9th ICEEPSY 2018
International Conference on Education & Educational Psychology

PUPILS' QUESTIONS IN RELATION TO THE TEACHER'S APPROACH TO TEACHING

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Abstract

This theoretical-empirical paper deals with pupil questions at the beginning of school specifically focusing on the questions asked by pupils during maths classes. The aim is to examine the content of the lesson from the aspect of pupils' questions. The first part of the article focuses on the status of the pupil's question in the dialogue and specifies its standing in dialogic teaching. The pupils´ inquisitiveness at the beginning of school is reflected by the nature of the questions they ask. Pupils' questions were the subject of this research to extend knowledge about pupils' questions. The study examined lesson content from the perspective of pupils' questions and to identify types of pupils' questions. The research sample was a collection of available observations, which were used to analyse the nature of pupils´ questions identified therein. 59 children in the fourth and fifth years of primary schools and a total of 3 teachers took part in the research. Interpretation of the compiled results of observations will be the starting point for selection of research strategies during subsequent research stages concerning pupils´ questions in the future, which is to identify learning assignments when teaching mathematics that lead to the formation of pupils' questions.

Keywords: Pupils' questions, dialogic teaching, pre-research strategy.

1. Introduction

Questions as an expression of a pupil's activity and independence in relation to his/her development, and independence in education is one of the traditional requirements of the educational process (Pstružinová, 1992). Pupils' questions have an irreplaceable position in the teaching process. Pupils' questions show teachers that they have understood the content of classes during which communication takes place. However, this understanding is influenced by the power relations, which are present in education and on the basis of which the parties involved in the process obtain the opportunity to present themselves. This field has already been discussed by Slavík et al. (2017), and also Mareš & Křivohlavý (1995) as well as Šalamounová, Bradová & Lojdová (2014). The pupil's engagement in tuition is initiated by the pupil because *"If the pupil indicates to the teacher how the pupil perceives the matter, in what light he sees the problem, how he understands relationships and rules, possibly where there are gaps and where he does not proceed as he should."* (Křivohlavý & Mareš. 1987, p. 74). Šeďová & Švaříček (2010) also consider the pupil's engagement in tuition as being the pupil's activity that is reflected in the ability to communicate. By extension, this is to ask a question and subsequently also to answer a question. The need to ask questions is natural to people, because tuition cannot be carried out without finding out how an activity will take place and what they will need for tuition. The question initiates cognitive activities, which are fundamental for creation of knowledge and activation of understanding in pupils (Zagašev, 2001). As Eva Zoller (2000) states, this understanding is based on questions and pupils question the meaning of the instrumental world. With reference to Ladislav Kvasz (2016), this concerns one of the basic principles of discovery of the world by man in relation to mathematics. Kvasz presents this approach as Genetic constructivism and the basic thesis is that mathematics originated from a dialogue and the dialogue also included the pupil's questions. However, this question is not separate from the reality of the instrumental work, but interacts with it. It is therefore important that in order to understand the meaning of the functioning of an item, the pupil would wish to have the opportunity to question without fear of penalties and receive answers to their questions.

The question remains an important point in pedagogic communication. In children of pre-school age, it is without doubt that their questions are inquisitive and that they discover the world by means of questions. This leads to the question of what the situation is like during the period at the beginning of school attendance? Does this spontaneity continue or does something change during the transformation into a pupil's question during tuition? Studies concerned with questions asked by pupils during the first level of school demonstrate the actual condition of pupils' questioning. Even though this questioning activity is natural to the younger school age, pupils in the first level of primary school are shy to ask questions for unclear reasons (Mareš & Křivohlavý, 1995). According to researchers, pupils at this stage ask questions of an organisational nature and the researchers wonder what causes this situation. Use of questions is an integral element of verbal communication. Plaňava (2005) refers to the fact that the ability to ask the right questions is an important communication skill. A pupil's question is part of the broader context; this being communication, and communication is an unavoidable condition of teaching (Mareš, 1995; Gavora, 2005). However, it is important to ask if pupils' questions are always part of pedagogic communication? Pedagogic communication is a dialogue in which communication sequences alternate and which also provides opportunity for pupils' questions. Pupils begin to communicate when they begin to be interested in the issue and are involved in resolving the issue. Mareš states that "pupils begin to ask when they are left to learn by

