

ŠIAULIAI UNIVERSITY

**Rita Melienė**

***DEVELOPMENT OF TEXT COMPREHENSION ABILITIES AND  
ENHANCEMENT OF READING MOTIVATION TEACHING AND  
LEARNING METACOGNITIVE READING STRATEGIES IN THE  
HETEROGENIC CLASS***

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*TEKSTO SUPRATIMO GEBĖJIMŲ UGDYMAS IR SKAITYMO  
MOTYVACIJOS STIPRINIMAS MOKANTIS METAKOGNITYVINIU  
SKAITYMO STRATEGIJŲ HETEROGENINĖJE KLASĖJE*

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## INTRODUCTION

**Social topicality of research.** The system of education experiences continuous changes, reflecting changes and processes taking place in the society. In addition to conveyance of knowledge and experience accumulated by the society comprehensive school also encounters the task to assist the pupil to form the system of values, self-develop the abilities to evaluate information critically, apply knowledge practically, and learn to learn and solve problems. To reorganise the content of education considering these tasks a lot of attention is paid in the Regulations of State Education Strategy in Years 2003–2012<sup>1</sup>, General Curriculum Framework and Education Standards (2003). The strategy and the plan of measures for the formation, implementation, evaluation and updating of the content of general education for years 2006–2012<sup>2</sup> state that the content of education which is being formed and implemented in all levels of education remains too much directed to knowledge and the development of pupils' academic abilities while the differences in the pupils' learning styles and needs are insufficiently considered, pupils' with special learning/teaching needs in particular. The novelties of the content of education proposed in various strategies, programmes and projects are often implemented inconsistently, they do not ensure further assistance to school and teachers, therefore, do not give expected results. The above mentioned weaknesses of the content of education lead to the search of new didactic approaches responding to the challenges of today's school.

“During the whole 20<sup>th</sup> century the Lithuanian school has been following classical paradigm, which treats education as conveyance of the society's generalised experience (of scientific knowledge, values, abilities of intellectual and practical activities) to the learners” (Bitinas, 2000, p. 47). However, education based on classical paradigm can no longer meet individual's and society's needs – create favourable conditions for each learner's self-expression, self-dispersion and self-development. The subject of didactics is expanding – in modern didactics it is defined not solely as teaching but also as learning. Modern didactics emphasizes teaching not as conveyance of knowledge but as teacher-pupil interaction, as enhancement of teaching/learning, as mastering of values and transformation of knowledge to comprehension and not to the content of information and memorising (Bitinas, 2000; Šiaučiukėnienė, Visockienė, Talijūnienė, 2006). “If the contemporary school requires to adjust classroom furniture, teaching and visual aids to the pupils' age, then it seems we must accordingly require to adjust the teacher's knowledge to different pupils' logic and world-view and not simply convey it to the pupils' heads” (Vabalas-Gudaitis, 1983, p. 152). These Vabalas-Gudaitis's ideas, said almost a hundred years ago, are topical in the context of modern humanistic pedagogy as well, when it

<sup>1</sup> LR Seimo nutarimas dėl valstybinės švietimo strategijos 2003–2012 nuostatų (Decision of the Seimas of the Republic of Lithuania regarding the Regulations of State Education Strategy in Years 2003–2012). 2003 m. liepos 4 d. Nr. IX-1700. Vilnius.

<sup>2</sup> <http://www.pedagogika.lt/puslapis/naujienos/UT%20strategija%202006-2012.pdf>.

is endeavoured to consider every pupil, his/her personality and needs, search for the ways to ensure qualitative (self)education in the environment of the heterogenic class.

Laws and legal acts<sup>3</sup> guarantee accessibility of education to all pupils, including special needs pupils: creation of conditions to attend the pre-school educational institution and comprehensive school located closest to the place of residence in the form of full or partial integration adjusting the environment of education, providing psychological, special pedagogical and special assistance, providing with compensatory aids for education and special teaching aids, as well as other educational means stipulated by laws. Law on Special Education (1998) follows the equal opportunities principle, stipulating that special needs persons are provided with equal education and self-education conditions like other community members. However, legal framework and regulations of laws do not yet guarantee the solution of all problems related to special needs children's education (and in particular, in the conditions of integration<sup>4</sup> and inclusion<sup>5</sup>). The numbers of special needs children in comprehensive schools increase. According to the data of the Ministry of Education and Science in academic year 1999–2000 comprehensive schools were attended by 82% of the country's special needs children and adolescents, in academic year 2000–2001 – 85%, 2001–2002 – 86,5%, 2002–2003 – 91,2%, 2004–2005 – 88,3%. From the standpoint of educational needs classes become progressively heterogenic, i.e., "classes are being formed based on more general educational aims, personal differences, and the diversity of needs are acknowledged, person's equal value is underlined" (Galkienė, 2005, p. 23). This leads comprehensive school teachers and special educators to the search of new teaching/learning strategies that respond to the tasks raised to contemporary education.

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<sup>3</sup> Salamankos deklaracija (The Salamanca Statement), 1994.

Specialiojo ugdymo įstatymas (1998), poistatyminiai aktai, kt. dokumentai (Law on Special Education, bylaws, other documents).

Lietuvos Respublikos Švietimo įstatymas (Law on Education of the Republic of Lithuania) (2003).

Lietuvos Respublikos Seimo nutarimas dėl valstybinės švietimo strategijos 2003–2012 nuostatų (Decision of the Seimas of the Republic of Lithuania regarding the Regulations of State Education Strategy in Years 2003–2012). 2003 m. liepos 4 d. Nr. IX-1700. Vilnius.

<sup>4</sup> Law on Special Education (1998) defines two forms of integration – partial and full:

- Full integration – education of special needs persons in a mainstream class or group of a mainstream educational institution.
- Partial integration – combination of special needs persons' education in a mainstream and special class or group at the mainstream educational institution; special needs persons' education in a special class or group at the mainstream educational institution; special needs persons' education combining their educational process at the special education institution and mainstream educational institution.

<sup>5</sup> *Inclusion* is understood as joint education, communicating and cooperating, providing everyone with equal opportunities and conditions corresponding to the needs (Gilbert, 1990; Grenot-Scheyer, Fisher, Staub, 2001; Meijer, 2003, et al.)

One of the critical competencies that are necessary for life-long learning<sup>6</sup> is the competence of knowing how to learn: the ability to organise learning, evaluate one's learning process, needs, opportunities, to base the learning process on the already existing knowledge and to apply the newly acquired knowledge in various contexts. An important component of learning to learn is metacognitive abilities<sup>7</sup> (Garner, 1987; Paris, Winograd, 1990; Hartman, 2001, et al.). Teaching to learn – the development of metacognitive abilities – is an integral problem of didactics, however, yet little discussed in Lithuania, whilst implementation of these aims in the heterogenic class of the comprehensive school is a serious challenge for Lithuanian language teachers and other members of the educational process. Children experiencing learning difficulties often develop incorrect strategies and ineffective learning skills, followed by simultaneously arising emotional and motivational difficulties. These children often get into a closed circle when due to ineffective learning strategies and other reasons they experience continuous disappointments and failures, loose learning motivation and failures repeat (Torgesen, 1980; Wong, 1991; Valtin, 2001). Employment of metacognitive strategies create conditions to learn more effectively, enable to expect better achievements (Brown, Armbruster, Baker, 1985; Paris, Winograd, 1990, Hartman, 2001, et al.).

Situations of success assist the pupil to form a positive evaluation of self-efficacy. People who evaluate their effectiveness positively are bound to put more efforts accomplishing complicated tasks; this in turn most often determines good results and, thus, raises self-esteem. If a person thinks that he/she is not able to accomplish a task, solve a problem, most probably he/she will give undue prominence to his/her personal shortcomings, will constantly criticise himself/herself for incompetence (Хъелл, Зиглер, 2001). Even small abilities can be expanded through hard work and education; however, it is very important for teachers to understand how important the attribution of success and failure is and to replace the destructive feedback for children – criticism for mistakes, negative comparison with peers, groundless expectations – with children's encouragement, demonstration that the learning result depends not only on inborn abilities but also on the put efforts. Learning motivation is both the reason and the consequence of academic success; it determines how successfully main skills will form.

One of the most important abilities determining academic success is good reading and text comprehension. Text comprehension and the ability to apply various text comprehension and creation strategies purposefully, the ability to refer to linguistic and literary competence learning other subjects is a very important skill and a component of the person's communicative competence<sup>8</sup>. Reading is understood not only as a decoding of graphic symbols but also as an active interaction with the text,

<sup>6</sup> [http://ec.europa.eu/education/policies/2010/doc/keyrec\\_en.pdf](http://ec.europa.eu/education/policies/2010/doc/keyrec_en.pdf).

