%), and 8% held the role of a SEP coordinator in the school. The respondents with teaching experience longer than 30 years (29%) participated most in the SEP development, next those with teaching experience of 16–20 years (19%). The great majority of respondents were the teachers who preferred a learner-centred approach to the curriculum (80% in total; further see Appendix A).

Data analysis

After completing the data by respondents, the negative items (ca. 50%) were reverse-coded. Exploratory Factor Analysis (EFA, PCA, Oblimin rotation because of higher KMO) was used to test the construct validity. It showed that the measured construct *attitudes* did not match the expectations according to the initial theoretical model (for more detail, see Pešková, Spurná, & Knecht, 2017). EFA resulted in a three-factor model (see Table 1) with a total variance of 42% (13 items were then excluded).

Table 1*Extracted values of factor analysis of the construct 'attitudes'*

Items	α	Factor Benefits	Factor Demands	Factor Need to Retrospect
Reform contributed to the improvement of learners' knowledge and skills.	.87	.76	.07	.04
Reform contributed to the fact that learners learned to collaborate more actively in lessons.		.70	.01	.11
Reform contributed to closer collaboration between schools (e.g., regarding projects, sharing teaching materials).		.70	-.02	-.13
Reform led to more open collaboration with school administration institutions (e.g., the Czech School Inspectorate, primary school administrators, etc.)		.70	.00	-.10
Reform contributed to the improvement of relationships within the school staff of my school.		.69	-.06	.05
Reform resulted in the favourable conditions for the learners' attitudes and values development.		.69	.08	.05
Reform stimulated more intense debate between teachers and parents regarding the subject matter.		.65	-.06	-.05
Owing to reform, I obtained more freedom in deciding the content of my lessons.		.64	.07	.13
Obligations associated with reform mean extra work for me.	.80	.05	.86	.05
Obligations arising from reform are rather time- and energy consuming for me.		-.02	.78	-.06
Thinking over teaching methods and strategies and their implementation regarding the objectives of curriculum reform is difficult.		-.05	.74	.05
I would like to learn more about the improvements that resulted from reform in comparison with the previous situation.	.67	-.05	.09	.85
I am interested in information about the consequences of the reform.		-.05	.05	.84
Variance %		21.18	12.86	4.91
Eigenvalue		6.14	3.73	1.42

Despite obtaining the three-factor construct *attitudes*, it may be regarded as one-dimensional and of a prevailing cognitive nature – with the highest ratio of the variance of 21% (these are items detecting subjective belief). Affective items (those detecting respondents' emotions and worries) were excluded by analysis. A conative component of attitudes was covered only by two items but with a higher value of internal consistency ($\alpha = .67$)⁹.

9 This component of attitudes was covered by the construct *use*, which was evaluated separately.

We suggested an interpretative range of the mean scores to interpret the construct *attitudes* clearly on a continuum from acceptance to resistance. Table 2 shows higher values related to positive attitudes expressing the degree of acceptance and lower values related to negative attitudes with resistant polarity.

Table 2

Interpretation of the range of intensity at the construct 'attitudes'

Continuum	Resistance		Neutrality	Acceptance	
Mean scores interval	1.00-2.74		2.75-3.25	3.26-5.00	
Interval size	1.74		.50	1.74	
Attitudes	Distinctly negative attitudes	Negative attitudes	Neutral Attitudes	Positive attitudes	Distinctly positive attitudes
Mean scores interval	1.00-1.87	1.88-2.74	2.75-3.25	3.26-4.13	4.14-5.00
Interval size	.87	.87	.50	.87	.87

Similar analyses and procedures were performed in the construct *self-efficacy* and *use*. EFA (PCA, varimax rotation) extracted a three-factor design with a small deviation from the original for both constructs (for more details, see Pešková, Spurná, & Knecht, 2017).

Differences between groups and interrelationships between constructs were analysed using inferential statistics (ANOVA and LSD post-hoc test, regression analysis with the ENTER method, Pearson correlation coefficient). The measurements were carried out at the confidence level $p < .001$, $p < .01$, and $p < .05$ using the software SPSS, Statistica, and RStudio.

