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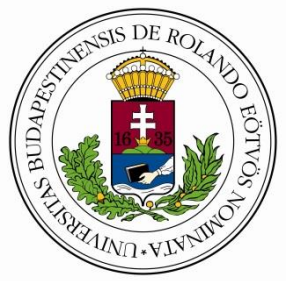

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The impact mechanisms of development interventions at classroom level processes in school education

Theses of PhD dissertation

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Introduction

In recent decades, the issue of school modernization, including the renewal of pedagogical practice, became increasingly emphasized in countries with higher human development. One of the reasons behind this trend is related to large international student performance assessments. As a result of these measurements, the participating countries' abilities to exploit human resources has become increasingly apparent, which has naturally led to the competition of the nations in this field. Like other countries, Hungary has launched several national level development interventions as well, targeting the improvement of student outcomes and the development of classroom-level pedagogical practices in schools in the last two decades. The related interventions were implemented with the support of the European Union and clustered around two main content directions. The first was strengthening "social inclusion", including both inclusive education of children with special needs and the introduction of pedagogical approaches to support pupils from disadvantaged social groups. The second direction focused on the general modernization of classroom level processes by improving and spreading "competence-based teaching". The related interventions simultaneously aimed at developing teaching methods, organisational learning capacities of schools, and the supportive behaviour of the social environment. More than one third of Hungarian schools had been involved in at least one curriculum development program in the first 10 years of Hungary's EU membership.

According to the program evaluations (see e.g. *London*…, 2010; *Megakom*, 2008; *Kerber*, 2011), the biggest challenge was to manage the implementation for both the program creators and coordinators and the participating schools and teachers. Stakeholders directly faced one of the most important issues of modern curriculum theory: the distance between the expected and the implemented curriculum (see e.g. *Snyder* et al., 1992; *Letschert*, 2005; *Sokolowska* et al., 2014). Several cases show that the same development interventions caused very diverse effects in different institutional and social environments. There were significant differences between the implemented practices even in those cases where the programs seriously contributed to the modernization of pedagogical procedures. As developments involving masses of schools require considerable professional and financial resources, a definite need emerged for the understanding of the impact mechanisms of the development interventions over the last decade in Hungary. The doctoral research presented here tried to answer to this need.

Research characteristics

The research aimed to explore those general theoretical interconnections and concepts that determine whether central curriculum development programs are able to reach classroom level practice and change teacher behaviour, as well as teaching methods and tools in a long-term sustainable way. The research started in 2010 at the Faculty of Pedagogy and Psychology of the Eötvös Loránd University, Budapest; and from 2012 it continued with significantly expanded capacities following a successful tender submitted to the National Scientific Research Fund.[1] The whole work lasted about six and a half years.

The major feature of the research was the simultaneous use of macro and micro approaches. The former approach focused on the national perspective where development problems such as using top-down/bottom-up management tools, or the different characteristics of the development programs emerged. In contrast, the latter approach focused on curriculum change at an institutional level and issues such as absorptive capacity of organisations or institutional level change management. This perspective also opened up the level of individual teachers, mainly by examining the individual characteristics closely related to institutional operation, such as workplace learning, development motivation or professional knowledge.

Our dual approach made it necessary to reformulate the initial research question both from a macro and micro perspective. From the former aspect, we focused on the conditions under which interventions can achieve planned and sustainable changes in a critical mass of schools. From the latter perspective, each school was interpreted as the key player of the change. From this focus, we tried to explore the conditions under which a specific school can realise sustainable change in its pedagogical practice by harnessing external development supports. For further refinement, we defined some content areas based on previous research results, that helped us to approximate our research questions and hypotheses to practically capturable elements. The first and most important of these content areas was absorption capacity, within which the identification of five further areas (context, agents, levels, time, management) assisted the formulation of research questions and hypotheses. Due to the nature of this research, four levels of analysis have emerged: the individual, the organizational, the national and the program level. The analytical units gave another framework within which it was also worth reviewing the potential variants of the initial research question and hypothesis.

[1] Országos Tudományos Kutatási Alap, identification number of the tender:101579

Construction of the theoretical framework

The overall objective of the initial phase of the research was to summarize the theoretical background of implementation mechanisms. Research on implementation, including research on implementation of educational development interventions, had identified several key implementation factors which support better understanding the mechanisms of development interventions in complex systems. This knowledge helps to recognise why certain interventions succeed or fail to carry out a deep and lasting change in classroom level practices.

In order to map the relevant framework, we examined the results of implementation research conducted in the public policy and the education sector, including the areas of curriculum theory and development. Thus, the construction of the theoretical background was based on the review of the relevant literature of several research areas (i.e. curriculum theory and development, implementation-research, research on educational change, public policy research, evaluation science, development economics and project management). This initial phase covered approximately the first three and a half years of the doctoral research.

Within the synthesis of the theoretical background of the implementation – including curriculum implementation – we dealt with relevant definitions, research antecedents, the significance of the area in education development, and we synthesized the most important related concepts. Among others, we identified those major paradigms (see e.g. *Fullan–Pomfret*, 1997; *Datnow–Park*, 2009; *Altrichter*, 2005, *Hill–Hupe*, 2009, *Winter*, 2012) which most likely help to describe the implementation of development interventions affecting classroom processes. We reviewed the category systems that were created to estimate the expected impact of the interventions (see e.g. *Mclaughlin- Berman*, 1975; *Matland*, 1995; *Lowi*, 1972; *Pressman–Wildavsky*, 1984). In addition, based on the results of previous research, we analysed the role of factors in implementation, such as development context (see e.g. van *Twist et al.*, 2013; *Gordon–Luis*, 2010; *Mulgan – Albury*, 2003; *OECD*, 2000), teachers' workplace learning (see e.g. *Vermunt–Endedjik*, 2011; *Boekaerts*, 2010; *Darsø – Høyrup*, 2012; *Meirink*, 2009), time dimension (see e.g. *Pollitt*, 2008; *Bressers* et al., 2012; *Aladjem* et al., 2010; *Clarke*, 2010), and project management tools (see e.g. *Brynard*, 2005; *Mourshed* et al., 2010; *European Commission*, 2002).

The empirical part of the research

Since curriculum development interventions based on purely domestic funding have been extremely rare in Hungary following its accession to the EU in 2004,[2] the empirical part of the research focused on programs implemented with EU co-financing. From these development interventions the programs that aimed at curriculum-development and were implemented between 2004 and 2012 seemed to be the most appropriate to examine the impact-mechanisms. The exploration of the implementation processes of these interventions was carried out by using both qualitative and quantitative methods.

The exploration of the impact-mechanisms was supported by five empirical research phases which, according to their functions, can be classified in two groups. The first cluster of activities is given by the exploration work, which played a grounding role. This included (1) structured conversations with macro level actors, development creators and coordinators[3] and (2) document reviews[4], including relevant primary macro level documents (e.g. development project plans and contracts) and previous program evaluations (*Kerber*, 2010; *London…*, 2010). These tools were complemented by the analysis of the planning and evaluation documents of EU-funded interventions in the Central European region[5], which provided a good basis for the study of domestic developments.