<sup>7</sup> Metacognition, metacognitive abilities can be defined as “second level cognition” – thinking about thinking, knowledge about knowledge and reflections on actions (Weinert, 1987, p. 8).

<sup>8</sup> <http://www.pedagogika.lt./standart/programos.pdf>.

construction of meanings reading the text – the skill that starts to form in the primary school and acquires a peculiar importance in higher forms, when pupils not only learn to read a text but also learn *from the text*. It is of utmost importance to educate a pupil as an independent and active reader who has mastered rational learning, reading strategies, who has knowledge about oneself as a learner, about useful reading strategies, who is able to actively monitor the process of reading, who values the result, in other words, who knows how to learn. The fact that the development of reading abilities in Lithuania should receive much attention is shown by the newest PISA<sup>9</sup>, PIRLS studies: in 2006, the 15-year-olds of Lithuania took only 32<sup>nd</sup> place in the classification of countries according to reading abilities out of 57 participants (PISA study)<sup>10</sup>, whilst Estonian pupils took the 13<sup>th</sup> place. Similar are the results of PIRLS<sup>11</sup> study – the fourth form pupils of Lithuania appeared in the 21<sup>st</sup> position out of 45<sup>12</sup>.

**Scientific topicality of research** is substantiated by the contradiction between the guidelines, listed in the documents regulating the content of education and principle attitudes, to develop pupils' metacognitive abilities and competence of learning to learn on one hand, and the shortage of theoretically and empirically grounded studies on increasing the effectiveness of teaching metacognitive strategies in mainstream educational practice of Lithuania on the other. V. Zuzevičiūtė's thesis, defended in 2005, analyses the problem of modelling of metacognitive strategies at the university level in the context of lifelong learning. The model of learning at the university as of an integral learning interaction, revealing the expression of these elements and the importance of metacognitive strategies for improvement of

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<sup>9</sup> PISA – (Programme for International Student Assessment) – An international pupils' assessment programme. It is organised by OECD (Organisation for Economic and Social Cooperation and Development). 15-year-old pupils' reading, mathematics and natural sciences attainments and factors influencing them are researched. Reading tasks require to demonstrate various reading abilities ranging from finding a clearly provided information to broad text comprehension, interpretation and reflection of its content and text features. The research employs familiar prose texts as well as various type documentary texts: lists, tables, figures, diagrams. The research cycle continues 3 years. During each cycle attention is being paid to one of these domains, while other two act as accompanying research. Main domain of PISA 2000 was reading , PISA 2003 – mathematics, PISA 2006 – natural sciences, (<http://www0.egzaminai.lt/pisa.php> [viewed on October 12, 2007]).

<sup>10</sup> Tarptautinis penkiolikmečių tyrimas: OECD PISA ataskaita (International study of 15-year-olds: OECD PISA report) (2007). Sud. Dudaitė, J. Vilnius: nacionalinis egzaminų centras. Prieiga internetu [http://www.egzaminai.lt/EasyAdmin/sys/files/PISA\\_ataskaita.pdf](http://www.egzaminai.lt/EasyAdmin/sys/files/PISA_ataskaita.pdf). [viewed on February 20, 2008].

<sup>11</sup> Tarptautinio skaitymo gebėjimų tyrimo PIRLS 2006 pristatymas (Presentation of international reading literacy study PIRLS 2006) (2007). Ed. Elijio, A. ([http://www.egzaminai.lt/EasyAdmin/sys/files/PIRLS2006\\_RezultatuPristatymas-handouts.pdf](http://www.egzaminai.lt/EasyAdmin/sys/files/PIRLS2006_RezultatuPristatymas-handouts.pdf)) [viewed on February 22, 2008].

<sup>12</sup> [http://www.smm.lt/svietimo\\_bukle/docs/apzvalgos/lt007.pdf](http://www.smm.lt/svietimo_bukle/docs/apzvalgos/lt007.pdf), viewed on October 12, 2007.

learning, is scientifically grounded. J.Suchanova, J. Šliogerienė (2006)<sup>13</sup> researched the influence of metacognitive strategy and tactics for learning foreign languages. The study explicates the problem of the development of critical thinking. In the pedagogical literature the term critical thinking often refers to an active position, the ability to take active part in the educational process, evaluate information, provide reasoned defence and express one's opinion. Critical thinking is a complicated process, involving skills, dispositions and metacognition. It is a systematic, self-directed, grounded and reflective thinking which is characteristic when a person is thinking whom to believe and what to do. It is a purposeful, self-regulatory decision, which determines interpretations, analysis, evaluation, conclusions and defence of one's position (Chambers, Angus, Carter-Wells, 2000). Critical thinking as a pedagogical, philosophical construct is impossible without metacognitive skills. The assumptions of developing critical thinking in the Lithuanian comprehensive school were analysed by Visockienė (2000; 2002), Šiaučiukienė (2000), in the adults' formal education – by Ubartaitė-Vingienė (2007). Psycho-pedagogical dimensions of learning strategies of English as foreign language were disclosed by Macianskiene (2001, 2004). However, a lot of questions related to didactics of the heterogenic group still remain unanswered. Galkienė (2005) analyses topical problems of meeting special educational needs in the conditions of integrated education, but the issues of metacognitive skills formation are not elaborated.

The works of West European scientists provide a very broad study on metacognition and influence of metacognitive strategies to children's learning attainments, ranging from operationalisation of this construct in Flavell's (1976,1979), Kluwe's (1987) works, metacognition in the domain of reading in Brown's (1978, 1987, 1980), Forrest-Pressley's, Waller's (1984) et al. works to application of teaching/learning models of metacognitive strategies in the practice of teaching to read (Palincsar, Brown, 1984, Swanson, De La Paz,1998; De Corte, Verschaffel, Van De Ven, 2001; Boulware-Gooden, Carreker, Thornhill, Joshi, 2007 et al.). The studies on reading of children with learning disabilities disclosed that these pupils experience difficulties choosing appropriate strategies and using them<sup>14</sup> (Bos, Filip, 1982, Wong, Perry, Sawatsky, 1986). Later studies demonstrated that sufficiently good knowledge about strategies and their usage possibilities do not necessarily guarantee high learning attainments – the learner's self-esteem, valuation of his/her cognitive features and

<sup>13</sup> Suchanova, Šliogerienė (2006). Metakognityvinės strategijos ir taktikos įtaka užsienio kalbos mokymosi rezultatams (Influence of metacognitive strategy and tactics to the results of foreign language learning). Santalka. Filologija. *Edukologija*. T. 14, N. 2.

<sup>14</sup> Wong, Jones (1982). Increasing metacomprehension in learning disabled and normally achieving students through self-questioning training. *Learning Disability Quarterly*, 5, 228–246.

Wong, Wong, Perry, Sawatsky (1986). The efficacy of a self-questioning summarization strategy for use by underachievers and learning disabled adolescents in social studies. *Learning Disabilities Focus*, 2, 20–35.

internal motivation are also very important<sup>15</sup>.

The thesis operationalizes metacognition construct relating it to text comprehension and reading motivation. The process and the results of constructing methods for the development of text comprehension abilities and for the enhancement of reading motivation, based on metacognitive reading strategies, as well as of its application in the 6<sup>th</sup> form of the comprehensive are disclosed; the questionnaires on reading motivation and text comprehension, the observation instrument and the results of didactic process at the comprehensive school are theoretically grounded and validated.

The thesis analyses the **problem** of text comprehension by comprehensive school sixth form pupils as a universal basic academic ability and of enhancement of reading motivation considering the challenges determined by heterogenic (from the standpoint of self-development needs) class to the didactic process. Research problem is specified by the following questions:

1. What teaching strategies prevail, how much attention during classes is paid to the formation of rational learning strategies, teaching to plan, monitor and evaluate the process of learning in the comprehensive school?
2. What are the peculiarities of comprehensive school pupils' (both experiencing learning difficulties and successfully learning) reading motivation and text comprehension?
3. How much is teaching of metacognitive reading strategies in the context of classical education paradigm effective developing heterogenic class pupils' text comprehension abilities, particularly pupils' experiencing smaller or bigger learning difficulties?
4. How much are teaching and usage of metacognitive reading strategies effective enhancing pupils' reading motivation, particularly pupils' experiencing more or less learning difficulties?

**Research subject** – metacognitive reading strategies.

**Research object** – development of text comprehension abilities and enhancement of reading motivation.

Research **aim** of the thesis – to assess the effectiveness of teaching and learning metacognitive reading strategies enhancing reading motivation and developing text comprehension abilities in the environment of the heterogenic class in the comprehensive school.

