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Understanding Professional and Pedagogical Problems and Reflections of Teachers by Professional Capital Model

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The appearance of the reflective paradigm in the determinative periods of teacher research is highly important. Early researches focused on the role of reflection in the teacher training and in the teacher education programs to develop the capacity of evaluating and improving teaching practices and to help clarify early stage teachers' visions about their own teaching practices (Schön, 1983, 1987; Valli, 1992).

Nowadays the reflective thinking of teachers is one of the corner stones of the continuing professional development concept (Kennedy, 2005; Eraut, 2000, 2007). Spreading the learning organization model (Senge, 1990) has helped to realize that the organizational effectiveness might be increased by synchronizing the individuals' professional development with the development of the whole organization. The experience not necessary leads to learning, therefore, we need to examine and reflect our experiences both on a personal and on an organizational level. The institutions might will be able to enhance their common, organizational knowledge, knowledge-sharing mechanisms, analyzing their own learning processes, ultimately conforming the permanent changing environment by improving the organizational learning. Thus the model of continuing professional development can be linked to the adaptive change of organizations.

Theoretical framework

Research of reflective paradigm

The creator of reflective paradigm is Dewey (1933), he states that experience is an interaction between the individual and the environment. He interprets learning as gaining experience, which is happening through the reflection. The role of reflection is problem-solving in his concept. He highlights, reflection is an intentional action and impels inquiry. "He maintained that reflective thinking leads practitioner to act in a

deliberative and intentional fashion rather than in a blind and impulsive manner" (Çimer, Çimer & Vekli, 2013:135).

The concept of the reflective teacher was introduced by Schön (1983), he focuses on the dialogue between the problematic situation and the reflecting person, thus "reflection-in-action is a reflective conversation with the materials of a situation" (Schön, 1983). "Reflection-on-action refers to thinking about a specific action or event outside of its occurrence and it is a deliberative action" (Çimer et al., 2013:135). Reflection concept of Schön is "considered as the process of thinking about something while doing it" (Çimer et al., 2013:135), including skills to choose reasonably and to take responsibility for our decisions (Szivák, 2003).

Dewey and Schön emphasize the importance of problem solving in professional practice, thereby the starting point of reflection is a problem. Action, reflection and action are the stops of their cycle of reflection, when "the cyclic pattern of experience and the conscious application of the learning outcomes of that experience" (Dybå, Maiden & Glass, 2014:33) follow each other.

On the other hand some researchers define reflection as a cognitive strategy (Taggart-Wilson, 2005; Szivák, 2014), which can change, improve and develop in the process of becoming an expert. The base of reflection is not the problem or success, but the person, who is prompting introspection. Thus the focus is not only on the situation, but the individual's interpretation, which depends on personal values, experiences and goals. Important to note the link between personal and organizational reflection, i.e. the analytic and reflective culture of the organization can be a framework for the reflection of individuals by supporting and leading.

Reflective thinking model of Taggart and Wilson

"There have been attempts to describe levels of reflective thinking" (Dervent, 2015:261). This study uses the reflective thinking pyramid of Taggart and Wilson (2005) to assess the levels of reflection of teachers. The model represents three levels of reflective thinking: technical, contextual, and dialectical.

Technical level - as Dervent (2015:261) notes - "emphasizes achieving the curriculum objectives with no consideration of any problems that the classroom, school or social context may pose". Teachers concentrate only on the methodological, technical difficulties, the determined educational outcomes to solve specific problems (Lasley, 1992). Moreover they ignore innovative or alternative solutions, emotions and the needs of students. Teachers do not analyse, just describe, thus Valli (1990) denied the real reflection in this level.

Contextual level emphasises clarifying the context underlying the problem. Teachers analyse the content of problems and pursue their teaching practice being varied, and make an effort to satisfy students' needs (Taggart-Wilson, 2005; Collier, 1999).

At the highest, dialectical level of reflective thinking, teachers examine social conditions, moral and ethical questions, values. They analyze objectively and self-reflection is priority for them (Dewey, 1933; Taggart-Wilson, 2005).