These two forms of exploration were followed by those which focused on the local level implementers of the examined interventions, their beliefs and behaviours. In this case, three types of data collection methods were used: (1) electronic questionnaire survey among all the schools (ISCED 1, 2, 3) involved in the selected programs (approx. 2000 schools) (2) face-to-face extended questionnaire survey for a smaller sample of schools (70 institutions)[6] (3) intensive qualitative studies among an especially small sample (8 institutions). In the two former inquiries one leader and three directly-involved teachers from each school were invited to answer the questions. In the latter inquiries, we spent generally four days in each school; conducted interviews with teachers, school principals, pupils, parents, and with other partners; made classroom observations; took part in the activities of professional communities and

[2] Hungary used significant amounts of EU Structural Funds for educational development from the beginning of the 2000s. The required contribution payment (own sources to be added to EU monies) practically exhausted the domestic financial resources that were available for sector development.
[3] Number of interviews: 21.
[4] Number of analyzed documents: 41.
[5] Analyzed countries: Bulgaria, Czech Republic, Estonia, Poland, Latvia, Lithuania, Hungary, Romania, Slovakia, Slovenia.
[6] One leader and three directly-involved teachers from each school were invited to answer the questions in both forms of inquiry.

analysed the relevant documents of the school. Our work was supported by a case study protocol for this purpose. Roughly 600 schools provided data in the data collection (questionnaire survey: 591 leaders, 1313 teachers). All schools involved had implemented one or more EU funded curriculum-development program during the period under review.

Our data made it possible to carry out the independent analyses of the most common fields of the development interventions (literacy, mathematics, social competencies, foreign languages, inclusive education of children with special needs and pupils from disadvantaged social groups). The data collection and analysis endeavoured to map the perceived impact of the program on schools as organisations and on individual teachers as well as on the organisational, individual and program characteristics which could influence the impact. When analysing the program implementation, we paid particular attention to the organizational conditions such as openness, knowledge-sharing, boundary-crossing, and emotional environment. Since our research did not contain longitudinal studies, the implementation processes were mainly explored based on the retrospective narratives of those involved. Although scientific level impact evaluation was not our direct goal, in order to draw up the factors determining successful implementation, it was necessary to measure the impact of the examined development programs.

The study of the deep and lasting effects of the programs focused – among others – on the following questions: To what extent did supported teaching forms influence pedagogical practices of teachers from five to ten years after the implementation i.e. at the time of the data collection? Did teachers tailor these procedures to local needs, and, to what degree did the implemented procedures differ from the original one? How well the organisational culture of the institutions supported long-term positive effects of the developments? In our case studies the conclusions on the impact of the developments were based on the comprehensive study of the institution's life. Besides this, our quantitative database, compiled from the results of questionnaire surveys, made it possible to create composite variables measuring deep and lasting impact at individual and organizational levels considering the dimensions mentioned above.

In statistical analyses our main method was the comparison of the characteristics of the institutions belonging to the upper, middle and lower thirds along program impact values, which made it possible to see non-linear relationships. The testing of the significance of discovered relations was usually performed with two-sample t-tests. During the exploration work we placed emphasis on examining atypical groups, searching for the characteristics of groups from

which no deep and lasting effects were expected but we still observed it. Where it was possible, the results of quantitative methods were tested using qualitative procedures and vice versa.

Research on curriculum-implementation

As we previously mentioned, it has become an increasingly important issue how to bring curriculum development goals and its practical results closer to classroom level pedagogical practices.[7] Accordingly, over the last decades several curriculum theory works have been developed addressing the learning environment changes as a priority issue. Their common foundation is that the implemented curriculum can be interpreted as a local formation that almost never complies with the preliminary plans. They emphasize that local needs and conditions – such as institutional context, or cognitive and affective characteristics of individual teachers – significantly shape the implemented curriculum (see e.g. *Clamdinin-Connelly*, 1992; *Mischke*, 2010; *Murray*, 1994; *Ben-Peretz*, 1975; *Deng*, 2011).

However, the relevant literature goes far beyond the purely curriculum-theoretical works, many works focus on the issue of curriculum implementation also in the fields of education change, school improvement and research in education innovation (see, for example, *Lieberman*, 1998; *Hopkins - Reynolds*, 2001; *OECD*, 2013). Besides this, several essential concepts for understanding the impact mechanisms of educational changes have been identified by researches that are not or are not primarily related to the field of education (see, for example, *Barnett*, 1994; *Bradley*, 1995; *Matland*, 1995; *Brynard*, 2005). Besides other reasons, this is due to the fact that implementation as a research problem appeared initially as a public policy (see e.g. *Pressman–Wildavsky*, 1984; *Hill–Hupe*, 2009; *Winter*, 2012) and general development issue (see e.g. *Vespoor*, 1986; *OECD*, 2012; 2013; *Halász-Szőllősi*, 2012).

Since the emergence of implementation research no comprehensive implementation theory has been formed. One of the most divisive issues is whether implementation is interpreted as a one-way controlling task or as a multidirectional process (*Altrichter*, 2005; *Fullan–Pomfret*, 1997; *Datnow–Park*, 2009). Scientific works reviewing related trends distinguish three main approaches. The most widespread paradigm looks at the implementation process as the precise execution of predetermined standards (most often referred as top-down approach). The second paradigm however emphasizes the importance of communication

[7] In this research, the concept of the curriculum was broadly interpreted in accordance with the most widely used international scientific approach. This concept includes all school learning environments that generate learning situations for students.

between the actors of the planning and implementation processes, their mutual adaptation to each other (most often referred as bottom-up approach). The peculiarity of the third - and the least widespread - interpretation is that, unlike the previous two, it does not consider the processes of policy creation and implementation separate, it views these processes as ones dynamically forming each other (most often referred as *joint creation* approach). The emergence of these paradigms followed each other chronologically, but they can still be interpreted as competing approaches. Whether researchers interpret implementation as a technical process or rather as a dynamic complex system basically determines the research areas, the underlying hypotheses and the available research results, too. Given that in most cases educational changes are the result of complex impact mechanisms, inquiries seeking direct casual relationships often fail to reveal those conclusions that research using non-linear models can reach (*Day*, 2009; *Hill–Hupe*, 2009; *Winter*, 2012).

Hungarian scientific studies, as well as education and development policy works are also paying increasing attention to educational implementation. From the beginning of the eighties education policy research implicitly dealt with implementation issues, and from the nineties, the need for understanding implementation mechanisms has strongly appeared in policy-related works, especially in the National Core Curriculum and in the large-scale development programs (see e.g. *Pőcze*, 1995; *Radó*, 2003; *Magyar Köztársaság* 2003; *Vass*, 2004; *Megakom*, 2008; *Expanzió*, 2011; *Kozma*, 2012; *Setényi*, 2012). In recent years, more and more Hungarian scientific works have been written in the field of education research, which besides mapping the impact of reforms or development interventions also highlighted the nature of local level changes (see e.g. *Kerber*, 2011; *Keczer*, 2014; *Imre*, 2015; *Varga*, 2015; *Pálvölgyi*, 2018). However, the comprehensive and scientific exploration of the area of curriculum development implementation is still missing in the practice of domestic education research.

Effective implementation and its determining factors

As a result of our exploration work, it is possible to identify which external interventions can support most likely the development of the classroom level processes in a given context, beside specific organisational and individual conditions. As mentioned above, this knowledge is based on the overview of the results of previous related researches, and on our own empirical studies, in which we used qualitative and quantitative methods too. The former made possible the description of that complex phenomena what comprehensively influence the implementation of

development interventions along some well-capturable key factors (e.g. teacher and organisational learning, context, agents, levels of implementation, time, management). The latter complemented our knowledge of the comprehensive impact mechanisms with new concepts which - although not country-specific - come from Hungarian development experiences.