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<sup>15</sup> Paris, Lipson, Wixson, (1994). Becoming a strategic reader (p. 78–811). In R. B. Rudell, M. R. Rudell, H. Singer (Eds.). *Theoretical models and processes of reading* Newark, Delaware: International Reading Association.

Van Kraayenoord, Schneider (1999). Reading achievement, metacognition, reading self-concept and interest. A study of german students in grade 3 and 4. *European Journal of psychology and Education* 14; 305–324.

Lau, Chan (2003). Reading strategy use and motivation among Chinese good and poor readers in Hong Kong. *Journal of Research in Reading*, Vol. 26, Issue 2, p. 177–190.

### **Research objectives:**

1. To operationalize the concept of metacognition, reveal its relation to theory and practice of teaching/learning to read and developing text comprehension.
2. Employing standardised observation to identify dominating teaching strategies in the heterogenic class of the comprehensive school.
3. To identify the reliability and validity of the instruments for evaluating the changes of text comprehension abilities and reading motivation, to reveal the peculiarities of 5–6<sup>th</sup> form pupils' text comprehension abilities and reading motivation.
4. Based on theoretical assumptions of metacognition and of the development of metacognitive strategies and considering the peculiarities of the didactic process in the comprehensive school, to construct experimental methods of teaching metacognitive learning strategies and employing classical experiment to test their efficiency in the heterogenic class.
5. To model teaching of metacognitive strategies in the heterogenic class developing text comprehension abilities and reading motivation.

**Hypothesis:** Teaching/learning of metacognitive reading strategies in the heterogenic class facilitates the (self) development of children's text comprehension abilities and enhance reading motivation.

### **Hypothesis is clarified by these partial assumptions:**

- learning of metacognitive strategies in the heterogenic class environment is efficient developing text comprehension abilities and enhancing reading motivation of both – pupils experiencing learning difficulties and successful learners;
- learning and application of metacognitive strategies are significantly influenced by contextual factors, e.g. the teacher's disposition to change habitual teaching methods and to learn himself / herself experimenting with new methods;
- reading motivation and text comprehension abilities are complex and multidimensional constructs, therefore, learning of metacognitive strategies is only partially effective (not all variables of reading motivation and text comprehension can be changed equally effectively).

### **Research methods**

Seeking to reveal the structure of the concept of metacognition, its relation to learning process and pupils' cognitive and personality's peculiarities *the analysis of research literature* has been carried out.

*Structured observation* method has been employed to disclose the peculiarities of didactic process in the comprehensive school.

*Interview questionnaire* and *testing* methods have been employed to evaluate the peculiarities of reading motivation and text comprehension in experimental and control groups.

The questionnaire for text comprehension has been constructed employing *experts' interview, non-structured interview* with pupils.

*Pedagogical experiment, non-structured interview* with pedagogues and pupils, *the analysis of the content* of free observation results has been employed to test the efficiency of the prepared methods for learning metacognitive strategies.

To carry out the dissertation research the 6<sup>th</sup> form of the comprehensive school was chosen. This has been done deliberately for several reasons. On one hand, having finished the primary school and proceeding to higher forms and later, the problem of text comprehension becomes particularly important for pupils because pupils have both to learn to read and to learn other subjects reading. On the other hand, the period between 11 and 16 years is the last stage of cognitive development, the period of formal operational thinking (according to Piaget), the beginning of abstract thinking (Žukauskienė, 2007); therefore, productive reflections with respect to one's attainments and reading or learning process can be expected. It has been refused to carry out the experiment in the fifth form because pupils moving from primary school to basic school experience bigger or smaller adaptation difficulties, which could have negative influence on the process and the results of experimental research.

Due to limited resources the study (of validity and reliability of instruments for didactic process, reading motivation and text comprehension, of increasing effectiveness of methods of metacognitive reading strategies) was formed employing the stochastic random way.

**Scientific novelty and significance of the research** is based on the following:

- in the thesis the concept of metacognition is operationalized and actualised to improve the practice of developing text comprehension abilities in the Lithuanian comprehensive school;
- evaluation of the peculiarities of the didactic process in the comprehensive school, disclosure of the domains to be improved;
- creation and experiential testing of methods of developing text comprehension abilities and methods of enhancing reading motivation, based on metacognitive reading strategies;
- preparation of questionnaires of text comprehension abilities and reading motivation, evaluation of their reliability and validity.

**Practical significance of the research is defined by** the following:

- the model for developing metacognitive strategies, which has been constructed on the basis of the experiment which took place in the sixth forms of two comprehensive schools, could be further developed and applied promoting pupils with learning difficulties to use metacognitive strategies as an element of developing text comprehension abilities;
- the analysis of didactic process in the comprehensive school, the results of which demonstrated insufficient variety of teaching strategies, has been carried out. For pedagogues practitioners the analysis of didactic process

with respect to the variety, differentiation and individualisation of teaching strategies can provide useful information planning trends for the improvement of teaching/learning process and in-service training. The shortage of the variety of teaching strategies point out topical domains of improving pedagogues' training;

- the questionnaires of reading motivation and text comprehension can be the basis for the preparation and improvement of the instruments for the pedagogical evaluation of learning attainments.

### **Methodological basis of research**

Learning of metacognitive strategies as an element of learning to learn is based on didactics of constructivism, social learning theory and the principles of humanistic pedagogy.

**Structure and volume of the thesis.** The thesis consists of the introduction, two sections, conclusions, summing-up, recommendations, references and annexes. The total volume of the thesis is 155 pages. The thesis contains 53 figures and 33 tables. Annexes (4 annexes) list the instruments of questionnaires, tables of statistical calculations and interview materials.

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## **REVIEW OF THE CONTENT OF THE THESIS**

### **Section 1. DEVELOPMENT OF TEXT COMPREHENSION ABILITIES APPLYING METACOGNITIVE LEARNING STRATEGIES: THEORETICAL ASSUMPTIONS OF THE RESEARCH**

#### **1.1. Reading and text comprehension as the problem of education**

In subsection 1.1.1. the process of reading is discussed from the standpoint of cognitive psychology, the models of the reading process according to information processing directions – bottom-up and top-down – are presented.

Subsection 1.1.2. reviews the development of the aims of teaching to read in Western countries and Lithuania, the importance of deliberate reading in historical perspective of learning to read.

Subsection 1.1.3. discusses the links of reading and text comprehension with individual experience, which is the basis both for taking over (decoding) and construction of text information.

#### **1.2. Teaching of metacognitive reading strategies as a didactic novelty**

Subsection 1.2.1. describes the origin of metacognition construct, key trends of research.

Subsection 1.2.2. describes two aspects of metacognition construct: knowledge about cognition (declarative, procedural and conditional) and regulation of cognition (strategies) – planning, monitoring, evaluating.

Subsection 1.2.3. discloses the link between metacognition (cognitive self-assessment, task assessment, etc.) and motivation, will to accomplish a task: learning attainments are determined not only by intellectual features but also by the ability to regulate and manage the process of learning. However, strong-willed and deliberate management of learning process is related to big efforts or motivation, will to do this. Effective learning requires both knowledge, skills and motivation, will, because these are two concurrent components of using strategies.

Subsection 1.2.4. discloses that learning difficulties are often determined not only by insufficiently developed cognitive functions but also by the shortage of strategies. Pupils with learning disabilities often are not able to form adequate strategies themselves; therefore, pedagogues' intervention into this process is particularly important.

Subsection 1.2.5. discusses the need of new didactic approaches responding to the problems of the heterogenic class, and the importance of learning of strategies and of learning by means of cooperation in this context.

Section 2. Development of text comprehension abilities and enhancement of reading motivation applying metacognitive strategies: the results of experiential study.