Understanding reflection in organizational level

As we mentioned above nowadays the focus of reflection is on the link between continuing professional development of individuals and the organizations' development (Kennedy, 2005; Eraut, 2000, 2007), which arises the question: how can schools link to teachers' reflection and professional development? Obviously, this is not possible without the reflection and awareness of the organization, thus "the quality of the learning environment in which teachers are empowered to reflect on their practice is a decisively determined for reflective practice" (Çimer et al., 2013:137).

To a better understanding, we need to examine the learning organizations. Reflection is a core process in organizational learning, as Senge (1990) notes, the core challenge of organizations is to become more reflective. As the definition of learning organizations by Argyris (1993) notes, individuals learn by collaboration, they create new knowledge and results together. Additional features: motivating the professional development of teachers, experimenting with new methods, improving new proceedings, supporting cooperation and knowledge-sharing. Reflective practice is "central in personal mastering, mental modelling, sharing visions, team learning and systems thinking" (Senge, 1990). Because of the atmosphere of trust, teachers support each others, professional reviews and reflections are systematic in this type of organizations.

Evans (1998) stresses every teacher need to be involved in the reflection, thereby they can become a part of permanent control and improving learning processes. A learning organization continuously reflect to the gained knowledge in the interest of modifying adaptively on its own behavior (Garvin, 1993). Pinxten et al. (2011) emphasize the necessity of systematic reflection at the conformation and changing process. That's why the reflection have been seen as core of double-loop learning and deuteron learning since the expansion of organizational learning.

Summarizing reflective practice contributes to the continuous professional development of the individual, and – with collaborative search for solutions – it also supports the development of common knowledge.

Problem Solving of teachers

The focus on problem solving seems to be a key component of teaching and of course of reflective thinking. There are various definitions and

approaches of problem solving; these have been limited for the purpose of the paper. Most definitions of problem or problem-solving start from mathematics. When we identify problems in pedagogical process, the view of students appear. While literature on the problems in students' learning is rich, there are only few examples of research in the field of teachers' ideas arising from this problem area.

There are organizational approaches in problem-solving because of the communities of practice and learning organizations theory (OECD 2000, 2013; Gilber, 2011, Juhászné Klér, 2011; Baráth, 2014). Without problems there is no change, and without change there is no development, so especially important to teachers and schools the ability of solving problems, because these challenges can lead them in the way of adaptive change.

Professional Capital model

We examine aforementioned approaches of reflective thinking and problems-solving by the model of professional capital by Fullan and Hargreaves (2012). Their model describes three kind of capitals, such as: human, social and decisional capital. This model helps us to understand the behaviour of schools as organizations, the processes and internal operations, the effectiveness in schools and give us a new way of thinking about reflection.

As Fullan and Hargreaves (2012:88) notes "effective teaching for the whole profession is a product of these three kinds of capital amplifying each other". Human capital is based on investing in people's education to keep them getting better, it is about individual talent. But we "cannot increase Human capital just by focusing on it in isolation" (Fullan-Hargreaves, 2012:89). Involving teamwork, enabling teachers to learn from each other, building networks of communication, learning to collaborate is all being the part of Human Capital and the Social capital as well, because social capital is based on concentrating on the group. Thus Social capital exists in the relations among teachers - in their interactions, in social relationships, in knowledge and information-sharing, in conventional norms of behavior. It is about trust. Basically it helps to increase your knowledge by giving access to others' Human capital. The third capital is Decisional capital, which is "the essence of professionalism", because Decisional capital is based on the "ability to make discretionary judgements" (Fullan-Hargreaves, 2012:93-96). It mediates through interaction with colleagues (Social capital) and it involves the personal autonomy of teachers, the possibility to take responsibility and to feel free to share personal opinion (Human capital). As we mentioned before, these capitals connect to and enable each other (Fullan-Hargreaves, 2012).

Methods

Our one and a half year research aim were exploring professional, pedagogical problems arising in the case of teachers being active in innovations, developments, and further trainings; understanding the reasons leading to these problems; as well as exploring the characteristics of reflection on individual and organizational levels in order to address supporting and hindering factors. Results are interpreted in terms of the professional capital model for a better understanding of the institutional effectiveness.