The comprehensive system of impact mechanisms

The success or failure of development interventions is determined by complex impact systems, the implementation processes can be influenced by several factors. Most of these are related to the development context: among others the capacities, problems and needs and previous practices of schools and teachers basically determine which intervention can lead to success in a given context. What makes it difficult to find the real causal relationships forming development processes, is the fact that that these contexts are not permanent: they change over time due to the development intervention and many other independent factors, as well.

Concerning the implementation of development interventions, one of the most important questions is whether participants can use development resources efficiently or not. The Rand Change Agent Study – which means the beginning of educational implementation research for most researchers – determined effective implementation along two dimensions: the first one is the modification of the adapted procedures and the second one is the change of the practice of the institution implementing the project. According to the theory of Rand Study, we can talk about full implementation when changes occur in both dimensions: teachers learn new procedures, apply them according to the local environment and their own needs, while their thinking and behaviour is being shaped as well (*McLaughlin- Berman*, 1975). Although the categorisations of program impacts greatly facilitates the examination of development interventions, estimating the success or failure of programs is actually a very complicated task. We have to take it into consideration – among other things – that the most successful developments are realized with implementation deficits too, while usually many positive and negative impacts appear that had not been included in the original plans. In addition, the effects change considerably as the programs progress and numerous impacts can be perceived only decades after the closure of programs (*Sabatier*, 1986; *Fullan*, 2008; *Borman* et al., 2003).

The suitability of the organization or the individual to reach and apply development resources is often described with the concept of *absorptive capacity* in related literature. The wide spectrum of factors influencing this ability allows us to suppose that it covers all the key

areas of implementation processes (*Hervé–Holzmann*, 1998; *Zinkevičienė*, 2004; *World Bank*, 2004). As mentioned earlier, from all key areas contextual factors deserve special attention due to their crucial role in implementation. Given that the world of education operates in a complex social system that is transformed by a variety of interest groups, one of the most important questions is how different influential stakeholders behave. Are they willing to take the steps required to achieve the intended goals, do they have enough knowledge to make changes, or are they able to handle the cost of interventions (*Lowi*, 1972; *Pressman–Wildavsky*, 1984)? The weight of these issues may be particularly notable in the case of curriculum changes affecting the deeper layers of professional beliefs, as many of them require fulfilling new teaching roles from teachers and leaving their safe pedagogical routines (*Vermunt–Verloop*, 1999; *Van Twist* et al., 2013).

The behaviour of stakeholders is affected by macro, meso and micro level conditions. From these, the most important condition is probably the operation of schools as institutions. Schools that operate as so-called knowledge-intensive, learning organizations can provide their teachers with a stimulating social, cognitive and emotional atmosphere. In such organizations, there is a high chance that the funding sources will help develop pedagogical practice in a deep and sustainable way. In this case, it is also expected that communication with the wider environment will result in receiving active external support for the school's actual projects (*Mulford*, 2005; *Faragó*, 2008; *Baráth*, 2014; *Horváth-Verderber-Baráth*, 2015; *Anka* és mtsai, 2016; *Lénárd*, 2016).

In addition to the decisive role of the institutional level, it is worth emphasizing the effect of the transmitting intermediate level on the implementation processes, which usually lies between the central developers and the institutional implementers (*Mourshed* et al., 2010; *Westfall-Greiter*, 2013). With the help of the activities of these mediating actors, among other things, it becomes possible to quickly identify and react to the local implementation problems and support communication between micro and macro players using different languages. These actors can also play an important role in intelligent monitoring of emerging changes, in exploring competencies and capacities of participants and in providing intensive care of development interventions in progress. These players can also identify the reachable development goals within different institutional contexts formed by both the initial differences of participants and from the diverse effects of development programs.

According to two frequently cited models on the nature of educational change, detailed strategies can improve teachers' performance with low professional competencies. Teachers

with more advanced tacit knowledge need more flexible guidance in classroom planning. In their case comprehensive school improvement can be an appropriate goal which helps their work by encouraging creativity and innovation through the formation of professional learning communities and learning organizations (*Fullan*, 2008; *Mourshed* et al., 2010). These types of developments typically do not include explicit intended curricula, the development of pedagogical procedures and contents are delegated to school level (*Marsh*, 2004; *Kelly*, 2004; *Jackson*, 1992; *Thijs - van den Akker*, 2009). However, it is important to emphasize that modern curriculum theory and analyses of development interventions targeting school education emphasize the role of teachers in constructing the curriculum regardless of the flexibility of the management. They attach importance to how teachers interpret interventions and how their attributes– such as their related beliefs and thinking, use of methods and tools, or their professional relationships − determine those interventions (*Clamdinin – Connelly*, 1992).

The cognitive dimension, namely teachers' learning has particular importance from the perspective of "teachers as active implementers" or "teachers as curriculum-makers". Researchers paying attention to these aspects of implementation (see e.g. *Cohen–Hill*, 2001; *Darling-Hammond*, 1990; *Bakkenes*, et al., 2010) consider teachers learning as a process influenced by a complex system of influences which − among other things − includes factors well-known from student learning such as sense of competence, originality of the task, management of own resources and reflection on learning environment (*Réthy*, 2002; *Boekaerts*, 2010; *Horváth*, 2011). Although teacher learning can be realised in an individual or collective manner too, it is less and less considered to be an independent cognitive development process of isolated individuals. As interactive processes can lead to the highest levels of learning, only they produce real results. For this reason, attention is increasingly shifting towards schools as organizations. According to this – as we have previously mentioned – the implementation of development interventions is also considered as a process defined by the working environment of participant teachers (*Stoll–Louis*, 2007; *Gordon Győri*, 2007; *Gilbert*, 2011; *Istance–Kobayashi*, 2012; *Szivák-Verderber*, 2016).

Teachers' competences and the effectiveness of schools and education systems are generally thought to evolve over time. However, this is not necessarily the case. In effect, these often stagnate or deteriorate for shorter or longer periods. Development interventions can also lead to regression periods: programs which require the change of everyday pedagogical practices are good examples for this. Interventions requiring a high-level learning process from participants – programs that significantly differ from the former applied practices or which

require specific knowledge for understanding the related contents – usually create particularly difficult implementation conditions. A regression period with full of uncertainties is expected to arise at the beginning of the implementation of such developments. Although this period is usually only temporary, they may solidify for a long time if negative effects cumulate and strongly influence the implementation processes (*Borman* et al., 2003; *Fullan*, 2008; van *Twist* et al., 2013).

One of the most important differences between the diverse types of management of curriculum development - both at system, at intermediate and at institutional level - is whether they can handle the high-level complexity of changing processes and avoid strengthening the above-mentioned negative effects. First of all, those planning and management processes can be considered suitable for dealing with the above difficulties which focus on the micro level of implementation and which take the diversity of participants and their environment into consideration. Such management - often referred as bottom-up, adaptive-evolutionary, or backward-planning - focuses only on the basic goals before the beginning of the interventions, the creation of management tools only starts when developers already have experiences from the given context and knowledge about the reactions of participants (*Elmore* 1980; *Jenei*, 2007; *Altrichter*, 2005). Among the related management procedures, the use of open techniques – such as thinking in different scenarios, stakeholder-analysis, or sensitive monitoring of implementation – have paramount importance in implementation (*Brynard*, 2005; *European Commission*, 2002; *Halász*, 2013).