## **2.1. General design of the study and methods**

The study of the thesis consisted of three stages:

1) the analysis of the didactic process in the comprehensive school seeking to disclose prevailing teaching/learning methods, their type and the situation of children with special educational needs in this context. Didactic process is analysed employing standardised observation method;

2) construction, validation of independent variables of the study – instruments for the investigation of text comprehension abilities and reading motivation (questionnaires), construction of *dependent variable* – methods of teaching/learning metacognitive reading strategies – based on the analysis of literature sources and the results of observation of didactic process;

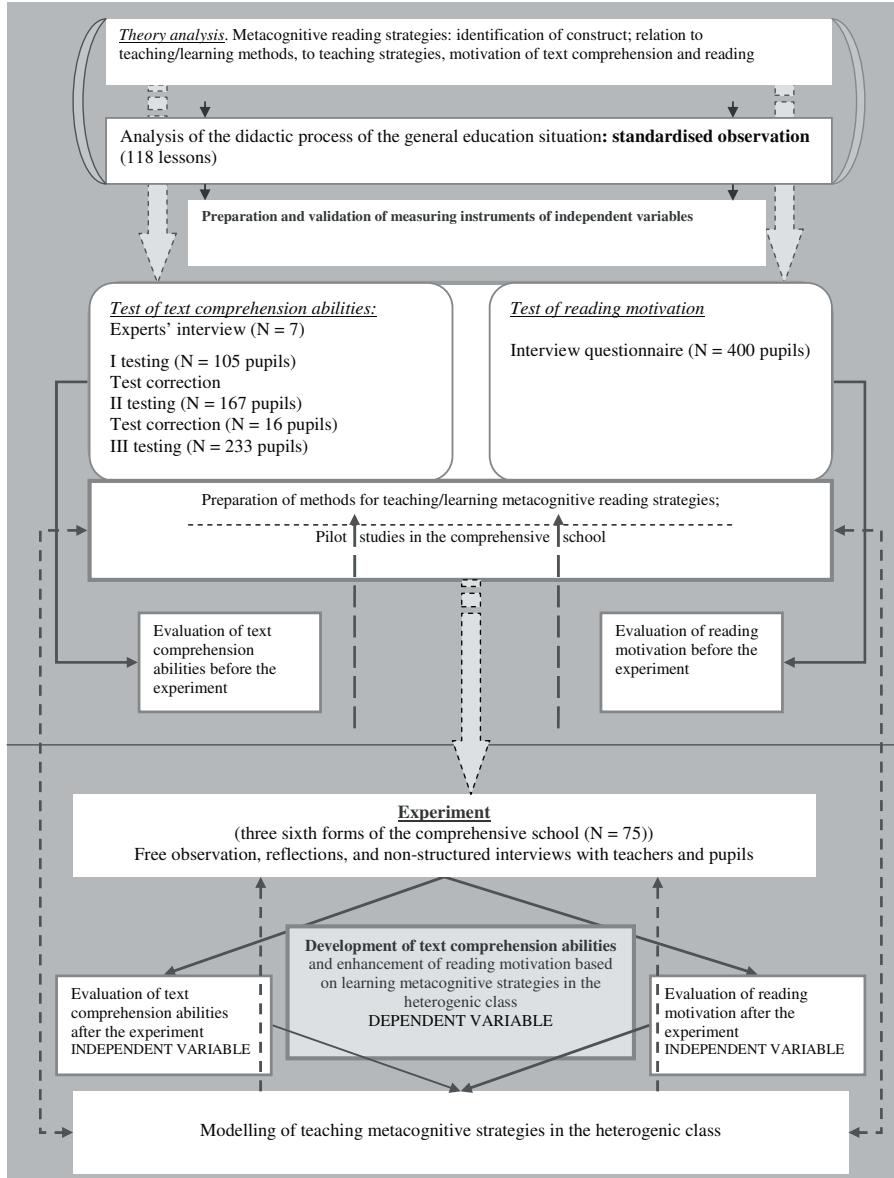
3) the experiment of teaching metacognitive reading strategies in the sixth forms of comprehensive schools. The samples of accomplished studies and methods are shown in the design of the study (see Fig. 1).

## **2.2. Peculiarities of the didactic process in the comprehensive school: standardised observation**

Subsection 2.2.1. discloses the sample of standardised observation in the comprehensive school ( $N = 118$  lessons) and organisation: observation was carried out observing filmed material and analysing processes in the class according to the pre-set observation matrix, consisting of 4 diagnostic variables, reflecting different didactic approaches.

Subsection 2.2.2. presents research results leading to these conclusions:

- Methods of information provision and reproduction prevail at school. Only in rare cases problem solving situations related to pupils' experience or interests are created in the class, almost no attention is paid to the improvement of pupils' learning strategies (see Table 1).



**Fig. 1.** General design of the study

Table 1

**Frequencies of the categories of teachers' activity**

<b>Teacher's activity</b>	<b>Number of the observed (%)</b>
Control of independent work	28,00
Submission of closed-ended questions	14,99
Narration, explanation	13,74
Instructions, submission of tasks	12,29
Summarising of pupils' reproduced information	9,97
Illustration, demonstration	4,93
Submission of open-ended questions	3,36
Submission of tasks related to the pupil's experience and environment	3,16
Assessment (without enhancement of self-analysis), correction of mistakes	2,23
Answers to pupils' questions	2,07
Dictating	1,46
Provision of assistance	1,07
Encouragement to define the type of the task, to evaluate the importance of information	0,63
Pupil's involvement in the process of assessment	0,53
Encouragement to check the effectiveness of one's activity periodically	0,53
Pedagogical break	0,50
"Brainstorm" (spontaneous verbalisation based on experience); initiation of discussions	0,43
Teaching to predict the consistency of problem solving	0,11

- Employing methods of classical didactics, teacher finds it difficult to organise a qualitative teaching/learning process in the class. This is confirmed by observation data which demonstrate that during the lesson the teacher only episodically directs his/her attention to the special needs pupil, very rarely involves him/her into class processes.
- Peculiarities of the didactic process in the general education class and special educator's room enable to state that special educator creates more favourable conditions for the pupils to receive knowledge (for example, more often explains, gives individual questions to the special needs pupil), but rarely creates opportunities to apply received knowledge for the solution of problem situations; the pupil is not encouraged to control his/her learning actively during cognition process classes, teaching to plan, control, evaluate the result, etc.
- Analysing didactic process at the Lithuanian language and mathematics classes, it is difficult to notice essential differences of teaching/learning activity, whilst existing differences are closely related to the specificity of the subject.

- Special needs pupil in a general education class is insufficiently active, often just left all alone with the tasks assigned for him/her, rarely the achievements of a concrete lesson are discussed with him/her or goals of mastery are raised by means of cooperation, not just communication.

### **2.3. Construction of questionnaires for reading motivation and text comprehension, evaluation of reliability and validity**

#### **2.3.1. Baker and Wigfield reading motivation questionnaire**

Subsection 2.3.1.1. discusses the structure of the questionnaire: 3 scales and 11 subscales, measuring certain aspects of internal and external motivation, evaluating social reading aims, level of conformism, etc.

Subsection 2.3.1.2. outlines the sample of the research: 400 5–6 form pupils in different towns and regional centres of Lithuania.

Subsection 2.3.1.3. presents research results and conclusions:

- The carried out statistical analysis enables to state that the questionnaire can be treated as a valid instrument for the evaluation of the structure of reading motivation of 5–6 form pupils of Lithuanian comprehensive schools.
- The carried out statistical analysis disclosed that scale and test items of Baker, Wigfield's (1999) questionnaire on reading motivation are distinguished by high items indicators, only the subscales consisting of smaller number of statements (self-efficacy, perception of the importance of reading) and the subscale of marks and stimulus of reading distinguish themselves by a bit smaller ratios of internal consistency and correlation for the factor. The reliability of other scales is quite high, therefore, it can be stated that test scales reliably reflect the measured construct and that the questionnaire can be employed assessing reading motivation of 5–6<sup>th</sup> form pupils of Lithuania (see Table 2).

Table 2  
**Structure of test for reading motivation and statistical indicators**

<b>Test subscales / Number of items</b>	<b>C–<math>\alpha</math></b>	<b>KMO</b>	<b>L</b>	<b>r/itt</b>	<b>r min</b>	<b>r max</b>	<b>%</b>
Self-efficacy/3	0,41	0,55	0,23–0,62	0,16–0,32	0,12	0,32	23,32
Challenge of reading/5	0,60	0,71	0,35–0,64	0,27–0,46	0,11	0,45	25,66
Disposition to work /4	0,58	0,65	0,31–0,71	0,24–0,47	0,13	0,42	28,51
Curiosity/6	0,66	0,79	0,42–0,62	0,34–0,48	0,16	0,35	25,99
Interests/5	0,69	0,72	0,46–0,74	0,37–0,54	0,11	0,46	32,96
Perception of importance of reading/6	0,46	0,50	0,54	0,30	0,30	0,30	29,64
Endeavour of acknowledgement of reading abilities /4	0,68	0,69	0,4–0,72	0,34–0,56	0,25	0,57	39,15

Continued Table 2

Marks as a stimulus of reading/3	0,54	0,66	0,48–0,61	0,33–0,38	0,25	0,32	29,37
Competition/6	0,74	0,79	0,47–0,64	0,44–0,53	0,17	0,49	32,83
Sociability/7	0,70	0,74	0,31–0,64	0,26–0,53	0,12	0,73	32,83
Obedience/5	0,63	0,64	0,37–0,49	0,32 – 0,46	0,12	0,46	26,50

- In the investigated pupils' population external reading motivation prevails (pupils most often read expecting formal or informal evaluation, encouragement), more rarely they read seeking to satisfy curiosity or to get additional information on the issues of interest.
- Very little reading is influenced by social aims of reading (i.e., rarely this is the basis for discussions, conversations in the families or with friends, exchange of books or information, visits to the libraries, etc.), therefore, it can be maintained that pupils mainly read "at school and for school".
- Having evaluated the structure of reading motivation in different populations it was found that the biggest differences are disclosed comparing the structure of respondents' motivation according to gender and received formal assessments (marks), the influence of special educational needs is very insignificant.
- Boys much more than girls are bound to avoid reading and most often read when it is inevitable (this is demonstrated by high scores in the subscales of avoidance of work and obedience), whilst girls often read seeking acknowledgement, encouragements, reading for them is quite important as an expression of sociability too.
- Pupils with special educational needs distinguish themselves by greater perception of importance of reading and lesser endeavour of acknowledgement compared to their peers.