Results

Attitudes towards curriculum reform on the continuum

Within the theoretical framework of the CBAM, the variable *attitudes* represent the area through which the degree of respondents' interest, worries, and beliefs regarding innovation (i.e., curriculum reform), may be understood. The total mean value obtained of the construct *attitudes* is well within the range of neutrality ($x = 2.81$, $SD = .49$), respectively at the lower limit approaching negative values (see Table 3). This can mean that teachers do not hold any unambiguous attitudes towards the reform; they do not find the reform meaningful and do not have relevant information to evaluate the reform.

Table 3*Descriptive values of the variable 'attitudes'*

Attitudes	95% Confidence interval for mean		SD	Minimum	Maximum	
	Lower bound	Upper bound				
Mean	2.80	2.77	2.84	.49	1.36	4.29

Based on the mean score of attitudes, each of the respondents can be placed on the continuum of acceptance-resistance (see Table 4). The largest group (45%) consists of the respondents whose scores have the lowest mean values, i.e., within the values of resistance. Their statements can be characterised as rejecting the reform. Neutral attitudes towards the reform were identified in 37% of the respondents. The smallest group consisted of respondents accepting reform (19%). This fact implies the limited potential of the reform from the perspective of teachers' agency and reform enactment. A more detailed description of the variability of the attitudes towards curriculum reform is presented in Appendix B.

Table 4*Distinguishing the continuum acceptance-resistance: mean scores and numbers of respondents*

Scale	Totally resistant	Slightly resistant	Neutral	Slightly acceptable	Totally acceptable
	1.00-1.87	1.88-2.74	2.75-3.25	3.26-4.12	4.13-5.00
N	32	282	257	127	3
n (%)	4.65	40.23	36.66	18.12	.43
Mean	1.71	2.45	2.99	3.46	4.21
SD	.14	.22	.13	.17	.06
Measured interval	1.36-1.86	1.93-2.71	2.79-3.21	3.29-4.07	4.14-4.29

Teachers' self-efficacy and use of curriculum documents

Another investigated area was *self-efficacy* ($x = 4.12$, $SD = .45$) and *use* ($x = 2.35$, $SD = .38$) as explanatory variables. The total mean values of the constructs show that in comparison with the prevailing neutral attitudes, teachers had higher self-efficacy, even though they said they sometimes used curriculum documents.

Differences in attitudes among groups

All groups of teachers' selected demographic characteristics reached the neutral attitude values, i.e., ambivalent level of the continuum (see Table 5). Taking a closer look at a picture of a 'typical' teacher with positive attitudes, we can observe his/her following characteristics according to their reached levels of acceptance. It is a woman, a novice teacher (0–5 years of teaching experience), holding a position in school management (headteacher/deputy headteacher) and teaching art (music, arts and crafts) or PE.

Statistically significant differences in the values of attitudes were found only among groups divided according to *approach towards curriculum*, *teaching at the primary/lower secondary school level*, and the *role within the SEP implementation* (Table 5). The respondents who tended to adopt the system-centred approach to curriculum reached the highest values of the whole sample ($x = 3.00$; $SD = .05$), i.e., neutral attitudes. The respondents teaching at the *lower secondary school level* had more resistant attitudes than those teaching at the *primary school level*. Regarding the *role within the SEP implementation*, the SEP coordinators had more resistant attitudes than those having no role during the implementation.

Table 5

Differences among the groups of respondents according to the demographic data: mean scores of 'acceptance' and results of the analysis of variance

		X	SD	F	P
Gender	Female	2.82	.02	F(1.70) = 2.61	p = .11
	Male	2.73	.05		
Length of teaching experience	0 –5 years	2.90	.06	F(6.69) = .70 LSD post-hoc test	p = .65
	6 –10 years	2.86	.07		
	26 –30 years	2.80	.05		
	21 –25 years	2.80	.05		
	more than 30 years	2.79	.03		
	16 –20 years	2.78	.05		
Position in school	(Deputy) headmaster	2.84	.05	F(2.70) = 1.96 LSD post-hoc test	p = .14
	Teacher	2.81	.02		
	Subject leader	2.70	.06		

		X	SD	F	P
Subjects taught	Art and physical Education	2.93	.11	F(5.70) = 1.13 LSD post-hoc test	p = .46
	Primary school subjects	2.86	.03		
	Science	2.80	.05		
	Combination	2.78	.03		
	Languages	2.75	.07		
	Humanities	2.71	.11		
Approach to curriculum	System-centred	3.00*	.05	F(3.70) = 9.98 LSD post-hoc test	p = .00
	Learner-centred	2.80*	.02		
	Subject-matter centred	2.54*	.07		
School level	Primary level	2.85*	.03	F(2.70) = 2.37 LSD post-hoc test	p = .03
	Both levels	2.82	.03		
	Lower secondary level	2.76*	.03		
Role within the SEP implementation	None	2.85*	.03	F(2.70) = 2.30 LSD post-hoc test	p = .03
	SEP coordinator	2.80*	.06		
	SEP co-creator	2.77	.03		

Note. * = Indicates the category within the variable that reached the particular confidence level according to the last column.