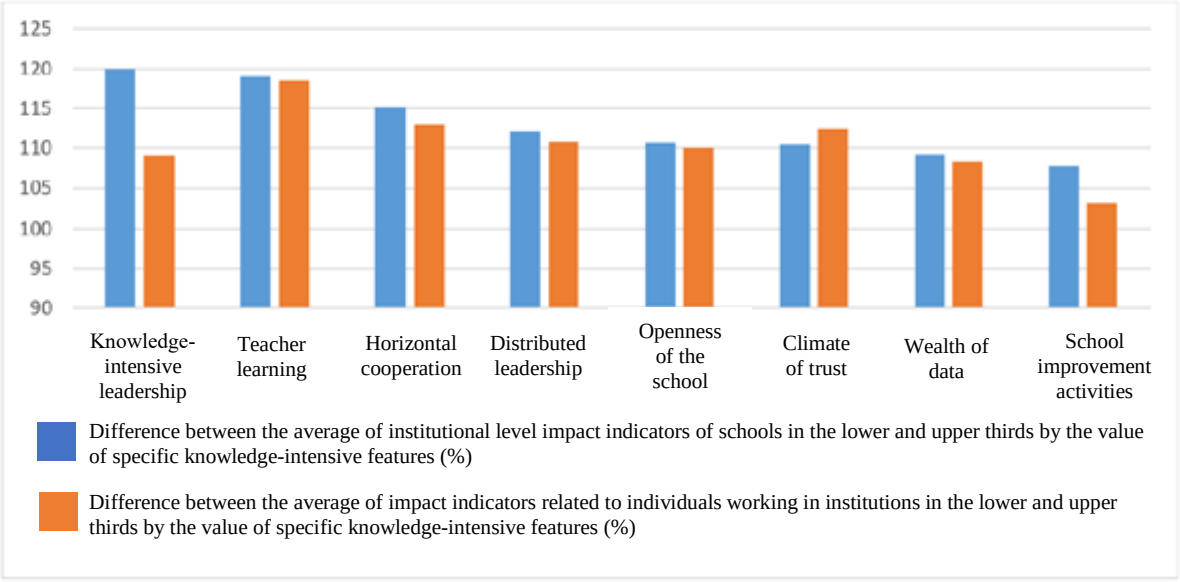
Features of schools as organizations and the implementation of developments interventions

One of the most decisive factors forming development processes, as mentioned above, is the environmental and organizational conditions of participants. In the empirical phase of the doctoral research, we identified eight features that together could capture the institutions' knowledge-intensive operation, and ability to absorb the development interventions. The eight organizational features can be divided into two types: specificities related to a narrower or broader interpretation of knowledge-intensive organizations. In the broader understanding, we listed those features too that rarely come up as knowledge-intensive features in the related literature, but based on our research results, we think that they may play a fundamental role in the operation of this type of institutions.

1. Based on our research results, a school's narrowly interpreted knowledge-intensive feature can be described along the followings: (1) knowledge-intensive leadership encouraging knowledge-building and knowledge-sharing activities; (2) climate of trust supporting workplace learning and knowledge sharing; (3) teacher learning within the school; (4) wealth of data and working with data; (5) school improvement activities, i.e., frequent participation in development interventions; (6) a high level of horizontal cooperation. If knowledge-intensive organizations are interpreted broadly, the above features can be supplemented with two additional elements: (7) distributed leadership; and (8) the openness of the school. Based on quantitative analyses, the following figure illustrates the rate of percentage difference between the values of measured deep and lasting changes at individual and organisational levels in the schools of the lower and upper thirds along the eight above variables (see Figure 1).

Figure 1
Differences (%) between the averages of deep and lasting impact at organisational (DLI) and individual (DLI_T) levels in schools in the lower and upper third of knowledge intensity

($N^{teachers}$ = 284-363; $N^{leaders}$ = 134-195)



Note: 100% is given by DLI and DLI_T average values of schools and teachers in the lower third of specific knowledge intensity indexes. Difference from 100% indicate the difference from the averages impact values of teachers and schools in the higher third of the specific knowledge-intensive feature. Differences are significant except for the factor of school improvement activities. The outstanding role of the latter, however is clearly illustrated by case studies.

1.1. According to our qualitative and quantitative analyses knowledge-intensive leadership encouraging knowledge-building and knowledge-sharing activities has proved to be the most important knowledge-intensive organizational feature from the aspect of organisational level implementation processes. This characteristic includes science-based managerial thinking about developments, extensive and regular information gathering, and application of effective and knowledge-intensive management tools.

1.2. It was also decisive whether teachers generally – regardless of the development interventions – desired to obtain high-level professional skills, whether they discussed pedagogical problems within the school, or kept experimenting with and disseminating new teaching practices, i.e. learning at their workplace. Our case studies have shown that learning from students is a particularly important form of teacher learning for the development of pedagogical processes. This form of learning primarily provides knowledge on learners' thinking, motivation and – accordingly – on new methods that can be successfully applied in a given environment

1.3. Similarly, according to our statistical analyses and school observation work, the cooperation of teachers working in the same institution, their relationships with colleagues from other schools, as well as their participation in different networks are priority areas in implementation processes.

1.3.1. Our data show that teachers learning within the school create specific platforms for participation in external networks. External cooperation has entailed positive institutional changes only in those institutions, where intelligent, in-school teacher learning models were in place.

1.3.2. According to our case studies, platforms supporting knowledge sharing, especially electronic knowledge-sharing platforms play an important role in horizontal cooperation and in implementation processes. The operation of such platforms can effectively support the development of pedagogical processes and the implementation of interventions.

1.4. According to both our case studies and the statistical analysis of measured data, shared leadership – i.e. the rate of teachers understanding institutional development goals, involved in key decisions and having formal leadership roles – is also a highly influential institutional feature related to the implementation of interventions.

1.4.1. Case studies have shown that teachers working in organisations managed by shared leadership are more likely to understand their tasks related to development

and to see the longer-term curve of their development work than their peers working in institutions where decisions were made by a small group of leaders.

1.4.2. During our qualitative work we identified the operation of horizontal working groups focusing on specific themes as one of the most successful forms of shared management. It is crucial to allow through the collaboration of teachers from different fields and to make the involvement of students possible, too.

1.5. According to our qualitative and quantitative analyses, trust, cooperation and appreciation of innovative activities – i.e. a positive atmosphere – within the teaching staff have proved to be decisive factors too.

1.5.1. Our case studies have shown that knowledge-sharing processes and spaces, including electronic platforms, can only successfully increase the effectiveness of pedagogical work in schools where the institutional climate makes it possible.

1.5.2. According to the case studies, in schools where the institutional climate is dominated by tension, rivalry and mistrust, it is difficult to manage organizational tasks related to developments like substitutions in case of teacher training.

1.6. Our results suggest that the openness of schools – i.e. the influence of students, parents, non-teaching staff, external experts and the social environment on institutional operation, development strategy and teaching processes – has a significant impact on interventions. Based on our case studies, cooperation with parents, adopting good practices of other schools, dissemination of knowledge of colleagues learning in higher education or further training can be particularly effective cooperation forms for renewing of schools.