### 2.3.2. Questionnaire of text comprehension

Subsection 2.3.2.1 discloses the structure of the questionnaire and construction procedures. Based on the analysis of literature (Herber, 1978; Rosenshine, 1980; Almonaitienė, Steponavičiūtė, 2000) three levels of text comprehension are distinguished:

- literal comprehension of text facts;
- the ability to make simple conclusions, relate information given in the text;
- the ability to make complex conclusions: to generalise the whole text, envisage the "moral", relate with one's experience and values.

Subsection 2.3.2.2. describes the samples of the study consisting of several stages – 521 pupils of the comprehensive school learning in 5–7 forms.

Subsection 2.3.2.3. presents the results of the study which serve as a basis for the formulation of conclusions:

- The constructed text comprehension instrument can be treated reliable measuring the sixth form pupils' ability to relate the facts in the text and based on that make simple conclusions, and less reliable measuring the pupils' ability to comprehend and memorise the facts of the read text and the ability to generalise the whole text, understand the main idea (see Table 3).

Table 3  
**Questionnaire factors and ratios of internal correlation**

<b>Questionnaire scale / Number of items</b>	<b>r / itt</b>	<b>r min, r max</b>	<b>C-<math>\alpha</math></b>
Literal comprehension of text facts/5	0,17–0,25	0,06–0,20	0,38
Relation of text facts, elementary conclusions/5	0,27–0,55	0,10–0,60	0,64
Summarizing of text, comprehension of context/2	0,28	0,28	0,44

- Comparing three interrelated dimensions of text comprehension abilities – comprehension and memorising of text facts, relating of text facts and generalisation of the whole text – the worst abilities were recorded generalising the whole text and the best – relating text facts and making simple conclusions. The respondents were not that good as expected at understanding and memorising text facts, but this is related to the instruction of performing the test: pupils were not allowed to use the text answering the questions.
- The relation between the achievements of learning the Lithuanian language and the ability to understand, memorise text facts, relate them and make simple conclusions has been identified: successful and average learners distinguished themselves by statistically significantly better abilities than their peers poor learners. Significant relation between learning achievements and the ability to summarize the whole text, envisage the main idea has not been identified.
- The ability to reply to the questions of the test that require to summarize the whole piece, evaluate characters, motives and reasons of their actions very little depends on learning achievements, special educational needs and does not at all depend on gender.
- Pupils with special educational needs lag behind in all levels of text comprehension but replying to complicated questions which are less related to the information in the text and more related to the comprehension of context, circumstances, and motives of character's actions this difference is statistically insignificant.

#### **2.4. Development of text comprehension abilities and enhancement of reading motivation teaching / learning metacognitive strategies: experiment in the comprehensive school**

Subsection 2.4.1. discloses experimental teaching methods that are prepared based on scientific studies, carried out earlier and described in literature, consisting of two main components:

- Considered and consistent teaching of strategies (of processes and actions that are initiated and monitored by the teacher: of explanation, modelling, feedback, etc.) (see Table 2).
- Learning of strategies from the teacher and from better reading peers, improvement of available strategies through interactions between pupils (discussions, considerations, taking over of the teacher's role while planning, monitoring evaluating and assessing the process and the result of reading) (see Table 4).

Table 4

**Theoretical structure of methods of learning metacognitive strategies**

<i>Before reading</i>	
<i>Metacognitive strategy</i>	<i>Cognitive (reading) strategies</i>
P l a n n i n g – purposive activity for organising the whole process of learning. Includes setting of aims of learning, predicting of consistency, strategies and duration of learning.	<ul style="list-style-type: none"> <li>• Relating the text to available knowledge.</li> <li>• Predicting.</li> </ul>
<i>During reading</i>	
<i>Metacognitive strategy</i>	<i>Cognitive (reading) strategies</i>
M o n i t o r i n g – purposive periodical checking of one's comprehension during reading. This is the learner's questions to himself/herself, e.g. "What am I doing?" "Which information is important to accomplish the task?"	<ul style="list-style-type: none"> <li>• Questioning.</li> <li>• Explanation.</li> <li>• Summarizing.</li> <li>• Summarizing the main idea is distinguished, information given in the text is integrated.</li> </ul>
<i>After reading</i>	
<i>Metacognitive strategy</i>	<i>Cognitive (reading) strategies</i>
E v a l u a t i n g . The evaluating reveals discloses the results of learning (reading) and how effectively they were endeavoured.	<p>Repeated assessment of the aims of reading and conclusions.</p> <p>The questions for oneself are raised: Have I reached the aim? What assisted to reach the aim? What was unsuccessful? What should be done otherwise next time?).</p>

Subsection 2.4.2. names dependent variables (text comprehension abilities, reading motivation) and independent (methods of teaching/learning metacognitive reading strategies) variables of the study, defines the variables of internal and external validity of the experiment, which are sought to be followed.

Subsection 2.4.3. discloses the way of choosing sample size (non-stochastic, random sample), number of pupils in control ( $N = 114$ ) and experimental ( $N = 75$ ) groups, peculiarities of groups in the aspects of learning attainments, gender, special educational needs, text comprehension abilities and reading motivation.

Subsection 2.4.4. describes the organisation of the experiment, recording of the process.

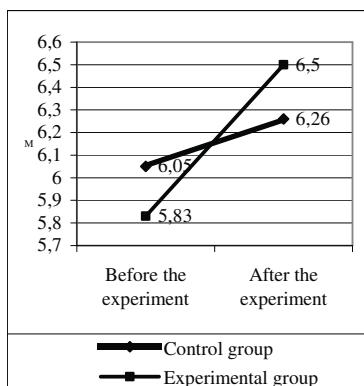
Subsection 2.4.5. discusses the factors of the context that have influenced the process and the results of the experiment:

- time (duration)
- teachers' attitudes, school environment;
- pupils' motivation, disposition to use strategies, factor of the class as a group.

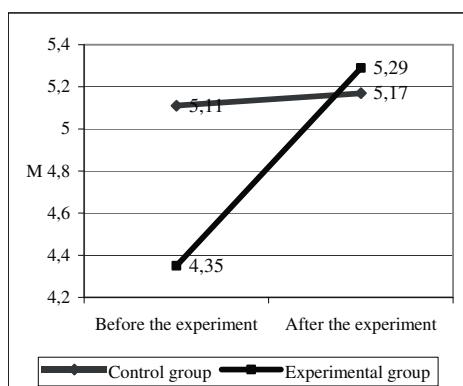
## 2.4.6. Results

### 2.4.6.1. The results of the development of text comprehension abilities

Summarising the results of the changes of text comprehension abilities, it is noticed that the changes of text comprehension abilities in experimental and control groups are both positive and negative. Positive changes in experimental classes concentrate between average and poor comprehenders in the level of comprehension of text facts (see Figures 2; 3).



**Fig. 2.** Comprehension of text facts: average comprehenders



**Fig. 3.** Comprehension of text facts: poor comprehenders

In many measurable aspects the results in experimental and control groups either changed insignificantly or the tendencies of changes coincided – in such case the results are to be rejected as unrelated to the impact of the experiment. Differences between experimental and control groups are noticeable in the following categories:

Intensified:

- a) the ability of good comprehenders in the control group to comprehend and memorise text facts;
- b) the ability of average comprehenders in the experimental group to comprehend and memorise text facts;

- c) the ability of poor comprehenders in the experimental group to comprehend and memorise text facts.

Weakened:

- a) the ability of good comprehenders in the control group to summarise the whole text;
- b) the ability of poor comprehenders in the control group to summarise the whole text (see Table 5).