Teachers' *attitudes* towards curriculum reform and towards the *use* of curriculum documents are interlinked by 16% ($r = .40$, $p < .01$) and teachers' *self-efficacy* is related to their *attitudes* by 5% ($r = .22$, $p < .01$). While considering the constructs *use* and *self-efficacy* as explanatory variables (see Table 6), we obtained 17% out of the total variability of attitudes ($R^2 = .16$, $\Delta R^2 = .17$, $p < .01$). The result indicates that the considerable degree of this variability is explained in terms of the construct *use*. In addition to the construct *use*, there is a percentage of the inexplicable variability consisting of other variables (not detected by the research tool used).

Table 6*Results of the regression analysis in terms of the dependent variable 'attitudes'*

Model 1	Standard coefficient		Sig.	95% Confidence interval for β		Collinearity		ANOVA			
	β	SE β		Lower bound	Upper bound	VIF	Sum of squares	df	x^2	F	Sig.
(Constant)		.16	.00	.96	1.60		27.60	2	13.80	70.08	.00
<i>Use</i>	.37	.05	.00	.37	.56	1.14	137.65	698	.20		
<i>Self-efficacy</i>	.10	.04	.00	.03	.18	1.14	165.05	700			

Discussion

The findings have brought new insights and fostered critical debate about the role that teachers play in educational development. The results of our research must be interpreted with regard to the specific context and conditions in which the curriculum reform was implemented in the Czech Republic. As such, curriculum reforms are influenced by the local context, politics, administration, organisation, and participants and may, therefore, show specific patterns, which differ from country to country.

Overall, respondents adopted a neutral and negative attitude towards the reform, which corresponds to the current research and theories perceiving teachers' resistance as an accompanying phenomenon of curricular reforms (Porubský et al., 2015; Reichman & Artzi, 2012). Even though teachers adopt resistant attitudes towards the reform, they are interested in learning more detailed information about the reform.

The most important contribution of the research is the finding that the groups of teachers adhering to different general conceptions of the curriculum have different attitudes towards curriculum reform (cf. Vollstädt et al., 1999). While the teachers with system-centred/curriculum-oriented approaches are willing to accept the reform, which is not surprising, the rest of teachers who focus on the development of learners' abilities or on the development of learners' subject knowledge tend to be more reluctant to accept the reform. Interpreting these findings may be rather questionable within the international context because it depends on the nature of examined reform. Subject matter-centred teachers may be afraid of a decline in learners' knowledge (Young, 2013), whereas learner-centred teachers may be concerned about formalism and decreasing autonomy if they had to take the prescribed state curriculum into account when implementing the school curriculum, which is in conflict with the declared objectives of reform.

Concerning the attitudes towards curriculum reform, the analysis showed that there is no significant difference between teachers' gender, teachers' length of teaching experience, and teachers' involvement in school management, which corresponds to the conclusions of other researchers (e.g., Porubský et al., 2015; Roggenbrodt, 2008; Tůmová, 2012). Moreover, the SEP coordinators accepted the reform more reluctantly than ordinary teachers did, which can be attributed to coordinators' greater awareness of the demands and duties resulting from their roles. Based on the theoretical model of social interaction (Huberman, 2002), we can also interpret our finding through the role of a connection between the knowledge (innovation) producers and their users. The knowledge of the producers is spread by 'diffusers' (linkage agents) who help disseminate it – they translate and communicate it to the users so that the users implement them successfully (cf. Becheikh et al., 2010). Because the coordinators are the linkage agents of the reform, their attitudes matter and, if they are poor, they could be infectious. Therefore, a substantial question might be raised: Can we even expect teachers to have positive attitudes when their coordinators do not?