1.7. The frequency of internal measurements and data analyses is also a commonly determining characteristic of development processes. This covers the comparison of local results with data of other schools in similar situation, analysing data on their own institutions coming from external measurements, conducting internal measurements, gathering data from external sources, and engaging teachers in data analysis on learning outcomes. Our case studies and multivariate analyses have also shown that in schools that are less responsive to their context, data collection and analyses can open a window to the outside world, enabling institutions to respond to external impacts and make their developments more effective. However, in institutions where the open attitude reached a critical level, the existence of data analyses cannot help institutional operation and improve the achieved development results significantly.

1.8. Finally, our case studies show that development programs are able to make different types of impact on the hard-moving or the dynamic, frequently developing institutions. The former schools typically have less knowledge about innovation, thus it is more difficult for these institutions to handle the problems that arise during the implementation processes. The most powerful organisational impact of the development programs here is to launch interactions and innovation activities within the organization. However, in schools where knowledge about change is integrated into the institutional culture and where strong internal incentives stimulate developments, programs and local innovations are typically interconnected. Accordingly external developments can strongly transform in function of local needs, fit to previous development directions.

Individual characteristics of teachers and the implementation of development interventions

When examining organizational factors, we have found that developments reach classroom processes most often in knowledge-intensive institutions. Thus, it becomes an important question which factors can help those teachers' learning who do not work in learning organizations.

2. One of the most important features related to teachers' learning was the motivational basis of teachers. According to our case studies and our questionnaire survey teachers reaching deep and lasting program impacts typically joined the programs voluntarily. However, it was less determining what reasons behind their internal motivation were i.e. whether they participated in order to improve classroom level processes, to strengthen their professional prestige, or they simply tried to meet social expectations. Our qualitative and quantitative analyses also suggest that teachers' initial internal motivation is more dominant in organizations that cannot effectively stimulate knowledge sharing and creation. In the case of these teachers only internal motivation to improve classroom processes can support effective implementation. In contrast, those organizational cultures, which particularly encourage knowledge sharing and creation, can effectively inspire the implementation work of teachers who join development programs without any initial internal motivation base.
3. Our qualitative and quantitative analyses suggest that previous experience can help teachers learn and apply methods supported by programs, but it can also prevent them from effective implementation. Preliminary practical knowledge such as the ability to organize work in

pairs and groups seems necessary to introduce new methods like theme week or project teaching. However, it may hinder the adaptation of new methods if teachers are committed to widely known and proven technologies. Our data suggest that this connection is more decisive in the case of teachers working in low knowledge-intensive organizations. In contrast, organizational environments that provide a highly favourable learning environment for teachers can compensate if the required preliminary pedagogical competences are not available or if teachers use widely proven practices, as well.

4. In our statistical analyses we have found that although teachers teaching their colleagues generally reach higher development outcomes, this activity does not have a significant positive impact on implementation in organizations with particularly high or low knowledge intensity. School-observations suggest that teachers teaching in institutions where the organizational culture does not support their learning use their experiences gained through teaching colleagues less than teachers working in schools which operate as average level knowledge-intensive organizations. It is important to note, though, that the practice of teaching colleagues cannot improve the program-impact in the case of those, who work in schools with strong knowledge-intensive skills. Presumably in these institutions teaching colleagues does not have any added value.
5. Our case studies and large-scale analyses have also shown that the role of horizontal co-operation between teachers becomes crucial in institutions where the school management supports knowledge sharing less than the average. In the case of teachers working in such schools significantly higher program impact is expected if they have active horizontal professional relationships. Although professional relationships of teachers help program implementation in schools where the leadership supports knowledge sharing too, the significance of personal networks is more pronounced in the former type of institutions.

Features and implementation of development interventions

Similarly to the research into the individual-level characteristics, in the case of the examination of program attributes we have also placed special emphasis on the exploration of the different implementation mechanisms realized in diverse organizational contexts. We tried to find out which program elements can best assist the professional development of teachers working in low knowledge intensity organizations.

6. The most important finding from our analyses in this area – taking both the databases and the case studies into account – shows that successful implementation of development

programs in less knowledge-intensive organizations is best assisted by interventions that improve activities which usually characterize high knowledge-intensive institutions both at the level of the practices of individual teachers and institutions. In contrast, program elements supporting the cooperation and teachers' learning (see e.g. cross-curricular solutions, project education, network participation) probably do not have a strong impact on implementation among institutions with high knowledge intensity.

7. We also found an important difference in how often cooperation forms supported by the programs should be applied to effectively assist the implementation of development programs. Such forms of cooperation as classroom observations, workshops and meetings related to the development program, as well as professional discussions about the individual development of students should be realized at least monthly in order to have a perceptible impact on the implementation of interventions. However, in the case of teachers working in low knowledge-intensive schools, significantly deeper and more lasting impact can be reached even if teachers participate in the latter forms of cooperation at least once a year than without using them at all.
8. Finally, based on our case studies it seems to be decisive if development programs can be generally identified as modernizing or problem-solving interventions or if they require fidelity of implementation or rather focus on and facilitate local creative innovations. Each type of intervention can lead to successful implementation in fitting contexts. Typical groups along these dimensions can also be distinguished at the level of schools. We have identified institutions searching for solutions to well-circumscribed problems, schools operating in a balanced way, knowledge-intensive organisations which are capable of adaptive implementation and institutions without changing knowledge and experiences. The last group of schools typically needs more detailed guidance. Although in real life it is difficult to find such clear characteristics, these categories help to illustrate which program will most likely lead to success in a given school (See figure 2).

Figure 2
Matrix of development interventions and recipient schools

		Modernizing development		Problem-solving development	
		Fidelity implementation	Adaptive implementation	Fidelity implementation	Adaptive implementation
Balanced organization	Dynamic organization		✓		
	Static organization	✓			
Problematic institution	Dynamic organization				✓
	Static organization			✓	

Overall conclusions

In addition to the specific conclusions related to the analysis levels presented earlier, based on our research results we can formulate some general conclusions concerning the design and implementation of curriculum development interventions. What seems the most important is that designers and implementers of such development interventions need to see the implementation processes from macro and micro-perspective at the same time and need to use approaches and tools that are not only sensitive to the particularities of the receiving environment but are also able to count with its heterogeneity and changing nature. It has to be taken into consideration that some actors in the receiving environment (schools and teachers) have different absorptive abilities and change-management capacities. They should also be aware that development interventions have forming impacts over a long period of time and impacts are not generated in a linear manner. The environment receiving the interventions change over time: what initially appeared as a factor determining the effects of the interventions, can become a factor formed by the interventions. As curriculum development interventions require complex, time-consuming changes in organizational and individual behaviours, and they necessitate the joint action of multitude of actors involved, thinking from a complexity perspective has particular importance in this area.

The conclusions above also have research-methodological implications for research exploring the effects of development interventions. The exploration of non-linear effects not only requires the use of combined research methods, but also the ability to handle the complexity of causality relationships. Among other things, the peculiarity of circular effects is that it is not possible to draw up a sharp boundary between dependent and independent variables. Factors measured by independent variables may change as a result of interventions and generate new, often unexpected effects.

References

Aladjem, D.K., Birman, B.F., Harr-Robins, J., Parrish, T.B. and Ruffini, S.J. (2010): *Achieving Dramatic School Improvement: An exploratory Study*. U.S. Department of Education. Washington, DC.

Altrichter, H. (2005): *Curriculum implementation – limiting and facilitating factors*. Johannes Kepler University. Linz.