Table 5

### Differences of text comprehension abilities in control and experimental groups

Level of text comprehension / pupils	Control group		Experimental group	
	Before the experiment	After the experiment	Before the experiment	After the experiment
Comprehension of text facts / good comprehenders of the text	5,08	5,63		
Comprehension of text facts / average comprehenders of the text			5,83	6,5
Comprehension of text facts / poor comprehenders of the text			4,35	5,29
Relating of text facts / good comprehenders of the text	13,15	12,20		
Summarising of the whole text / poor comprehenders of the text	2,43	1,8		

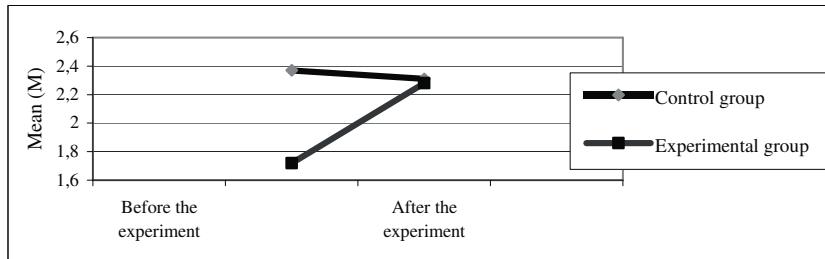
Note: grey background denotes negative changes.

Though testing results after the experiment are quite contradictory, subjective evaluation of teacher's pupils' achievements is apparently positive: characterising pupils' achievements after the experiment, the teacher is bound to assess all pupils, including poor learners, better, emphasising their strengths.

#### 2.6.6.2. The results of enhancement of reading motivation

The changes of reading motivation after the experiment are diverse: generally in the end of the academic year reading motivation of both control group and experimental group weakened but more negative tendencies were recorded in the control group. Motivation of pupils characterised by strong reading motivation in the experimental group has not changed significantly while in the control group both positive and negative changes took place. Exclusively negative significant changes in the structure of motivation have been recorded for pupils characterised by average

reading motivation both in experimental and control groups. Contradictory changes do not allow to distinguish a clear impact of the experiment for pupils' reading motivation, except that the disposition of the pupils in the experimental group known for weak motivation to accept the challenges of reading enhanced significantly ( $p = 0,04$ ) (see Figure 4).



**Fig. 4.** The disposition of the pupils known for weak motivation to accept the challenges

The analysis of the content of the interview with the teacher disclosed that in the end of the academic year after the experiment the teacher more favourably assessed pupils' efforts and motivation to learn than before the experiment. This is characteristic for the assessment of poor learners too.

## CONCLUSIONS

- Having carried out theoretical operationalization of the construct of metacognition, two key components were distinguished: knowledge about cognition and regulation of cognition (strategies). Regulation of cognition is based on the knowledge about oneself as about the learner and consists of three stages: before reading (planning), during reading (monitoring) and after reading (evaluation). Ineffective and irrational reading strategies determine reading difficulties, low assessment of one's cognitive abilities and weakened motivation to read. Integration of teaching/learning of strategies into the practice of education enables to expect academic achievements in the sphere of reading.
- The observation of the didactic process in the comprehensive school revealed the prevailing teacher-directed teaching in the comprehensive school which manifests itself by the prevalence of information provision and reproduction methods, which insufficiently stimulate pupils' (pupils' experiencing learning difficulties in particular) progress and achievements as well as the formation of the ability to plan, monitor and evaluate their learning process. The situation in the comprehensive school when it is endeavoured to meet different teaching/learning needs, corresponding to every pupils' needs and

abilities, creates the demand of new methods, directed to the peculiarities of the heterogenic class – pupils' independence and responsibility for their teaching/learning.

3. Separate scales of the questionnaires for evaluating reading motivation and text comprehension abilities are characterised by unequal reliability and validity.
  - Questionnaire of reading motivation reliably measures such aspects of internal and external motivation as disposition to accept reading challenges, disposition to work, curiosity, interests, endeavour of acknowledgement of reading abilities, competition, sociability and obedience. Less reliable scales are the scales measuring the level of self-efficacy, perception of importance of reading, and the importance of marks as the stimulus of reading.
  - Text comprehension questionnaire consisting of three scales distinguishes itself by sufficient reliability measuring pupils' ability to relate text facts and based on that make simple conclusions. Less reliable are scales measuring literal comprehension of text facts and the ability to summarise the whole text.
4. Having evaluated 5–6<sup>th</sup> form pupils' text comprehension abilities and reading motivation by questionnaires, it was found that:
  - External reading motivation prevails in the investigated population. Most significant differences showed up differentiating the respondents according to gender and to learning achievements (marks): boys most often tend to avoid reading tasks, while girls often read seeking acknowledgement, encouragements; pupils who get better marks distinguish themselves by both internal and external reading motivation. Reading motivation of pupils with special educational needs in principal little differs from the one of their peers. However, these pupils distinguish themselves by giving more relevance to the importance of reading and by lesser endeavour to be acknowledged.
  - Investigated pupils find it more difficult to memorise and comprehend facts that are clearly presented in the text than to inter-relate them and make elementary conclusions. This is characteristic to all groups of respondents, differentiating them according to learning achievements, gender, existence or absence of special educational needs.
5. The methods of teaching/learning strategies, constructed on the basis of theoretical assumptions of developing metacognitive strategies and considering the peculiarities of didactic process in the comprehensive school, and the experiment based on it disclosed that:
  - Changes of reading motivation after the experiment are diverse: in the end of the academic year reading motivation of both control and experimental group weakened but higher numbers of negative tendencies were recorded in the control group. Reading motivation of *pupils characterised by strong*

*reading motivation* in the experimental group has not changed significantly while in the control group both positive and negative changes took place. Exclusively negative significant changes in the structure of motivation have been recorded for pupils *characterised by average reading motivation* both in experimental and control groups. The disposition of the pupils *characterised by weak reading motivation* in the experimental group to accept the challenges of reading enhanced significantly.

- In the sphere of text comprehension abilities learning of metacognitive strategies is to be related to significantly improved ability of average and poor text comprehenders of the experimental group to comprehend and memorise facts presented in the text. In the control group changes are diverse: the ability of good text comprehenders to comprehend text facts improved but the ability to relate facts and based on that to make simple conclusions worsened; the ability of poor text comprehenders to summarise the whole text worsened too (in the experimental group such tendency was not noticed).
- 6. The results of modelling teaching/learning metacognitive strategies disclosing more positive changes in poor and average learners' text comprehension abilities and in reading motivation partially confirm the hypothesis that learning of metacognitive strategies in the heterogenic class can strengthen pupils' text comprehension abilities and reading motivation.
  - Learning of metacognitive strategies is unequally effective educating pupils having good and bad text comprehension abilities, strong and weak reading motivation: no significant influence has been recorded to the ability to comprehend text and reading motivation of pupils having good text comprehension abilities and strong reading motivation.
  - The hypothetic assumption proved out that learning of metacognitive strategies differently changes the features of reading motivation and text comprehension: significant changes in the sphere of reading motivation are related to disposition to accept reading challenges, whilst in the sphere of text comprehension abilities – to comprehension and memorising of text facts.
- 7. The study demonstrated that context factors are also important for learning of metacognitive strategies. These include the disposition of the pedagogue who is applying new didactic approaches to develop pupils' consciousness while learning, internal teacher's motivation to teach planning, monitoring and evaluating the process of reading and the results, the endeavour of the teacher to experiment himself/herself, initiation of dialogues in the class, enhancement of pupils' motivation to learn, etc.

## **APPROVAL OF RESEARCH RESULTS**

*Publications on the dissertation theme in reviewed periodicals:*

Ruškus, J., Melienė, R., Elijosienė, L. (2003). Didaktinių paradigmų realizavimas mokant specialiųjų ugdymosi poreikių turinčius vaikus: stebėjimo bendojo lavinimo mokyklos klasėje duomenys (Implementation of didactic paradigms teaching children with special educational needs: observation data at the class of the comprehensive school). *Specialusis ugdomas*, 2 (9), 85–97.

Melienė, R., Ruškus, J. (2005). Skaitymo motyvacijos diagnostika: testo patikimumo įvertinimas (Diagnostics of reading motivation: evaluation of reliability of test). *Specialusis ugdomas*, 1 (12), 61–73.

Melienė, R., Griniūtė, S. (2007). Teksto supratimo gebėjimų vertinimas (Evaluation of text comprehension abilities). *Specialusis ugdomas* 2 (17), 132–144.

*Articles in conference publications:*

Melienė, R. (2003). Specialiųjų ugdomo(si) poreikių turinčių vaikų mokymo proceso bendojo lavinimo mokykloje analizė (didaktiniu aspektu). Pranešimas konferencijoje „Specialiųjų poreikių vaikų ugdomo ir gyvenimo kokybė“ (p. 55–56). (Analysis of the teaching process of children with special (self)educational needs in the comprehensive school (in the didactic aspect). Paper at the conference “Special needs children’s quality of education and life”).