The research demonstrated that an essential factor regarding the attitudes towards curriculum reform is if the respondents teach at primary or lower secondary school. The respondents teaching at the lower secondary school level had more resistant attitudes than those teaching at the primary school level did for the probable reason that teaching at the first stage (including more subjects) provides teachers with more space for fulfilling the reform objectives as well as greater autonomy than teaching individual school subjects. However, this fact has not yet been proved in other research.

Charalambous and Philippou (2010) and Vanderlinde a van Braak (2011) pointed out the significant role of self-efficacy in accepting curriculum reforms, which our research proves as well. Our findings revealed that the use of curriculum documents and self-efficacy have an impact on the respondents' attitudes towards curriculum reform. We can say that the more teachers use curriculum documents, the higher self-efficacy they have and the greater their tendency to accept curriculum reform was. Despite this fact, in accordance with Liou, Moolenaar and Daly (2016), we understand the concept of self-efficacy only as one of the sub-constructs that help comprehend the complexity of teachers' attitudes in a broader context. The use of curriculum documents and self-efficacy are clustered into the construct *attitudes* in approximately 17%. In particular, the factor of the use of curriculum documents appears to be critical for investigating the impact of the reform on professional practice. In order to define a successful change, daily routines and behaviour patterns should be taken into

account. Also, teachers' characteristics, such as their character, ability to face uncertainty, historical experience, traditions, cultural characteristics, rituals, etc., could play an essential role in explaining the attitudes (Lee & Yin, 2011).

Regarding the retrospective evaluation of empirical adequacy and theoretical conclusiveness of the CBAM, which served as inspiration for developing questionnaire items, our research has revealed a causal link between the two integral components of the model: attitudes towards curriculum reform and use of curriculum documents. Contrary to the original model (as proposed by George et al., 2013), the component of attitudes showed that teachers' attitudes in our research represent a one-dimensional construct. These findings are crucial because research based on the CBAM has always measured attitudes as a multidimensional variable (Charalambous & Philippou, 2010; George et al., 2013; Kwok, 2014). The reason for a low level of representation of the affective component is apparently a ten-year interval and emotional distance from the introduction of the reform, so teachers' attitudes may be explicit and rational, which is reflected in reliability of the cognitive component of attitudes. By way of illustration, Cheung and Yip (2004) have already pointed out the developmental nature of the concerns in the CBAM model. Another possible cause may be polysemy in respondents' perception of the components of affective nature or limitation of the selected data collection method when respondents were probably not willing to focus on other components than cognitive in the questionnaire. To validate and interpret our findings in greater detail, we recommend extended interviews with individual teachers to probe their questionnaire statements and to reflect the impact of the reform in a wider school context.

Conclusion

We determined that the primary and lower secondary school teachers in the Czech Republic have adopted rather resistant attitudes towards curriculum reform 10 years after its introduction. This finding represents another contribution to international research documenting and proving the failure of curriculum reform implementation (Bantwini, 2010). The most important finding of the research is that we identified three significant variables related to the teachers' acceptance of reform: approach to the curriculum, school level (primary/lower secondary school), and the position they had within the curriculum implementation. Next, the research revealed that teachers' acceptance of the reform tends to increase in the case of the teachers using curriculum documents regularly and the teachers with higher self-efficacy.

Acts of teachers' resistance often indicate the fundamental importance of altering authority relations (Gitlin & Margonis, 1995). Therefore, teacher resistance should be taken as a potential source of new ideas for improvement. This remark is highly relevant to the Czech Republic and countries with similar historical and educational backgrounds where the educational system is hindered by low levels of expertise among teachers, headteachers, and policy-makers (Straková & Simonová, 2013).

The results suggest that a 10-year period of time is not sufficient for the change in teachers' mindset with respect to educational change. As Hamot (1997, p. 4) assumes, after forty-three years of totalitarian communism, it is not possible to expect complete democratic educational reform to result from one curriculum development project. The reason that so many teachers hold negative and neutral attitudes to the reform might be also explained by teachers' engagement with other issues currently being dealt with at schools as declared in new strategic plans of the educational policy (*Strategy for Education Policy of the Czech Republic until 2020*), for example, with a new system of inclusion of children with various personal disadvantages in education. Teachers were not given enough time for the curriculum acceptance as the policy makes further conceptual decisions that need to be transferred to practice immediately. This might be the clue also for the other Visegrád Group countries that are trying to catch up with the Western European countries after 40 years of totalitarian centralised education and meet the requirements of the educational policy of the European Union.