37 teachers have been selected from a previous research's (N=8000) sample. Our methods were professional career narratives, semi-structured interviews, focus group discussions. The research questions underpinning this study are:

- (1) What characterizes reflective practice of teachers and schools as organizations?
- (2) What are the characteristics of problem solving in the perceptions of teachers?
- (3) How does the professional capital model appear in the examined institutions?

Results

In order to answer the questions mentioned above, we created the following research categories such as starting point, goal, content and levels of reflection.

Starting point of teacher reflection

As we mentioned before, one of the models of reflective thinking focuses on reflective situation which is starting from a problem (Schön, 1987; Dewey, 1933; Eby & Kijawa, 1994), thus we examined teachers' reflection start from problems or not. The results of the study indicate that the teachers' reflection is based on problems in the learning-teaching process, because most of the answers (37) mentioned problems as the starting point of reflection, lower compared to this ratio were mentioned not just problems (23), which is consistent with the theories of reflective thinking, as we have seen above.

Goal of reflection

To understand the goal of reflective thinking of teachers, we create to following categories: professional efficiency, self-knowledge, continuing professional development, development of common knowledge.

From all of the answers of this category (N=121), 58 were about professional efficiency. The common knowledge development had highly result too (36), but the continuing professional development mentioned only 20 and the smallest proportion was the self-knowledge (7). This suggest, teachers' reflection does not directed their Human capital, because they do not interpret their reflection as a cognitive strategy, because the reflection is intended to solve a specific problem or task, thus there is no relations between continuing professional development and reflection in their thinking.

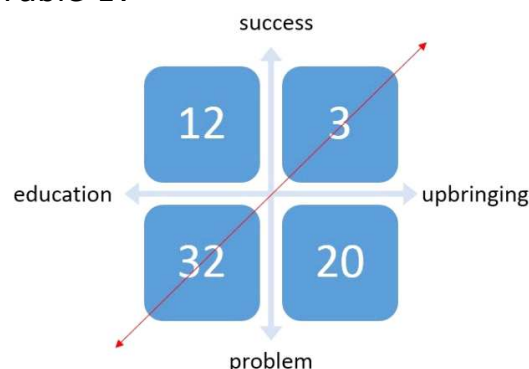
"We look at the grade changes between the 4th and 5th class, why can a student's grade average change so drastically. Who evaluated under and who over?" (I.23).

Content of reflection

Teachers bring their values, beliefs, and prior experiences into the class, which affect their teaching. Conversely, the way they teach in the classroom affects the way that they construct their knowledge, and the meaning which they give to their experiences, thus the way they reflect to these experiences is critical. But which experiences do appear in reflection of teacher? To answer this question we examined the content of reflections both in personal and organizational level.

In personal level reflection is might be identified as self-reflection of teachers, where they reflect their own effectiveness and efficiency of educational and welfare work. By reason of our research question about organizational level of reflection, we examined the presence of professional learning communities, i.e. we analyzed the answers about knowledge-sharing and acquisition.

Thus the content of reflection is about the following categories and subcategories: education – upbringing (such as: educational problems and successes; upbringing problems and successes) and the organizational knowledge-sharing and knowledge-acquisition (such as: formal and informal knowledge-sharing, mentoring, formal and informal knowledge-acquisition). Important to note that, the goal of reflection does not mentioned in the carrier narratives, so we had to explicitly ask about that during the interviews. The result of reflection about education and upbringing is on the Table 1:



It is worth highlighting the responses in opposite quadrant, such as education problem (32) and upbringing success (3). It might correlate the result of our first category as starting point of reflection, because most reflection of teachers starts from problems.

Looking at the organizational level, the formal knowledge sharing is widespread (65) in schools, than non-formal knowledge exchange (29). Even so teachers do not perceive their own knowledge acquisition opportunity in the process of knowledge-sharing, which is indicated by the low number of responses (21).

"Actually, in our institute usually the headmaster and the deputy headmaster visit classes, and then we discuss them together, sometimes briefly, sometimes longer, depending on how much time we have" (I.6).