Anka Á., Baráth T., Cseh Gy., Fazekas Á., Horváth L., Kézy Zs., Menyhárt A. és Sipos J. (2016): *Dél-alföld megújuló iskolái*. SZTE. Szeged.

Bakkenes, I., Vermunt, J. and Wubbels, T. (2010): Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers. *Learning and Instruction*. Vol. 20. pp. 533–548.

Baráth T. (2014): Az iskola mint tanulószervezet. In: Benedek A. és Golnhofer E. (szerk.): *Tanulmányok a neveléstudomány köréből - 2013: Tanulás és környezete.* MTA Pedagógiai Tudományos Bizottság. Budapest.

Barnett, W., Greve, H., and Park, D. (1994): An evolutionary model of organizational performance. *Strategic Management Journal*. Vol. 15. pp. 11–28.

Ben-Peretz, M. (1975). The concept of curriculum potential. *Curriculum Theory Network*. Vol. 5/2. pp. 151–159.

Boekaerts, M. (2010): The crucial role of motivation and emotion in classroom learning. In: Dumont, H., Istance, D. and Benavides, F. (eds.): *The nature of learning (Using research to inspire practice)*. OECD. Paris.

Borman G. D., M. Hewes, M. G., Overman and L.T., Hopkins, J. (2003): Comprehensive School Reform and Achievement: A Meta-Analysis. *Review of Educational Research Summer*. Vol. 73/2. pp. 125–230.

Bradley, E. (1995): Causes and Effects of Chaos. *Computers and Graphics*. Vol. 19/5. pp. 775–778.

Bressers, N., Van Twist, M. and Ten Hevelhof, E. (2012): Exploring the temporal dimension in policy evaluation studies. *Policy Sciences*. Vol. 46/1. pp 23-37.

Brynard, P. A. (2005): Policy implementation: Lessons for service delivery. *South African Journal of. Public Administration*. Vol. 40/4.1. pp. 649–664.

Clamdinin, D. J. and Connelly, F. M. (1992): Teacher as curriculum maker. In: Jackson P. W. (ed.): *Handbook of Research on Curriculum*. Macmillan. New York.

Clarke, M. (2010): *Helping World Bank client countries improve their assessment systems. The World Bank*. Power Point Presentation. OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes. GNE Meeting. September 9. Paris.

Cohen, D. K. and Hill, H. C. (2001): *Learning policy: When state education reform works*. *New Haven.* Yale University Press. London.

Darling-Hammond, L. (1990): The Power of the Bottom over the Top. *Educational Evaluation and Policy Analysis*. Vol. 12/3. pp. 339-347.

Darsø, L. and Høyrup, S. (2012): Developing a Framework for Innovation and Learning in the Workplace. In: Melkas, H. and Harmaakorpi, V. (eds.): *Practice-Based Innovation: Insights, Applications and Policy Implications*. Springer. London. pp. 135-154

Datnow, A. and Park, V. (2009): Conceptualizing Policy Implementation: Large-Scale Reform in an Era of Complexity. In: Sykes, G., Schneider, B. and Plank, D. (eds.): *Handbook of Education Policy Research*. Routledge. New York. pp. 348–361.

Day, C., Sammons, P., Hopkins, D., Harris, A., Leithwood, K., Gu, Q., Brown, E., Ahtaridou, E. and Kington, A. (2009): *The Impact of School Leadership on Pupil Outcomes. Final Report.* University of Nottingham. Nottingham.

Deng, Z. (2011): Revisiting Curriculum Potential. *Curriculum Inquiry*. Vol. 41/5. pp. 538-559.

Elmore, R. F. (1980): Backward Mapping: Implementation Research and Policy Decisions. *Science Quarterly*. Vol. 94/4. pp. 601–616.

European Commission (2002): *Project Cycle Management Handbook*. European Commission. Brussels.

Expanzió Humán Tanácsadó (2011): *Értékelő jelentés a Nemzeti Fejlesztési Ügynökség számára a TÁMOP 3. prioritás közoktatási és kulturális konstrukcióinak értékelése témában.* Expanzió Humán Tanácsadó Kft. Budapest.

Faragó K. (2008): Siker és kockázatvállalás a szervezetekben. Humán tényezők a vállalkozásban. *XXI. Század – Tudományos Közlemények*. Vol. 19 pp. 69-86.

Fullan, M. (2008): *Változás és változtatás – A ráadás.* Oktatáskutató és Fejlesztő Intézet. Budapest.

Fullan, M. and Pomfret, A. (1997): Research on Curriculum and Instruction Implementation. *Review of Educational Research*. Vol. 47/2. pp. 335–397.

Gilbert, R. (2011): *Professional Learning Flagship Program: Leading Curriculum Change Literature Review.* Australian Institute for Teaching and School Leadership. Melbourne.

Gordon, M. F. and Louis, K. (2010): North Carolina and Nebraska: Two States, Two Policy Cultures, Two Outcomes. In: Seashore Louis, K. and van Velzen, B. (eds): *Educational Policy in an International Context.* Political Culture and Its Effects. New York.

Gordon Győri J. (2007): Tanórakutatás (lesson study). *Új Pedagógiai Szemle.* Vol. 57/2. pp. 15-23.

Halász G. (2012): *Az oktatás Európai Unióban - tanulás és együttműködés.* Új Mandátum. Budapest.

Halász G. (2013): Oktatásfejlesztés uniós forrásokból: a 2014-2020 közötti időszak kihívásai. In: *Kónyáné Tóth M.* és Molnár Cs. (szerk.): *Nevelés-oktatás határon innen és túl. XV. Országos Közoktatási Szakértői Konferencia.* Litográfia. Debrecen.

Halász G. és Szőllősi T. (2012): *A fejlesztő beavatkozások hatásmechanizmusainak kérdései a nemzetközi fejlesztőszervezetek tevékenységében*. ELTE PPK. Kézirat.

Hermann Z. és Varga J. (2011): A közoktatás finanszírozása. In: Balázs É., Kocsis M. és Vágó I. (szerk.): *Jelentés a magyar közoktatásról 2010.* Oktatáskutató és Fejlesztő Intézet. Budapest. 109–132.

Hill, M. and Hupe, P. (2009): *Implementing public policy*. Sage. London.

Hopkins, D. and Reynolds, D (2001): The Past, Present, and Future of School Improvement: Towards the Third Age. *British Educational Research Journal*. Vol. 27/4. pp. 459-475.

Horváth H. A. (2011): Az informális tanulás történeti színterei. *Iskolakultúra.* Vol. 4/5. pp. 44-54.

Horváth L., Verderber É. and Barath, T. (2015): Managing the Complex Adaptive Learning Organization. *Contemporary Educational Leadership.* Vol. 2/3. pp. 61-83.

Imre A. (szerk.) (2015): *Eredményesség és társadalmi beágyazottság. A délután 4-ig kiterjesztett iskola bevezetésének első tapasztalatai.* Oktatáskutató és Fejlesztő Intézet. Budapest.

Istance, D. és Kobayashi, M. (szerk.) (2012): *Az innováció hálózatai. Az iskolarendszer és az iskolamenedzsment új modelljei.* OECD - OFI. Paris - Budapest.

Jackson P. W. (ed.) (1992): *Handbook of Research on Curriculum*. Macmillan. New York.