The implications of the study for educational policy are suggested at different levels: Firstly, curriculum reforms should be connected to systematic monitoring and evaluation, not only during the implementation but also after a longer interval from their introduction before they wash out over time as funds and energy disappear. Secondly, the support of linkage agents should be strengthened. The attitudes of people (SEP coordinators) who are responsible for the dissemination of reform ideas are crucial for successful reform implementation. Thirdly, professional development of teachers should be promoted at the state level, especially in the form of promoting teacher collaboration within the schools, particularly between primary and lower secondary schools (e.g., in the form of learning communities, see Van Driel, Beijaard, & Verloop, 2001). The fact that teachers teaching at primary and lower secondary schools perceive the curriculum documents differently suggests recommendations for curriculum document development. As for the secondary school teachers, it is necessary to define the educational aims in a different way than in the primary school curriculum. The reform ideas should be explained at the level of individual school subjects.

A challenge for further research is to focus on accepting teachers who, despite general criticism of the reform, hold positive attitudes towards it. This research could discover further variables that play a role in the teachers' attitudes.

It is evident that teachers should be involved in a long-term preparation of the reform process (Gitlin & Margonis, 1995) so that their voices can be heard. They should enter and be given sufficient time to assimilate to the proposed changes (Fullan & Miles, 1992). This would enable the reform to respond to the teachers' specific needs and experience and support their ownership of the reform (Sandholtz, 2002).

Acknowledgements

This study was supported by the Czech Scientific Foundation's project *Between Acceptance and Resistance: Teachers' Perceptions of Curricular Changes 10 Years Into The Reform Implementation* (GA15-05122S). The authors wish to thank Eva Ellederová and Tiffany Byrd for proofreading this article.

References

- Altinyelken, H. K. (2010). Curriculum change in Uganda: Teacher perspectives on the new thematic curriculum. *International Journal of Educational Development*, 30(2), 151–161.
- Anderson, S. E. (1997). Understanding teacher change: Revisiting the concerns based adoption model. *Curriculum Inquiry*, 27(3), 331–376.
- Ball, S. J. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215–228.
- Ball, S. J., Maguire, M., Braun, A., & Hoskins, K. (2011). Policy actors: Doing policy work in schools. *Discourse: Studies in the Cultural Politics of Education*, 32(4), 625–639.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bantwini, B. D. (2010). How teachers perceive the new curriculum reform: Lessons from a school district in the Eastern Cape Province, South Africa. *International Journal of Educational Development*, 30(1), 83–90.
- Becheikh, N., Ziam, S., Idrissi, O., Castonguay, Y., & Landry, R. (2010). How to improve knowledge transfer strategies and practices in education? Answers from a systematic literature review. *Research in Higher Education Journal*, 7, 1–21.
- Berkovich, I. (2011). No we won't! Teachers' resistance to educational reform. *Journal of Educational Administration*, 49(5), 563–578.
- Birzea, C. (2003). Reforming the Romanian system of education: The agenda ahead. In J. P. Anchan, M. Fullan, & E. Polyzoi (Eds.), *Change forces in Post-Communist Eastern Europe* (pp. 96–115).

London, UK: Routledge.

Broadhead, P. (2001). Curriculum change in Norway: Thematic approaches, active learning and pupil cooperation – from curriculum design to classroom implementation. *Scandinavian Journal of Educational Research*, 45(1), 19–36.

Charalambous, C. Y., & Philippou, G. N. (2010). Teachers' concerns and efficacy beliefs about implementing a mathematics curriculum reform: Integrating two lines of inquiry. *Educational Studies in Mathematics*, 75(1), 1–21.

Cheung, D., & Yip, D. Y. (2004). How science teachers' concerns about school-based assessment of practical work vary with time: The Hong Kong experience. *Research in Science & Technological Education*, 22(2), 153–169.

Christou, C., Eliophotou-Menon, M., & Philippou, G. (2004). Teachers' concerns regarding the adoption of a new mathematics curriculum: An application of CBAM. *Educational Studies in Mathematics*, 57(2), 157–176.

Commission of the European Communities. (2000). *A Memorandum on Lifelong Learning*. Brussels: SEC.