*Seminars for the teachers:*

Melienė, R., Kovaliovienė, G., Glinskienė, R. (November 30, 2006). Teaching reading strategies at literature classes. Paper at the seminar/round-table discussion “Complex attitude to the development of linguistic competence of the child experiencing learning difficulties”, which took place on November 30, 2006, at Šiauliai Special Education Centre.

Melienė, R. (November 27, 2007). Peculiarities of education of special needs pupils. Teaching/learning methods and strategies. Panevėžys.

Melienė, R. (November 30, 2007). Peculiarities of education of special needs pupils. Teaching / learning methods and strategies. Vilnius.

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# **TEKSTO SUPRATIMO GEBÉJIMŲ UGDYMAS IR SKAITYMO MOTYVACIJOS STIPRINIMAS MOKANT(IS) METAKOGNITYVINIŲ SKAITYMO STRATEGIJŲ HETEROGENINĖJE KLASĖJE**

## **SANTRAUKA**

**Tyrimo mokslinį aktualumą** pagrindžia prieštara tarp švietimo turinį ir principines nuostatas reglamentuojančiuose dokumentuose formuluojamų nuostatų ugdyti mokinį metakognityvinius gebėjimus, mokymosi mokyties kompetenciją ir teoriškai bei empiriškai pagrįstų tyrimų apie metakognityvinių strategijų mokymo efektyvumą Lietuvos bendrojo lavinimo mokyklos edukacinėje praktikoje stoka. 2005 metais apgintoje V. Zuzevičiūtės disertacijoje nagrinėjama metakognityvinių strategijų modeliavimo universitetinėse studijose problema mokymosi visą gyvenimą kontekste. Moksliskai pagrindžiamas mokymosi universitetinėse studijose, kaip integralios mokymosi sąveikos, modelis, atskleidžiant metakognityvinių strategijų reikšmę mokymosi tobulinimui. J. Suchanova, J. Šliogerienė (2006)<sup>16</sup> tyrė metakognityvinės strategijos ir taktikos įtaką užsienio kalbų mokymuisi. Kiek plačiau nagrinėta kritinio mąstymo ugdymo problema. Pedagoginėje literatūroje kritinio mąstymo terminu dažnai įvardinama aktyvi pozicija, gebėjimas aktyviai dalyvauti ugdymo procese, vertinti informaciją, argumentuotai ginti ir reikšti savo nuomonę. „Kritinis mąstymas – sudėtingas procesas, apimantis išgūdžius, disposicijas ir metakogniciją. Tai sistemingas, savarankiškas (angl. *self-directed*), pagristas ir refleksyvus mąstymas, kuris būdingas asmeniui apmąstant kuo tikėti ir ką daryti. Tai tikslinges, savireguliacinis (angl. *self-regulatory*) sprendimas, kuris nulemia interpretacijas, analizę, įvertinimą, išvadas ir savo pozicijos gynimą“ (Chambers, Angus, Carter-Wells, 2000). Kritinis mąstymas, kaip pedagoginis, psichologinis konstruktas, neįmanomas be metakognityvinių išgūdžių. Kritinio mąstymo ugdymo prielaidas Lietuvos bendrojo lavinimo mokykloje nagrinėjo Visockienė (2000; 2002), Šiaučiukėnienė (2000), suaugusiųjų formaliajame švietime – Ubartaitė-Vingienė. Anglų, kaip užsienio kalbos, mokymosi strategijų psichopedagogines dimensijas daktaro disertacijoje atskleidė Mačianskiene (2001, 2004). Tačiau vis dar lieka daug su heterogeninės grupės didaktika susijusių klausimų. Galkienė (2005) nagrinėja aktualias specialiųjų ugdymosi poreikių tenkinimo integruoto ugdymo sąlygomis problemas, tačiau metakognityvinių išgūdžių formavimo klausimai plačiau neaptariami.

Vakarų šalių mokslininkų darbuose metakognicija ir metakognityvinių strategijų įtaka vaikų mokymosi pasiekimams tyrinėjama labai plačiai: nuo šio konstruko operacionalizacijos Flavell (1976, 1979), Kluwe (1987) darbuose, metakognicijos skaitymo srityje Brown (1978, 1987, 1980), Forrest-Pressley, Waller (1984) ir kt. darbuose iki metakognityvinių strategijų mokymo(si) modelių taikymo skaitymo

<sup>16</sup> Suchanova, Šliogerienė (2006). Metakognityvinės strategijos ir taktikos įtaka užsienio kalbos mokymosi rezultatams. Santalka. Filologija. Edukologija. T. 14, N. 2.

mokymo praktikoje (Palincsar, Brown, 1984, Swanson, De La Paz, 1998; De Corte, Verschaffel, Van De Ven, 2001; Boulware-Gooden, Carreker, Thornhill, Joshi, 2007 ir kt.). Mokymosi negalių turinčių vaikų skaitymo tyrimai atskleidė, kad šie mokiniai patiria sunkumą pasirinkdami tinkamas strategijas ir jas naudodami<sup>17</sup> (Bos, Filip, 1982, Wong, Perry, Sawatsky, 1986). Vélesni tyrimai parodė, kad pakankamai geros žinių apie strategijas ir jų naudojimo galimybes dar nebūtinai garantuoja aukštus mokymosi pasiekimus – labai svarbu ir besimokančiojo savęs, savo kognityvinių savybių vertinimas, vidinė motyvacija<sup>18</sup>.

Disertacijoje metakognicijos konstruktas operacionalizuojamas siejant jį su teksto supratimu ir skaitymo motyvacija. Nagrinėjama bendrojo lavinimo mokyklos šeštų klasių mokinų teksto supratimo, kaip universalaus bazinio akademinio išgūdžio, ir motyvacijos skaityti stiprinimo **problema**, atsižvelgiant į heterogeninės (ugdymosi poreikių požiūriu) klasės nulemtus iššūkius didaktiniam procesui. Tyrimo problemą konkretina šie klausimai:

1. Kokios mokymo strategijos dominuoja, kiek dėmesio pamokose skiriamas racionalių mokymosi strategijų formavimui, mokymui planuoti, stebeti ir vertinti mokymosi procesą bendrojo lavinimo mokykloje?
2. Kokie bendrojo lavinimo mokyklose besimokančių vaikų (patiriančių mokymosi sunkumą ir sėkmingai besimokančių) skaitymo motyvacijos ir teksto supratimo ypatumai?
3. Kiek metakognityvinių skaitymo strategijų mokymas klasikinės ugdymo paradigmos kontekste yra efektyvus ugdant heterogeninės klasės mokinį teksto supratimo gebėjimus, ypač mokinį, turinčių mažesnių ar didesnių mokymosi sunkumų?
4. Kiek metakognityvinių skaitymo strategijų mokymas ir naudojimas yra efektyvus stiprinant moksleivių skaitymo motyvaciją, ypač mokinį, turinčių didesnių ar mažesnių mokymosi sunkumų?

<sup>17</sup> Wong, Jones (1982). Increasing metacomprehension in learning disabled and normally achieving students through self-questioning training. *Learning Disability Quarterly*, 5, 228–246.

Wong, Wong, Perry, Sawatsky (1986). The efficacy of a self-questining summarization strategy for use by underachievers and learning disabled adolescents in social studies. *Learning Disabilities Focus*, 2, 20–35.

<sup>18</sup> Paris, Lipson, Wixson, (1994). Becoming a strategic reader. In R.B. Rudell, M.R. Rudell, H.Singer (Eds.). Theoretical models and processes of reading (pp. 788–811). Newark, Delawere: International Reading Association.

Van Kraayenoord, Schneider (1999). Reading achievement, metacognition, reading self-concept and interest. A study of german students in grade 3 and 4. *European Journal of psychology and Education* 14: 305–324.

Lau, Chan (2003). Reading strategy use and motivation among Chinese good and poor readers in Hong Kong. *Journal of Research in Reading*, ISSN 0141-0423, Vol. 26, Issue 2, pp. 177–190.

**Tyrimo dalykas** – metakognityvinės skaitymo strategijos.

**Tyrimo objektas** – teksto supratimo gebėjimų ugdomas ir skaitymo motyvacijos stiprinimas.

Disertacinio tyrimo **tikslas** – įvertinti metakognityvinių skaitymo strategijų mokymo(si) efektyvumą stiprinant skaitymo motyvaciją ir ugdomas teksto supratimo gebėjimus.