Jenei Gy. (2007): *Komparatív közpolitika. Akadémiai doktori értekezés*. Kézirat. Budapest.

Keczer G. (2014): *Az egyetemek szerepe, irányítása és működése a 21. század elején.* Egyesület Közép-Európa Kutatására. Szeged.

Kelly, A.V. (2004): *The Curriculum, Theory and Practice*. Sage. London.

Kerber Z. (szerk.) (2011): *Sokarcú implementáció. Kompetenciafejlesztő programcsomagok bevezetése a HEFOP 3.1.3 iskolákban*. Oktatáskutató és Fejlesztő Intézet. Budapest.

Kozma T. (2012): *Oktatáspolitika*. Egyetemi jegyzet. Kézirat. Debrecen - Pécs.

Lénárd S. (2016): Az eredményes iskolavezetés és tanulás a szervezetben In: Vámos Á. (szerk): *Tanuló pedagógusok és az iskola szakmai tőkéje.* ELTE Eötvös Kiadó. Budapest. pp. 103-122.

Lieberman, A. (1998): The growth of educational change as a field of study: understanding its roots and branches. In: Hargreaves, Lieberman, A. Fullan, M. and Hopkins D. (eds.): *International handbook of educational change.* Kluwer. London. pp. 13-20.

London School of Economics (LSE) Enterprise Ltd, Vision & Value, Red2Red Consultores, Expanzió Consulting Ltd. and Deutschland Denken! e.V. (2010): *Final report for the ex-post evaluation of the European Social Found* (2000–2006). European Commission. Brussels.

Lowi, T. J. (1972): Four Systems of Policy, Politics, and Choice. *Public Administration Review*. Vol. 32/4. pp. 298–310.

Magyar Köztársaság (2003): *Humánerőforrás-fejlesztés Operatív Program 2004–2006*. Foglalkoztatáspolitikai és Munkaügyi Minisztérium. Budapest.

Marsh, Colin J. (2004) *Key concepts for understanding curriculum.* Routledge Farmer. London.

Matland, R. E. (1995): Synthesizing the Implementation Literature: The Ambiguity-Conflict Model of Policy Implementation. *Journal of Public Administration Research and Theory*. Vol. 5/2. pp. 145–174.

McLaughlin and M. W. and Berman, P. (1975): *Macro and Micro Implementation.* Rand Corporation. Santa Monica.

Megakom Stratégiai Tanácsadó Iroda (2008): *„HEFOP időközi értékelés 2007".* Kézirat. Budapest.

Meirink, J., Meijer, P. C., Verloop, N. and Bergen, T.C.M. (2009): How do teachers learn in the workplace. An examination of teacher learning activities. *European Journal of Teacher Education.* Vol. 32/3. pp.209–224.

Mischke, G. (2010): *Towards Effective Curriculum Design in Open Distance Learning*. Progressio. Vol. 3/2. pp. 145-163.

Mourshed, M., Chijioke, C. and Barber, M. (2010): *How the world's most improved school systems keep getting better.* Mckinsey&Company. London.

Mulford, W. (2005): Organizational Learning and Educational Change. In: Hargreaves, A. (ed.): *Extending Educational Change. International handbook of educational change.* Kluwer. London. pp. 336–361.

Mulgan, G. and Albury, D. (2003). *Innovation in the public sector.* London Strategy Unit, Cabinet Office. London.

OECD (2000): *Knowledge Management in the Learning Society.* OECD Publishing. Paris.

OECD (2012): *Schooling Redesigned. Towards Innovative Learning Systems.* OECD Publishing. Paris.

OECD (2013): *Innovative Learning Environments. Educational Research and Innovation.* OECD Publishing. Paris.

Pálvölgyi, K. (2018): *A Magyarországi Bologna-Implementációs Folyamat Elemzése.* Doktori értekezés. ELTE PPK. Kézirat.

Pollitt, C. (2008): *Time, Policy, Management: Governing with the Past.* Oxford University Press. Oxford.

Pőcze G. (1995): A NAT és a gyakorlat: a Nemzeti alaptanterv implementációja. *Új Pedagógiai Szemle*. Vol. 4. pp. 12–35.

Pressman, J. and Wildavsky, A. (1984): *Implementation: How Great Expectations in Washington are Dashed in Oakland; or, Why It's Amazing that Federal Programs Work at All.* University of California Press. Los Angeles.

Radó P. (szerk.) (2003): *A közoktatás tartalmi szabályozásának rendszere Magyarországon. Az Oktatáspolitikai Elemzések Központja nyilvános közpolitikai elemzése*. Országos Közoktatási Intézet. Budapest.

Réthy E. (2002): A kognitív és motivációs önszabályozást kialakító oktatás. *Iskolakultúra.* Vol. 2. pp. 3-12.

Sabatier, P. (1986): Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*. Vol. 6/1. pp. 21–48.

Setényi J. (2012): Az Európai Szociális Alap értékelése (2000-2006). Értékelés és politika. *Educatio.* Vol. 24/3. Budapest. pp. 438 – 448.

Snyder, J., Bolin, F., and Zumwalt, K. (1992): Curriculum implementation. In: Jackson, P. W. (ed.): *Handbook of Research on Curriculum.* Macmillan. New York. pp. 402-435.

Sokolowska, D., de Meyere, J., van Graf, M., Rovsek, B. and Peeters, W. (2014): Intended, implemented and attained MST curricula across Europe: What can research tell us? In: Constantinou, C. P., Papadouris, N. and Hadjigeorgiou, A. (eds.): *Science Education Research for Evidence-based Teaching and Coherence in Learning.* ESERA Conference.

Stoll, L. and Louis, K. S. (eds.) (2007): *Professional Learning Communities. Divergence, Depth and Dilemmas.* Open University Press. London.

Szivák J. és Verderber Éva (2016): A pedagógusok reflektív gondolkodása és a szervezeti kontextus. In: Vámos Á. (szerk.): *Tanuló pedagógusok és az iskola szakmai tőkéje*. ELTE Eötvös Kiadó. Budapest. pp. 103-122.

Thijs, A. and van den Akker, J. (ed.) (2009): *Curriculum in development*. SLO. Enschede.

Murray, T. R. (1994): Implementation of Educational Reforms. In: Postlethewait, T., Neville Clark, R. Burton, and G. R. Neave (eds.): *The Complete Encyclopaedia of Education.* Elsevier Science. Oxford.

Letschert, J. (ed.) (2005): *Curriculum development re-invented*. SLO. Leiden.

van Twist, M. van der Steen, M., Kleiboer, M., Scherpenisse J. and Theisens H. (2013): *Coping with very weak primary schools toward smart intervention in Dutch education policy.* A Governing Complex Education Systems Case Study. OECD. Paris.

Varga A. (szerk.) (2015): *Gyakorlat-Reflexió-Innováció. Nevelési-oktatási programok részvételi alapú fejlesztése.* OFI. Bp.

Vass V. (2004): *NAT START – A Nemzeti alaptanterv implementációs terve*. Oktatási Minisztérium. Kézirat.

Vermunt, J. D. and Endedijk, M. D. (2011): Patterns in teacher learning in different phases of the professional career. *Learning and Individual Differences.* Vol. 21. pp. 294–302.

Vermunt, J. D. and Verloop, N. (1999): Congruence and friction between learning and teaching. *Learning and Instruction*. Vol. 9. pp. 257−280.