themselves" (Mareš, 1995, s. 91). The author of a textbook presents interesting material to the pupil which stimulates the pupil to ask questions. This is the result of the child's natural inquisitiveness, the ability to question is as natural to children as the ability to laugh. Questions activate the pupil's behaviour and memory (Havigerová et al., 2013). Fischer (2011) similarly considers the pupil and his/her questions, which lead to creative and critical thinking and more effective learning. Mareš (2016) refers to various communication structures, which can be identified in teaching. One of the approaches that provides opportunity for pupils' questions is dialogue-interactive (D/I): "The teacher initiates a discussion in which pupils present their personal opinions and life experience; the teacher does not assess their opinions but guides them"; he refers to Scott (2006 cited in Mareš, 275) who identifies this structure as IR-P-R-P, where P refers to guidance, support while IR refers to Initiation and Reaction

Dialogic tuition can be defined as the teacher's approach to education, which is typical for its democratic approach to the communication that is present during tuition. Dialogic tuition can be considered a model of tuition that purposefully applies mutual interaction between the parties to stimulate communication which leads to subsequent participation in resolution of problems by the parties during the tuition. Interaction is the dominant element here, because, in relation to the pupil's questions, it creates opportunities to ask questions and the potential for feedback from the pupil and the teacher. Tůma (2014) defines dialogism as a set of theoretical and epistemological starting points and, in concurring with Slavík (2013) and others Slavík, Janík, Najvar & Knecht (2017), he defines it as the penetration of concepts of human interaction, cognition and construction of knowledge during dialogue. Dialogic tuition is distinguished by specified questions asked by teachers, which function as a "scaffolding" (Šeďová, Švaříček, Sedláček & Šalamounová, 2016), and which are purposefully chosen by the teacher for the dialogue realised between the teacher and his pupils. Construction of knowledge during dialogic tuition is based on dialogue, which is transformed at a specific moment into logical reasoning and this results in genetic constructivism in teaching mathematics, which is distinguished by dialogue with mutual interaction.

Empirically based pedagogic research (Lehesvu-ori & Viiri, 2015; Šeďová & Šalamounová, 2016) states that the goal of dialogic tuition is to enable pupils to express thoughts exceeding the gathering and memorising of facts. This however is not primarily about pupils speaking more often or for longer periods, but for them to express initiative during tuition. Authors consider dialogic tuition to be participation by the parties in the teaching process in the content of tuition, because, as they state (Šeďová & Šalamounová, 2016), participation is based mainly on the social-cultural theory primarily presented by Vygotský (1976) in relation to the zone of closest development. During tuition the pupil deals with situations that are purposefully chosen during dialogic tuition by the teacher so that they respect pedagogic communication. This basically concerns the fact that the pupil's discourse is dominant here, which is another principle of dialogic tuition. Research focusing on self-regulation of a pupil's thought processes (self-regulated learning) took place at the University of Michigan. According to the authors, dialogic tuition provides opportunities for the teacher to penetrate into the pupil's thought processes by means of his discourse and the questions he asks during the content of tuition. Thus, the pupil's acceptance of his/her own learning goals can be simplified. Teachers can adapt their teaching strategy to learning goals and the pupil learns to regulate his/her learning and create his/her own learning strategies. Three categories of the pupil's learning strategies are presented, within the terms of which various pupils' questions may appear. "1) cognitive

learning strategy 2) personality regulating strategy for control over knowledge and 3) source management strategy" (Pintrich, 1999, p.460) within which it is possible to identify how the pupil's questions affect the pupil's self-regulated learning from the pupil's discourses and his/her subsequent questions. Hrbáčková (2004), in concurring with Lukášová (2010), considers whether pupils are capable of regulating their learning and whether auto-regulated learning can be applied to pupils of a younger school age. The authors point out that auto-regulated learning can become a highly effective agent of tuition. At this stage it is appropriate to ask which procedures the teacher can use to create or support the abilities that will develop the pupil's auto-regulation skills. Concurring with Mareš & Čáp (2007) Vágnerová, (2012) also discusses auto-regulated learning as comprehension of various situations in which the pupil finds himself/herself and control over learning activities. Learning can be identified in the questions asked by the pupil and is a reflection of the pupil's activity (Lukášová, 2010, p.116).