Czech School Inspectorate. (2013). *Dotazník pro učitele. 2. stupně ZŠ a nižší ročníky víceletých gymnázií* [Questionnaire for teachers of lower secondary and grammar schools]. Paris: OECD.

Fullan, M. (1982). *The meaning of educational change*. Ontario: The Ontario Institute for Studies in Education.

Fullan, M., & Miles M. B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan*, 73(10), 744–752.

Fullan, M. (2014). *Leading in a culture of change*. San Francisco, CA: John Wiley & Sons.

George, A. A., Hall, G. E., & Stiegelbauer, S. M. (2013). *Measuring implementation in schools: The stages of concern questionnaire*. Austin, TX: SEDL.

Gitlin, A., & Margonis, F. (1995). The political aspect of reform: Teacher resistance as good sense. *American Journal of Education*, 103(4), 377–405.

Greger, D., & Walterová, E. (2007). In pursuit of educational change: The transformation of education in the Czech Republic. *Orbis Scholae*, 1(2), 11–44.

Ha, A. S., Wong, A. C., Sum, R. K., & Chan, D. W. (2008). Understanding teachers' will and capacity to accomplish physical education curriculum reform: The implications for teacher development. *Sport, Education and Society*, 13(1), 77–95.

Hamot, G. E. (1997). *Civic education in the Czech Republic: Curriculum reform in democratic citizenship*. Bloomington, IN: ERIC. Retrieved from <https://files.eric.ed.gov/fulltext/ED410178.pdf>

Haney, J. J., Czerniak, C. M., & Lumpe, A. T. (1996). Teacher beliefs and intentions regarding the implementation of science education reform strands. *Journal of Research in Science Teaching*, 33(9), 971–993.

Huberman, A. M. (2002). Moving towards the inevitable: The sharing of research in education. *Teachers and Teaching*, 8(3), 257–268.

Janík, T., Janko, T., Pešková, K., Knecht, P., & Spurná, M. (2018). Czech teachers' attitudes towards

- curriculum reform implementation. *Human Affairs*, 28(1), 54–70.
- Kwok, P. W. (2014). The role of context in teachers' concerns about the implementation of an innovative curriculum. *Teaching and Teacher Education*, 38, 44–55.
- Law, W. W. (2014). Understanding China's curriculum reform for the 21st century. *Journal of Curriculum Studies*, 46(3), 332–360.
- Lee, J. C., & Yin, H. B. (2011). Teachers' emotions and professional identity in curriculum reform: A Chinese perspective. *Journal of Educational Change*, 12(1), 25–46.
- Liou, Y. H., Moolenaar, N. M., & Daly, A. J. (2016). Developing and assessing educator beliefs about the common core. *Educational Assessment, Evaluation and Accountability*, 28(4), 377–404.
- Meyer, J. W. (2010). World society, institutional theories, and the actor. *Annual Review of Sociology*, 36, 1–20.
- Noyes, A., Wake, G., & Drake, P. (2013). Time for curriculum reform: The case of mathematics. *The Curriculum Journal*, 24(4), 511–528.
- Park, M., & Sung, Y. K. (2013). Teachers' perceptions of the recent curriculum reforms and their implementation: What can we learn from the case of Korean elementary teachers? *Asia Pacific Journal of Education*, 33(1), 15–33.
- Pešková, K., Spurná, M., & Knecht, P. (2017). Teoretický model pro výzkum vnímání kurikulárních změn učitelů ZŠ [Theoretical model for research of lower secondary school teachers' perceptions of curriculum changes]. *Orbis scholae*, 11(2), 99–124.
- Porubský, Š., Trnka, M., Poliach, V., & Cachovanová, R. (2015). Curricular reform in Slovakia regarding the attitudes of basic school teachers. *Pedagogická orientace*, 25(6), 777–797.
- Reichman, R. G., & Artzi, S. (2012). "The Road Not Taken" – Israeli Teachers' Reactions to Top-Down Educational Reform. *The Qualitative Report*, 17(33), 1–29.
- Roggenbrodt, G. (2008). Akzeptanz komplexer Schulentwicklungsprozesse bei schulischen Akteuren, aufgezeigt am Beispiel des Schulversuchs ProReKo [Acceptance of complex school development processes in school participants, illustrated on the example of the school experiment ProReKo]. *Theoretische Grundlagen und empirische Befunde. Bildung und Erziehung*, 61(3), 321–352.
- Sandholtz, J. H. (2002). In-service training or professional development: Contrasting opportunities in a school/university partnership. *Teaching and Teacher Education*, 18(7), 815–830.
- Sannino, A. (2010). Teachers' talk of experiencing: Conflict, resistance and agency. *Teaching and Teacher Education*, 26(4), 838–844.
- Spilková, V. (2005). Rámcový vzdělávací program pro základní vzdělávání v kontextu transformace českého školství [Framework Educational Programme for Basic Education in the context of the transformation of Czech education]. *Pedagogika*, 55(1), 20–25.
- Spillane, J. P. (2002). Managing in the middle: School leaders and the enactment of accountability policy. *Educational Policy*, 16(5), 731–762.
- Sargent, T. C. (2011). New curriculum reform in implementation and the transformation of educational beliefs, practices, and structures in Gansu province. *Chinese Education and Society*, 44(6), 47–72.