Levels of reflection

Reflective Thinking Pyramid Model by Taggart and Wilson illustrates the reflective thinking process and describes the reflective thinking depth. Half of all responses of the category (41) were in the lowest level of reflective thinking, i.e. on technical level, where some of the researchers denied the real reflection. Teachers do not analyze, just describe classroom events, *they concentrate the short-term problem-solving and the content of the teaching.*

"Absolutely, leadership of school supports and expects systematic meeting of teachers. Usually we need to talk about decisions and competitions. For instance we need to decide about textbooks in February" (I.19).

On contextual level were 31 responses, where teachers analyse content of problems and take into consideration students' needs.

"Yes, there are weekly evaluations with the children, we discuss the problems, what is wrong, what is right, the achieved goals. If a pedagogical problem occurs, that we have to solve as fast as we can, we get together, but there isn't any time for anything else" (I.11).

On dialectical level were the lowest responses, only 10, although, teachers analyze objectively in this level, they examine moral and ethical questions and literature of education or psychology.

„Important elements of our job are besides of technical and methodological methods, teachers' educational attitudes, evaluation, motivating students, supporting learning and communication. But development is long-term" (I.05).

Problems and problem-solving of teachers

Most of the problems were described between one or two students and a teacher, at second place there is a problem between the class and teachers. Most mentioned the personal problems with personal solutions, after that, at second place teachers mentioned personal problems with organizational solution. After the analyze of interviews, we drew up the following mentioned elements (in descending order). students' integration problems, learning and behavior problems, relation between parents and students, problems of child protection, school management and development, problems of education organization.

The following have been identified as causes of problems by teachers (in order of frequency). students, colleagues, school and reasons beyond school. Problems related to students mentioned such as involving new students in class or disadvantaged students.

Teachers defined problems as personal failure, and during problem solving reflection is in lower level. The possible ways of problem solving are: a) no problem b) there is a problem, which could be handled, but nobody should about know it c) it could be handled, but by involving colleagues, but it is a secret between them d) involving outsiders to help - help stays hidden e) solving the problem by the people in positions of power – their responsibility

„In weakness very few dare to step up, because they don't want to reveal that they can't solve a common situation or problem“ (I.04).

Discussion

What characterizes reflective practice of teachers and schools as organizations?

The results of the study indicate that the teachers' reflection is based on problems in the learning-teaching process. The continuing professional development and the self-knowledge are less important, instead they concentrate the short-term problem-solving and the content of the teaching, because their reflective thinking is on the technical level of the Taggart-Wilson's model (2005). Reflective thinking is natural in the public education sector, but the expectation of profession and governance is not enough. Teachers often perceive that reflective thinking skills need to be taught, however our research has shown that they may not know how to do this effectively. Teachers feel their lack of knowledge in this field. Analyzing pedagogical situations, processing common problems are superficial and not deep enough. Hungarian teachers involved in this research do not share their problems, do not explore the real causes of their problems, thus the possibility to support each other's reflection was mentioned rarely. Teachers are used to be alone, because it is his or her responsibility to find solutions, and the failure is his or her fault.

What are the characteristics of problem solving in the perceptions of teachers?

Individuals are also left alone in coping the problems; the strengthening of the isolated activity of teachers is typical instead of the consolidation of communities of practice. Some of the innovative teachers assume that those making mistakes certainly reflect in themselves, as well as search for reasons and looking for improvement. The fact that teachers hardly reveal their problems to one another is also caused by the absence of common goals and collective responsibility, and that way, each other's professional support cannot be realized in a professional way. In the case of teachers pursuing studies for solving problems and where an external innovative motivation aimed at the organization transforms into social learning, the realization may be seen that collaboration and common reflection may provide benefits for all. The possibility for collaboration appears with the presence of external projects; their long term effect depends on the organizational culture.

How does the professional capital model appear in the examined institutions?

The results of the study indicate that the capital elements of Fullan and Hargreaves' model are indeed present in the organizations, but there is no systematic relationship between them. A lack of learning organizational mechanisms and organizational cultural elements may be observed; however, through these, the elements of professional capital would be able to work in strong interaction and can strengthen each other. This means that the individual workplace learning and knowledge enhancement may be considered regular; however, knowledge of individuals is not added to the collective competence of the organizations – at least not consciously, with the help of strategies building on horizontal learning. Sharing of knowledge and forms of collaboration are not stable elements of the organizational culture; these processes usually take place in an informal setting.