It is essential to specify the role of pupils' questions in dialogic tuition in relation to the pupils' engagement in tuition in regard to communication within the content of tuition. Pupils tend to ask more questions during a less traditional type of teaching (Gavora, 2005). Tuition, in which sentences by various speakers alternate, cannot be considered purely dialogic tuition. Another principle of dialogic tuition is the system of teaching assignments that the teacher purposefully chooses to create a relaxed climate and promote the activities and spontaneity of pupils. There is room for argument here (Slavík, et al. 2017) as this is not as simple as it sounds; if the teacher wants to support spontaneity such as pupils' questions during the content of tuition by means of the chosen assignments, it is essential to specify the approach to tuition. On the basis of the theory of education (Bertrand, 1998) approaches to education at primary schools are defined as two poles, which cannot be clearly placed on opposing sides of the barrier in education at pre-school and primary schools. This concerns the transmissive approach, which emphasises the educational function of content and, on the other hand, the constructivistic approach, which emphasises the educational function of the pupil (Slavík, et al. 2017). Piaget and Dewey pursued the constructivism as early as the nineteen eighties. They focused on observing pupils as they learned knowledge and stated that when learning numerical concepts, it is not important for the children to receive finished knowledge, but for the children to critically analyse reality, communicate, assume responsibility for themselves and also for work in the group (Hejný, 2009). As stated previously, it is not possible to purposefully classify the concept of tuition in two separate positions, because they concern "Different programme views of the dynamics of the relationship between the pupil and the content within the teaching environment" (ibid p. 379). Simply put, the concept of tuition cannot be simplified into purely transmissive, in other words (transfer) tuition that mediates finished knowledge and skills to pupils, simplifying their path to knowledge and leading them on the direct path to learning habits. Pupils are passive recipients of processed finished knowledge, and information. Transmissive tuition is similar to pouring water – knowledge into a container or adding goods to a warehouse (the pupil's mind), and the person who pours water into the container is not too concerned about what is already in the container and how the water mixes with this previous content (Mareš et al., 1996). Transmissive tuition is also called traditional; however, according to Janík, this concept cannot be accepted, because it lacks operative anchoring and concerns artificially escalated priorities (Slavík, et al. 2017).

If I use the basic concept presented by Janík (2013), that if I want to place these approaches to tuition in opposition to each other, then they must be researched. During research of the teacher's concept of tuition I examined "which subjective theories teachers have concerning the dilemma of transmission vs. construction". Researchers endeavoured to define the theoretical starting points on which activities must be based for the broadness of the significance of these two concepts. However, as the author states, there is some dialectic tension between these two concepts, because I can place transmission at one pole, which gives specific meanings. "I placed five metaphors in this continuum, which I worked with subsequently during the research probe" (ibid, 2013). In order to better understand the concepts of construction and transmission I used metaphors that present the aforementioned two poles. In didactic mathematics I encounter a pedagogic conviction that is identified by one or the other pole and is distinguished by specific preferences in pedagogic practice. As specified above, it is not possible to state that a teacher "teachers transmissively", or "constructivistically", because these are two different aspects of the relationship between the pupil and the content within the teaching environment (Slavík, et al. 2017).

Transmission: emphasises the educational function of the content
Construction: emphasises the educational function of the pupil

It is not possible to define teaching strategies as transmissive or constructivistic, but I must seek a model of tuition that assures the opportunity for communication within the content of tuition, but also understanding on the basis of shared actions. "By means of a dialogue, during which I rationally reason, i.e. justifiable reasons for someone's actions and convictions are required and given, the general intellectual principles of communication are developed into a special quality" (ibid, 34). The teacher should therefore chiefly have in mind activities that are based on dialogue, questions, hypotheses and problems. If the teacher respects these steps, this concerns the concept of generic constructivism (Kvasz, 2016). Under the concept of didactic constructivism the goals of mathematics affect the instrumental practice of individual fields and their ontogenesis. Mathematics is reflected from the dialogue that is based on logical reasoning and questions within the content of tuition.