- Straková, J., & Simonová, J. (2013). Assessment in the school systems of the Czech Republic. *Assessment in Education: Principles, Policy & Practice*, 20(4), 470–490.
- Švecová, J. (2000). Privatization of education in the Czech Republic. *International Journal of Educational Development*, 20(2), 127–133.
- Tůmová, A. (2012). Effects of age and length of professional experience on teachers' attitudes to curriculum reform. *Central European Journal of Public Policy*, 6(2), 84–99.
- Tunks, J., & Weller, K. (2009). Changing practice, changing minds, from arithmetical to algebraic thinking: An application of the concerns-based adoption model (CBAM). *Educational Studies in Mathematics*, 72(2), 161–183.
- Van Driel, J. H., Beijaard, D., & Verloop, N. (2001). Professional development and reform in science education: The role of teachers' practical knowledge. *Journal of Research in Science teaching*, 38(2), 137–158.
- Van Veen, K., Slegers, P., & Van de Ven, P. H. (2005). One teacher's identity, emotions, and commitment to change: A case study into the cognitive-affective processes of a secondary school teacher in the context of reforms. *Teaching and Teacher Education*, 21(8), 917–934.
- Vanderlinde, R., & van Braak, J. (2011). A new ICT curriculum for primary education in Flanders: Defining and predicting teachers' perceptions of innovation attributes. *Educational Technology & Society*, 14(2), 124–135.
- Vollstädt, W., Tillmann, K. J., Rauin, U., Höhmann, K., & Tebrügge, A. (1999). *Lehrpläne im Schulalltag. Eine empirische Studie zur Akzeptanz und Wirkung von Lehrplänen in der Sekundarstufe I* [School programmes in school everyday life. An empirical study on the acceptance and effect of school programmes in lower secondary schools]. Opladen: Leske + Budrich.
- Vrabcová, D. (2016). Developing Czech teachers' attitudes to contemporary school curricular reform: Comparison. *Procedia-Social and Behavioral Sciences*, 217, 303–312.
- VÚP. (2007). *Framework Education Programme for Elementary Education*. Retrieved from http://www.vuppraha.cz/wp-content/uploads/2009/12/RVP_ZV_EN_final.pdf
- Wallace, C. S., & Priestley, M. (2011). Teacher beliefs and the mediation of curriculum innovation in Scotland: A socio-cultural perspective on professional development and change. *Journal of Curriculum Studies*, 43(3), 357–381.
- Young, M. (2013). Overcoming the crisis in curriculum theory: A knowledge-based approach. *Journal of Curriculum Studies*, 45(2), 101–118.

Appendix A

Characteristics of a research sample in absolute and relative values

		n	%
Gender	Female	594	84.7
	Male	107	15.3
Length of experience	0-5 years	70	10.0
	6-10 years	50	7.1
	11-15 years	90	12.8
	16-20 years	104	14.8
	21-25 years	100	14.3
	26-30 years	89	12.7
	More than 30 years	198	28.2
Role held within the SEP implementation	SEP coordinator	58	8.3
	SEP co-creator	369	52.6
	None	274	39.1
School level	Both levels	200	28.5
	Primary	237	33.8
	Lower secondary	264	37.7
Post held in school	Subject leader	75	10.7
	School management	94	13.4
	Teacher	532	75.9
Subjects taught	Languages	43	6.1
	Science	83	11.8
	Primary school subjects	202	28.8
	Humanities	20	2.8
	Art and physical education	20	2.9
	Combination	333	47.5
Approach to curriculum	Subject matter-centred	47	6.7
	Learner-centred	563	80.3
	System-centred	85	12.1
	Not selected	6	.9