References

- Argyris, C. (1993). *On Organizational Learning*. Cambridge, MA: Blackwell.
- Baráth Tibor (2014). Az iskola mint tanulószervezet. In Benedek A., & Golnhofer E. (szerk.), *Tanulmányok a Neveléstudomány Köréből – 2013. Tanulás és Környezete*. Budapest: MTA Pedagógiai Tudományos Bizottság.
- Çimer, A., Çimer, S. D., & Vekli, G. S. (2013). How does Reflection Help Teachers to Become Effective Teachers? *International Journal of Educational Research*, 1 (4), 133-149.
- Collier, S. T. (1999). Characteristics of reflective thought during the student teaching experience. *Journal of Teacher Education*, 50, 173-181.
- Dervent, F. (2015). The effect of reflective thinking on the teaching practices of preservice physical education teachers. *Educational Research*, 25 (3), 260-275.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston: Heath and Company.
- Dybå, T., Maiden, N., & Glass, R. (2014). The Reflective Software Engineer: Reflective Practice. *IEEE Software*, 31 (4), 32-36.
- Eby, J. W., & Kujawa, E. (1994). *Reflective planning, teaching, and evaluation: K-12*. New York: Macmillan Publishing Company.
- Eraut, M. (2000). Non-formal learning and tacit knowledge in professional work. *British Journal of Educational Psychology*, 70, 113-136.
- Eraut, M. (2007). Learning from other people in the workplace. *Oxford Review of Education*, 33 (4), pp 403-422.
- Evans, S. (1998). Revisiting the learning organization. *Work Study*, 47 (6), 201-203.
- Fullan, M., & Hargreaves, A. (2012). *Professional Capital: Transforming Teaching in Every School*. New York, NY: Teachers College Press.
- Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*, 71 (4), 78-91.
- Gilbert, R. (2011). *Professional Learning Flagship Program: Leading Curriculum Change. Literature Review*. Melbourne; Canberra: Australian Institute for Teaching and School Leadership.
- Juhászné Klér, A. (2011). A csoportos problémamegoldás folyamatának sajátosságai. In Juhászné Klér A. (Eds.), *Problémamegoldó folyamatok*. Gödöllő: Szent István Egyetem.
- Kennedy, A. (2005). Models of Continuing Professional Development: a framework for analysis. *Journal of Inservice Education*, 31 (2), 235-250.
- Lasley, T. (1992). Promoting teacher reflection. *Journal of Staff Development*, 13 (1), 24-29.
- OECD (2000). *Knowledge Management in the Learning Society*. Paris: OECD.
- OECD (2013). *Innovative Learning Environments*. Paris: OECD.
- Pinxten, W. J. L., Tasya I. A., Hospers, H. J., Alisjahbana, B., Meheus, A. M., Crevel van, R., & Ven van der, A. J. A. M. (2011). IMPACT-Bandung: a learning organization approach to build HIV prevention and care in Indonesia. *Procedia – Social and Behavioral Sciences*, 15, 623-627.
- Schön, Donald A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.
- Schön, Donald A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Senge, P. M. (1990). *The Fifth Discipline: The Art & Practice of the Learning Organization*. New York: Doubleday.

- Szivák Judit (2003). Hallgatók neveléssel kapcsolatos nézetei. *Iskolakultúra*, 13 (5), 88-95.
- Szivák Judit (2014). *Reflektív elméletek, reflektív gyakorlatok*. Budapest: ELTE Eötvös Kiadó.
- Taggart, G. L., & Wilson, A. P. (2005). *Promoting Reflective Thinking in Teachers: 50 Action Strategies*. SAGE Publications.
- Valli, L. (1990). Moral imperatives in reflective teacher education programs. In R. T. Clift, W .R. Houston, & M. Pugach (Eds.), *Encouraging reflective practice: An examination of issues and exemplars*. New York: Teachers College Press.