The path pursued by didactic constructivism can be specified as a group of convictions, which the teacher assumes when planning tuition. The traditional approach, or formalism, develops the children's memory, but does not promote thinking and does not give children the impulse to be creative, which is natural to every child. An important reason and priority is the quality of the educational procedures, which are targeted and lead to development of the children's intellect and to their ability to apply mathematics with understanding. This actual understanding of elementary activities is more important than the skill of precisely solving the assigned task The dialogue carried out between the teacher and the pupils has its important place in the process of understanding content. This understanding itself is subsequently reflected in the willingness to seek out mathematical and logical tasks on the basis of one's own procedures. Another trait is the child's activity when carrying out actions. The child's activity is subsequently reflected in its judgement, which is accompanied by comments on the basis of which the child formulates mathematical sentences and evidence that the child endeavours to present. The pupils' questions are fundamental when creating the child's knowledge and are immensely important during the younger school age, because it is

the nature of children to be inquisitive and curious. "Knowledge acquired through your own thought processes is of higher quality than assumed knowledge" (Hejný, 2015).

1.1. Construction of knowledge

Mathematical knowledge cannot be presented in finished form, because it is then "just information" which is not long-term and is not always meaningful for the recipient, and lastly, can be interpreted individually and if this information is not proven through activities, it is incomplete knowledge. The fact that a pupil has learned through engagement during tuition means that he has constructed knowledge. Or whether stolen, hidden or incomplete knowledge has been acquired (Slavík, et al, 2017) is a reflection of the child's individual experience and the teacher has the option, on the basis of discussion, suitably chosen assigned tasks and subsequently questions asked by pupils, to establish this. However, it is important to emphasise that construction of knowledge by the child is specific in the mind of every person and this therefore concerns individual constructs and pupils' questions may be very specific.

1.2. Experience

Each person remembers information best when he has tried or experienced it. In mathematics, during creation of concepts or when understanding concepts, the best path to understanding is experience in real life, which is supported in school through a system of escalating tasks, which are mutually interconnected. This may concern research tuition, experimentation or the trial and error method. In these types the task is an opportunity for pupils to ask questions.

1.3. Stimulating environment

The personality of a teacher who creates an environment for discovery and investigation of the space by the child is typical for didactic constructivism. The teacher should be creative and consider the assigned tasks to create an environment stimulating creativity. The situations the child deals with during tuition are realised on the basis of a certain degree of participation by the parties involved in the specific situation. When solving a problem, the pupil initially comes into contact with assignment of a on his own when solving the task, or possibly asks a friend for a brief consultation. This concerns the individual context of solving a task. During this phase the question is created internally. The pupil creates and formulates the question. After the time set for solving the task elapses, the teacher asks the pupils to try to compare and discuss the results in groups. The group consultations result in a conclusion, which can be recorded and solved on the board together by means of collective contact. This is where the pupil's question is appropriate because the pupil's pre-conceptions combine with new knowledge and knowledge is formed. If the pupil asks a question within the context of the content of tuition, it is evident that he is trying to understand the schoolwork and knowledge is created.

1.4. Interaction

A stimulating environment also affords opportunity for interaction between the parties to the communication during the content of tuition. "Even though the process of constructing knowledge is an individual process, social interaction in the class (discussion, comparison of results, construction of

examples and counter-examples, efforts to formulate theses and statements, argumentation, seeking evidence....) contributes to its development" Hejný, 2015, 195). On the basis of interaction, the pupil asks his questions and receives answers to them in the form of explanations by a pupil or the teacher who then have the opportunity to ask questions of their own, or listen to other questions that are asked during pedagogic communication.

2. Problem Statement

Pupils' questions indicate the level and extent to which they have learnt or wish to learn about a topic as well as their motivation and engagement. The issue with the current schooling system is that pupils' questions are not encouraged or nurtured. It does not promote thinking and does not give children the impulse to be creative, which is natural to every child. This is a serious problem as children are being denied their right to learn by asking questions. More research needs to be dedicated to this important area as it focuses on children's quality of learning in schools.

3. Research Questions

1) Which types of questions do students ask at the beginning of schooling?
2) What type of teaching strategy influence over create the pupils question at the beginning of schooling?

4. Purpose of the Study

The goal of this study is to establish whether pupils on the first level of primary school ask questions when mathematics is being taught and also to create a typology of pupils' question in the content of tuition, because, as the expert literature states, pupils' questions are questions within the real meaning of the word during the content of tuition. The second goal is to establish whether it is possible to identify a lesson that is distinguished by elements of dialogic tuition from the research sample.