Appendix B

Distribution of attitudes (continuum) according to the demographic data in absolute and relative values

Variable		N			% Out of a total			Sum
		Accepting	Neutral	Resistant	Accepting	Neutral	Resistant	
Gender	Female	<i>109</i>	220	265	<i>15.5</i>	<i>31.4</i>	<i>37.8</i>	<i>84.7</i>
	Male	21	37	49	3.0	5.3	7.0	15.3
Length of teaching experience	0-5 years	18	21	31	2.6	3.0	4.4	10.0
	6-10 years	7	18	25	1.0	2.6	3.6	7.1
	11-15 years	20	36	34	2.9	5.1	4.9	12.8
	16-20 years	22	30	52	3.1	4.3	7.4	14.8
	21-25 years	15	46	39	2.1	6.6	5.6	14.3
	26-30 years	11	37	41	1.6	5.3	5.8	12.7
	More than 30 years	<i>37</i>	<i>69</i>	<i>92</i>	<i>5.3</i>	<i>9.8</i>	<i>13.1</i>	<i>28.2</i>
Role within the SEP implementation	SEP coordinator	10	20	28	1.4	2.9	4.0	8.3
	SEP co-creator	66	<i>143</i>	<i>160</i>	<i>9.4</i>	<i>20.4</i>	<i>22.8</i>	<i>52.6</i>
	None	53	94	126	7.6	13.4	18.0	38.9
School level	Both levels	37	82	81	5.3	11.7	11.6	28.5
	Primary	45	77	115	6.4	11.0	16.4	33.8
	Lower secondary	<i>48</i>	<i>98</i>	<i>118</i>	<i>6.8</i>	<i>14.0</i>	<i>16.8</i>	<i>37.7</i>
Post in school	Subject leader	9	31	35	1.3	4.4	5.0	10.7
	School management	17	39	38	2.4	5.6	5.4	13.4
	Teacher	<i>104</i>	<i>187</i>	<i>241</i>	<i>14.8</i>	<i>26.7</i>	<i>34.4</i>	<i>75.9</i>
Subjects taught	Languages	7	20	16	1.0	2.9	2.3	6.1
	Science	15	30	38	2.1	4.3	5.4	11.8
	Primary school subjects	40	70	92	5.7	10.0	13.1	28.8
	Humanities	4	2	14	.6	.3	2.0	2.9
	Art and physical education	4	7	9	.6	1.0	1.3	2.9
	Combination	<i>60</i>	<i>128</i>	<i>145</i>	<i>8.6</i>	<i>18.3</i>	<i>20.7</i>	<i>47.5</i>
Approach to curriculum	Subject matter-centred	2	14	31	.3	2.0	4.4	6.7
	Learner-centred	<i>106</i>	<i>201</i>	<i>256</i>	<i>15.1</i>	<i>28.7</i>	<i>36.5</i>	<i>80.3</i>
	System-centred	22	38	25	3.1	5.4	3.6	12.1
	Not selected	0	4	2	.0	.6	.3	.9
Sum	701	130	257	314	130	257	314	701
%	100.00	18.54	36.66	44.79				

Note. In regards to demographic variability, the dominant category at all levels of the continuum was italicized.

Biographical note

KAROLÍNA PEŠKOVÁ, PhD, is a research associate at the Institute for Research in School Education at the Faculty of Education, Masaryk University, Czech Republic. Her research interests include teachers' attitudes, curriculum studies, textbook analysis, and intercultural issues in foreign language teaching.

MICHAELA SPURNÁ is a PhD student at the Department of Educational Sciences, Masaryk University, Czech Republic. The main focus of her research area includes knowledge transfer, educational theory, and policy and research methodology.

PETR KNECHT, PhD, is an associate professor in the field of geography education at the Faculty of Education, Masaryk University, Czech Republic. His main areas of research are: geography teaching and learning, problem-solving, curriculum analysis, and more recently professional development of geography teachers.