Vespoor, A. (1986): *Implementing Educational Change: The World Bank Experience. Discussion Paper. Education and Training Series.* The World Bank. Washington DC.

Westfall-Greiter, T. (2013): *The Lerndesigner-Network in Transition*, National Center for Learning Schools for the Ministry of Education, Art and Culture. System Monitoring Note 1. Austria. OECD CERI. Paris.

Winter, S. C. (2012): Implementation. In: Peters, B G. and Pierre, J. (ed.): *The Sage Handbook of Public Administration.* Sage. London.

World Bank (2004): *Aid Effectiveness and Financing Modalities*. Paper prepared for Development Committee Meeting, 2 October. World Bank. Washington DC.

Zinkevičiene, N. (2004): *How to examine educational organization absorptive capacity in the aspect of pedagogical innovations?* European Conference on Educational Research Post Graduate and New Researcher Pre-Conference. University of Crete. Heraklion.

Own publications in the theme of the thesis

Fazekas Á. (2018): The impact of EU-funded development interventions on teaching practices in Hungarian schools. *European Journal of Education*. Vol. 53/3. pp. 377-392.

Fazekas Á. (2018): Innovációk keletkezése és terjedése egy budapesti általános iskolában. *Neveléstudomány: Oktatás Kutatás Innováció*. Vol. 1. pp. 42-58.

Fazekas Á., Sági M., Halász G. és Horváth L. (2018): *Az oktatási innovációs folyamatok elemzése meglévő adatbázisok másodelemzésével.* ELTE PPK. Kézirat. doi: https://ppk.elte.hu/file/Secondary_data_analysis_JAV__HG_-_2018.03.06_.pdf

Fazekas Á., Halász G. és Horváth L. (2017): Innováció az oktatásban: az Innova kutatás elméleti-fogalmi keretei. *Neveléstudomány: Oktatás Kutatás Innováció*. Vol. 4. pp. 26-43.

Fazekas Á. and Imre A. (2016): Elements of New Public Management in the context of the Hungarian education system, 1990-2010. In: Gunter, H. (eds.): *New Public Management and the Reform of Education: European lessons for policy and practice.* Routledge. Abingdon. pp. 141-155.

Fazekas Á. (2016): *A közoktatás-fejlesztési beavatkozások hatásmechanizmusai – jelentés az empirikus adatfelvételről.* ELTE PPK. Kézirat. doi: http://www.impala.elte.hu/wp-content/uploads/2013/05/101579-e.jelentés-2016-01.pdf

Fazekas Á., Horváth L. és Baráth T. (2015): Az iskolák tanulószervezeti működésének modellje In: Tóth P. és Holik I. (szerk.): *Új kutatások a neveléstudományokban: Pedagógusok, tanulók, iskolák - az értékformálás, az értékközvetítés és az értékteremtés világa*. ELTE Eötvös Kiadó. Budapest. pp. 23-32.

Fazekas Á. és Halász G. (2015): Az oktatási innovációk világa. A tanulásszervezést érintő innovációk specifikumainak áttekintése. ELTE PPK. Kézirat. doi: http://halaszg.ofi.hu/download/Innova-2.1.pdf

Anka Á., Baráth T., Cseh Gy., Fazekas Á., Horváth L., Kézy Zs., Menyhárt A. és Sipos J. (2016): *Dél-alföld megújuló iskolái*. SZTE. Szeged.

Fazekas Á. (2015): Eredményes iskolák – változó gyakorlatok. *Új Pedagógiai Szemle* Vol. 5/6. pp. 29-50.

Fazekas Á. és Halász G. (2015): *Az uniós finanszírozású kurrikulumfejlesztési programok implementálása.* ELTE PPK. Kézirat. doi: http://www.impala.elte.hu/wp-content/uploads/2013/12/4.-Szintézis-tanulmány.pdf

Fazekas Á. (2015): *The impact of EU-funded development interventions on teaching practices in Hungarian schools.* ECER Conference. Budapest.

Fazekas Á. (2015): *A pedagógiai innovációt támogató tudásmenedzsment eszközei*. OFI. Kézirat. doi: http://www.ppk.elte.hu/nevtud/fi/innova/produktum

Balázs É., Fazekas Á., Fischer M., Győri J., Halász G., Kovács I. V., Molnár L., Szőllősi T., Vámos Á. és Wolfné Borsi J. (2015): *Okos Köznevelés: Javaslat a Nemzeti oktatási innovációs stratégia kiegészítésére - NOIR+ stratégia.* ELTE PPK. Kézirat. doi: http://ppkteszt.elte.hu/file/NOIR_HG.pdf

Halász G., Fazekas Á., Kovács I. V. és Lénárd S. (2015): *A közoktatás innovációs és tudásmenedzsment rendszerének elméleti megalapozása és fejlesztési irányai.* OFI. Kézirat. doi: http://www.ppk.elte.hu/nevtud/fi/innova/produktum

Fazekas Á. és Halász G. (2014): A kurrikulum fejlesztését célzó közoktatási programok implementálása. *Neveléstudomány: Oktatás Kutatás Innováció*. Vol. 4. pp. 23-42.

Fazekas Á. (2014): Az uniós oktatásfejlesztés új feltételei. *Új Pedagógiai Szemle*. Vol. 1. pp. 15-42.

Fazekas Á. (2014): A szervezeti jellemzők hatása a fejlesztési programok iskolai szintű megvalósulására. *Neveléstudomány: Oktatás Kutatás Innováció*. Vol. 4. pp. 43-66.

Fazekas Á. (2014): Közép-európai oktatásfejlesztési programok. In: Szabolcs É. és Garai I. (szerk.): *Neveléstudományi kutatások közben: Válogatás doktori hallgatók munkáiból.* ELTE Eötvös Kiadó. Budapest. pp. 101-114.

Fazekas Á. és Halász G. (2012): Az implementáció világa: Az európai uniós forrásokból megvalósított magyarországi oktatásfejlesztési beavatkozások empirikus vizsgálatának elméleti megalapozása. ELTE PPK. Kézirat. doi: http://www.impala.elte.hu/wp-content/uploads/2013/05/Fazekas-Hal%C3%A1sz-20131.pdf

Fazekas Á. (2012): Nemzeti kurrikulumok reformjai. ELTE PPK. Kézirat. doi: http://www.fmik.elte.hu/wp-content/uploads/2012/09/Fazekas-2012b-Nemzeti_kurrikulumreformok1.pdf

Fazekas Á., Halász G., Molnárné Stadler K., Németh Sz., Ollé J., Sántha K., Ütőné Visi J. és Vass V. (2012) A pedagógiai rendszerek általános hatás- és beválásvizsgálati rendszere In: Falus I., Környei L., Németh Sz. és Sallai É. (szerk.): *A pedagógiai rendszer: Fejlesztők és felhasználók kézikönyve*. Educatio. Budapest. pp. 209 -243.

Fazekas Á. (2011): A közvetítő intézmények szerepe az implementációs folyamatokban. In: Kerber Zoltán (szerk.): *Sokarcú Implementáció*. Oktatáskutató és Fejlesztő Intézet. Budapest. pp. 77-95.

Fazekas Á. (2011): A HEFOP 3.1.3 ”Felkészítés a kompetencia-alapú oktatásra” program bevezetése. In: Kerber Zoltán (szerk.): *Sokarcú Implementáció*. Oktatáskutató és Fejlesztő Intézet. Budapest. pp. 41-63.