The research goals were chosen on the basis of the conviction that the pupils' questions during tuition and the dialogue that is actually present during the lesson are the basis for construction of knowledge. Genetic constructivism prefers the principle of historic genesis during construction of knowledge by the child, in relation to the child's dialogue, which, as stated by the author of the concept (Kvasz, 2016) is the basis of learning and this occurs in a collective and is basically a collective product.

5. Research Methods

Actual investigation of pupils' questions during maths lessons was realised in the form of indirect observation and analysis of video-recordings of maths lessons, which I purposefully selected so that they corresponded with the research sample, this being students of the fourth and fifth years of primary schools. The research sample was chosen based on convenience and this concerned teachers on the first level of primary schools, who were willing to participate in the research concerning pupils' questions, with their consent to video-recording. I decided to carry out additional direct observation during maths lessons at primary schools, which permitted us to view their maths lessons. The teachers contemplating maths tuition were willing to participate in research of pupils' questions and enabled me to record these classes on a

dictaphone. I therefore chose ten maths lessons with pupils from the fourth and fifth year for research of pupils' questions, with the goal of creating a basic typology of pupils' questions, 59 children and a total of 3 teachers took part in the research and were involved in research of pupils' questions.

Each observed maths lesson was analysed by the researcher recording the precise number of pupils' questions on the basis of an observation sheet. The precise formulation of pupils' questions was recorded and an analysis of the audio recording was also carried out for the purpose of precise inspection. During analysis of the video-recording or observation protocols I adhered to strict rules for recording pupils' questions. I recorded sentences that ended in a question mark, and these were questions for me, and also sentences of an interrogative nature[1]. I recorded these as questions, because this concerned sentences the purpose of which was to obtain an answer. Because my purpose was to record pupils' questions that appear during maths lessons, I left this type of question as one type of question. However, it is debatable whether these questions can be considered an independent type, because the linguistic aspect is dominant here. I included an analysis of five maths lessons in our research strategy, which were observed with the presence of the researcher during the class. I would like to point out that on the basis of conversation with the teachers I found out that the presence of the researcher could have influenced the pupils' questions, which is why I only systematically visited lessons for two 5th year classes at primary schools. This step may help the researcher to become part of the class and the pupils were not shy of asking questions to a specific degree. Pupils accepted me as one of them, as a researcher, and I believe that I avoided communication shyness in the pupils. As research (Comadena & Prusánková, 1998) about communication shyness (in: Průcha, 2002, p. 319) states, there is a significant and inverse relationship between communication by pupils and their educational results. The more communication shyness there is among pupils, the lower the educational results these pupils achieve and vice versa.

It is clear from expert studies that a pupil's question may appear in multiple contexts. The first context is the linguistic context, where this concerns a specific form of feedback. The second context is the formally logical context and the last is the communication interaction context. Because the formal logical context is orientated towards types of pupils' questions, which are differentiated into open or closed[2], and the linguistic context is orientated towards questions that are classified on the basic of specific formulation of the specific sentence, I decided to investigate pupils' questions only in the communication interaction context. The communication interaction context is concerned with pupils' questions in the context of the specific tuition and sets the goal of establishing, which questions the pupil asks in relation to the content of tuition.

6. Findings

A total of 59 pupils from fourth and fifth years from randomly chosen primary schools in the Zlín Region took part in the research. This research sample was based on convenience and this did not therefore

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[1] This type of sentence is typical for its formal structure. This concerns questions that do not end in a question mark, but their shape and intonation has a questioning character Grepl, & Karlík, (1998).
[2] this aspect cannot formally be classified as bi-polarly, because I include hypothetical questions here, etc. (Spousta, 2015).

concern purposefully chosen primary schools and maths lessons, but teachers carrying out teaching on the first level of primary school, who offered to participate in the research.

During the total number of ten lessons, 38 pupils' questions were recorded. After analysis of all the recorded pupils' questions, I then created a typology of the pupils' questions. Because the researchers engaged in pedagogic communication had already created a typology of pupils' questions, I classified the established pupils' questions in the created typology, which I expanded by one type of pupils' questions. I must state that all the types of questions from the typology of pupils' questions I chose appeared during the lessons, but in various quantities. Most pupils' questions were of the type: Establishment of essential information, numbering a total of 38/21. Questions requiring an explanation numbered a total of 38/6. Questions focusing on arguments concerning the problem numbered 38/4, questions with an interrogative function numbered 38/4, and questions on the basis of curiosity numbered 38/3.

Table 01. Pupils' questions established during ten lessons

Question typology	No. of questions	Traditional tuition	Dialogue tuition
Establishing essential information, or "Need to know"	21	4	17
"I don't understand" or Questions requiring an explanation,	6	1	5
Discussion of the problem is expressed by questions of the "And is it not otherwise" type or confrontation with understanding.	4	2	2
Questions **with an interrogative** function	4	1	3
Questions **based on curiosity** or "I would like to know this"	3	1	2

There was one maths lesson in the research sample, in which not one single pupils' question appeared. The pupils did not even discourse. This finding was surprising because research studies realised until now, always recorded "some" pupils' question during tuition. For instance, Mareš & Křivohlavý (1995) state that pupils ask pivotal questions of an organisational nature during tuition. In this research, there was one lesson during which pupils did not ask a single question. The second finding was that there were maths lessons, which were unusual due to the activity of pupils and pupils asked significantly more questions of both the teacher and classmates, in the random research sample. At this time, I realised our stalemate situation, because if pupils do not ask questions, the researcher has no data for analysis and I cannot examine the character of pupils' questions. This is why I continued to analyse the research data and, with the support of the theory of pedagogic communication, I subsequently found that I can identify lessons in the research sample, during which a significantly higher number of questions was recorded. Before I acquired experience in the field and became familiar with expert literature, I was unable to identify the teacher's concept of tuition, which led to these maths lessons. This question was again answered by theory, which I constantly supplemented. Or answer was the constructivistic model of tuition, which the expert public, with respect to development of the field and genesis of mathematics, is called, with reference to Ladislav Kvasz (2016) "genetic constructivism". Genetic constructivism is a model of tuition that specifies

the teacher's dialogic approach (Hejný, 2015 in compliance with Kvasz 2016). Therefore, dialogic tuition is the goal platform for investigating the characteristics of pupils' questions.

7. Conclusion

The first goal was to establish whether pupils on the first level of primary school ask questions during maths lessons and also to create a typology of the pupils' questions asked by pupils during maths lessons. On the basis of the established research data I can state that the pupil's question is part of pedagogic communication. As researchers assumed on the basis of the experience of a researcher in pedagogic practice and also on the basis of scientific studies, which were analysed by Lehesvuori & Viiri, 2015; Šeďová, 2014; Šeďová, Švaříček, Sedláček, & Šalamounová, 2016 in the theoretical section; it was confirmed that pupils' questions applying to the content of tuition are derived from the teaching strategy chosen by the teacher and are present in tuition when dialogic tuition is carried out. The teaching strategies chosen by the teachers and purposefully realised in our research sample were traditional teaching strategy and dialogic tuition. I therefore chose the dialogue-interaction context for our further research because activity by pupils, which in our case was specified as the pupils' questions, is part of a communication sequence, according to research (Gavora, 2005), which has elements of reciprocity Šeďová, Švaříček, Sedláček & Šalamounová (2016). If the pupils is in the role of questioner and asks questions *"statements are not isolated, but induce a reaction"*(the same, 52). On the basis of these findings, I can assume that if pupils react by asking questions during the content of tuition, it is probable that the pupils' questions will provide evidence of their thought processes during the content of tuition and the communication sequence will not end with the teacher speaking (Šeďová, & Šalamounová, 2012). If the goal is to understand the content of tuition on the basis of communication about it (Slavík, et al. 2017), the teacher should respect the onto-didactic field of transformation of classwork in the specific field and respect the potential of individual pupils during transformation of classwork into a level adequate of teaching assignments, using psycho-didactics. In his/her concept of tuition, the teacher basically creates a teaching environment that is also specific due to its teaching assignments and conscious selection of its parameters.

Acknowledgments

References

Bertrand, Y., (1998). Soudobé teorie ve vzdělávání. Praha: Portál.
Čáp, J., & Mareš, J. (2007). Psychologie pro učitele (Vyd. 2). Praha: Portál. Retrieved from http://toc.nkp.cz/NKC/200705/contents/nkc20071718460_1.pdf
Gavora, P. (2005). Učitel a žáci v komunikaci. Brno: Paido.
Grepl, M. & Karlík, P. (1998). Skladba češtiny. Olomouc: Votobia. (460 - 466).
Havigerová, J. M. (2013). Projevy dětské zvídavosti: získávání informací a kladení otázek od předškolního věku v kontextu intelektového nadání. Praha: Grada.
Hejný, M. (2009). Dítě, škola, matematika. Praha: Portál.

Hejný, M., & Kuřina, F. (2015). Dítě, škola a matematika: konstruktivistické přístupy k vyučování (Třetí vydání). Praha: Portál.

Henzl, J. (2003). Matematické myšlení v úlohách pro děti předškolního věku. Příprava budoucích lektorů pro další vzdělávání pedagogických pracovníků. Ústí nad Labem.

Jirotková, D. (2012). Cesty ke zkvalitňování výuky geometrie: výzkumný záměr Učitelská profese v měnících se požadavcích na vzdělávání (Vyd. 2). V Praze: Univerzita Karlova v Praze, Pedagogická fakulta.

Kvasz, L (2016). Princípy genetického konštruktivizmu. Orbis scholae, 10(2), 15-46.

Lehesvuori, S., &Viiri, J. (2015). Od teorie k praxi. Od plánování dialogického vyučo-vání k jeho reflexi. Studia paedagogica,. 20(2), 9-31.

Lukášová, H. (2010). Kvalita života dětí a didaktika. Praha: Portál. Retrieved from http://katalog.k.utb.cz/F/?func=item-hold-request&doc_library=UTB50&adm_doc_number=000059794&item_sequence=000070

Mareš, J. (2016). Zkoumání procesuů a struktur ve výukové komunikaci: historie a současnost. Pedagogika 66(3), 250-289.

Mareš, J., & Křivohlavý, J. (1995). Komunikace ve škole. Brno: Masarykova univerzita.

Opravilová, E. (2016). Předškolní pedagogika. Praha: Grada.

Pintrich, P. (1999), Role of motivation in promoting and sustaining self –regulated learning. *International Journal of Educational Research. 31*(6), 470.

Plaňava, I. (2005). Průvodce mezilidskou komunikací: přístupy - dovednosti - poruchy. Praha: Grada, 2005. Psyché (Grada).

Průcha, J. (2002). Moderní pedagogika (2., přeprac. a aktualiz. vyd). Praha: Portál.

Pstružinová, J. (1992). Některé pedagogické aspekty učitelových otázek. Pedagogika, 62(2). 223-228.

Šalamounová, Z., Brandová, J. & Lojdová, K. (2014). Mocenské vztahy mezi začínajícími učiteli a jejich žáky.Pedagogická orientace, 24(3). 375-392.

Šeďová, K & Šalamounová, Z. (2016). Dialogické vyučování jako realizace produktivní kultury vyučování a učení v literární výchově: jak iniciovat a udržet změnu. Orbis scholae, 10(2), 47-69.

Šeďová, K. & Švaříček, R. (2010). Angažovanost žáků ve výukové komunikaci na druhém stupni základní školy. Pedagogická orientace, 20(3), 24-48.

Šeďová, K., Švaříček, R., Sedláček, M., & Šalamounová, Z. (2016). Jak se učitelé učí: cestou profesního rozvoje k dialogickému vyučování. Brno: Masarykova univerzita.

Slavík, J., Janík, T., Najvar, P., & Knecht, P. (2017). Transdisciplinární didaktika: o učitel-ském sdílení znalostí a zvyšování kvality výuky napříč obory. Brno: Masarykova univerzita, Pedagogická fakulta.

Slavík, J., Chrz, V., & Štech, S. (2013). Tvorba jako způsob poznávání. V Praze: Karolinum.

Spousta, V. (2015). Otázka - nejužívanější verbální komunikační prostředek. Univerzalia (1).

Tůma, F. (2014). Dialogismus a výzkum interakce ve třídě? Přehledová studie (1990-2012). Pedagogika, 64 (2), 177-199.

Vágnerová, M. (2012). Vývojová psychologie: dětství a dospívání (Vyd. 2., rozš. a přeprac). Praha: Karolinum.

Zagašev, I. (2001). Jak se dobře ptát. Kritické listy, 5, s. 21-22. Dostupné z: Retrieved from http://www.kritickemysleni.cz/klisty.php?co=klisty5_jakseptat