**Tyrimo uždaviniai:**

1. Operacionalizuoti metakognicijos sampratą, atskleisti jos santykį su skaitymo mokymo(si) ir teksto supratimo ugdomo teorija ir praktika.
2. Struktūruoto stebėjimo būdu nustatyti vyraujančias mokymo strategijas bendrojo lavinimo mokyklos heterogeninėje klasėje.
3. Nustatyti instrumentų teksto supratimo gebėjimų ir skaitymo motyvacijos pokyčiams įvertinti patikimumą ir tinkamumą, atskleisti 5–6 klasių mokinį teksto supratimo gebėjimų ir skaitymo motyvacijos ypatumus.
4. Remiantis metakognicijos ir metakognityvinių strategijų ugdomo teorinėmis priežiūromis bei atsižvelgiant į didaktinio proceso bendrojo lavinimo mokykloje ypatumus sukonstruoti eksperimentinę metakognityvinių mokymosi strategijų mokymo metodiką ir klasikinio eksperimento būdu patikrinti jos efektyvumą heterogeninėje klasėje.
5. Modeliuoti metakognityvinių strategijų heterogeninėje klasėje mokymą ugdomas teksto supratimo gebėjimus ir stiprinant skaitymo motyvaciją.

**Hipotezė:** metakognityvinių skaitymo strategijų mokymas(is) heterogeninėje klasėje padeda ugdyti(s) teksto supratimo gebėjimus ir stiprinti skaitymo motyvaciją.

**Hipotezė tikslina šios dalinės prielaidos:**

- metakognityvinių strategijų mokymas(is) heterogeninės klasės aplinkoje yra efektyvus ugdomas teksto supratimo gebėjimus, stiprinant skaitymo motyvaciją ir mokymosi sunkumų patiriančių, ir gerai besimokančių mokinį;
- metakognityvinių strategijų mokymuisi ir taikymui svarbū vaidmenį vaidina konteksto veiksnių, tokie kaip mokytojo nusiteikimas keisti iprastus mokymo metodus, pačiam mokytis eksperimentuojant naujais metodais;
- skaitymo motyvacija ir teksto supratimo gebėjimai yra sudetingi ir daugiamaciai konstruktai, todėl metakognityvinių strategijų mokymasis yra efektyvus tik iš dalies (ne visas skaitymo motyvacijos ir teksto supratimo savybes keičia vienodai).

**Tyrimo metodai**

Siekiant atskleisti metakognicijos koncepto struktūrą, jo santykį su mokymosi procesu, mokinį kognityviniais bei asmenybės ypatumais atlikta teorinė *mokslinės literatūros analizė*.

*Struktūruoto stebėjimo* metodas naudotas didaktinio proceso bendrojo lavinimo mokykloje ypatumams atskleisti.

Anketinės *apklausos* ir *testavimo* metodais vertinti skaitymo motyvacijos ir teksto supratimo ypatumai eksperimentinėse ir kontrolinėse grupėse.

Teksto supratimo klausimyno konstravimui pasitelkta *ekspertų apklausa, nestruktūruotas interviu* su mokiniais.

Pedagoginis *eksperimentas, nestruktūruoti interviu* su pedagogais ir mokiniais, laisvo stebėjimo rezultatų *turinio analizė naudota* parengtos metakognityvinių strategijų mokymo(si) metodikos efektyvumui tikrinti.

#### **Tyrimo mokslinių naujumą ir reikšmingumą** pagrindžia tai, kad:

- *dissertacijoje metakognicijos konceptas operacionalizuojamas ir aktualizuojamas Lietuvos bendrojo lavinimo mokyklos teksto supratimo gebėjimų ugdymo praktikai tobulinti;*
- *įvertinti didaktinio proceso bendrojo lavinimo mokykloje ypatumai, atskleistos tobulintinos sritys;*
- *sukurta ir empiriškai patirkinta metakognityvinėmis skaitymo strategijomis grindžiamas teksto supratimo gebėjimų ugdymo ir skaitymo motyvacijos stiprinimo metodika;*
- *parengti teksto supratimo gebėjimų ir skaitymo motyvacijos klausimynai, įvertintas jų patikimumas ir tinkamumas;*
- *parengtas teorinis teksto supratimo gebėjimų ugdymo ir skaitymo motyvacijos stiprinimo mokanti(is) metakognityvinių skaitymo strategijų heterogeninėje klasėje modelis.*

#### **Praktinį tyrimo reikšmingumą** apibūdina tai, kad:

- *eksperimento, vykusio dviejų bendrojo lavinimo mokyklų šeštose klasėse, pagrindu sukonstruotas metakognityvinių strategijų mokymo modelis galėtų būti plėtojamas ir pritaikomas skatinant mokymosi sunkumų patiriančių mokinijų metakognityvinių strategijų naudojimą kaip teksto supratimo gebėjimų ugdymo elementą;*
- *atlikta didaktinio proceso bendrojo lavinimo mokykloje analizė, kurios rezultatai atskleidė nepakankamą mokymo strategijų įvairovę. Pedagogams praktikams didaktinio proceso analizė mokymo strategijų įvairovės, diferencijavimo ir individualizavimo požiūriu gali suteikti naudingos informacijos numatant kryptis mokymo(si) proceso tobulinimui, kvalifikacijos kėlimui. Mokymo strategijų įvairovės stoka nurodo aktualias pedagogų rengimo tobulinimo sritis;*
- *skaitymo motyvacijos ir teksto supratimo gebėjimų klausimynai gali būti pagrindu rengiant ir tobulinant mokymosi pasiekimų pedagoginio vertinimo instrumentus.*

#### **Tyrimo metodologinis pagrindas**

Metakognityvinių strategijų mokymasis, kaip mokymosi mokytis elementas, reikalauja atsižvelgti į mokinio individualybę, jo turimų žinių, mokėjimų, išgūdžių lygi, mokymosi stilių ir išpročių, mokyti vaiką vertinti savo, kaip besimokančiojo,

ypatumus, sieti jau turimą informaciją su naujai įgyjama. Tai, kas vyksta klasėje, mokiniai turi būti suprantama, apmąstyta ir išsiųmoninta, nauja informacija siejama su jau turima, konstruojant naujas kognityvinės schemas. Tokia ugdymo(si) samprata sietina su *interiorizacijos teorija*, arba *konstruktyvizmo didaktika*, vienijančia Piaget ir Vygotskio<sup>19</sup> požiūrius į išmokimo procesus ir teigiančia, kad išmokimą salygoja tokia didaktinė aplinka, kurioje sudarytos palankiausios salygos vaiko konstrukcinei veiklai, mokiniai skatinami kurti jiems aktualius produktus, siekiama patrauklių pedagoginių santykų (Bitinas, 2000). Mokinys, ugdydamasis aplinkoje, skatinančioje sąmoningą mokymąsi, palaipsniui interiorizuoją mąstymo, problemų sprendimo būdus, užduočių atlikimo strategijas (Kuhn, Dean, 2004).

Metakognityvinių strategijų mokymasis – ne tik individualus kognityvinis aktas, bet ir socialinė sąveika, kai mokomasi iš labiau patyrusių, stebint ir perimant jų mąstymo ir veiklos modelius, jungiant juos su turimomis schemomis. Tai procesas, kuomet vaikas mokydamasis stebi savo veiklą, pasiekimus, vertina savo galimybes, kelia sau tam tikrus mokymosi tikslus, įdeda daugiau ar mažiau pastangų mokydamasis, t. y., pats reguliuoja savo mokymąsi. Mokymasis stebint modelius ir savireguliacija, priklausanti nuo aš-veiksmingumo (angl. *self-efficacy*) vertinimo sudaro socialinės-kognityvinės teorijos<sup>20</sup> pagrindą. Savireguliacija, arba sąmoningas mokymasis, žvelgiant iš socialinės kognityvinės teorijos pozicijų, susideda ne tik iš metakognityvinių strategijų (tikslų kėlimo, stebėjimo, rezultatų vertinimo ir kt.), bet ir iš savimotyvavimo (angl. *self-motivation*), susijusio su asmens vidine motyvacija atlkti užduotį, mokytis, aš-veiksmingumu, pasitenkinimu rezultatais ir kt. (Zimmerman, Tsikalas, 2005).

Konstruktyvizmo ir socialinės-kognityvinės mokymosi teorijos principinėmis nuostatomis grindžiamas mokymas(is) imanomas tik *humanistinės filosofijos* kontekste. Pamoka – tai ne skirtingų norų ir interesų kovos laukas, o galimybė bendradarbiauti su mokiniais, kartu tirti, atrasti tiesas. Mokytojas tokiuje pamokoje nesistengia pabrėžti savo pranašumą. Nors mokytojo pranašumas savaime suprantamas, tačiau jis nedaro mokiniams spaudimo savo erudicija ir autoritetu, elgiasi paprastai ir natūraliai. Jis pats nelenktyniauja su savo mokiniais, ir stengiasi kurti tokią aplinką, kur ir mokiniai tarpusavyje nekonkuruoja. Tokioje mokymo(si) aplinkoje nėra pavydo, baimės, įtarumo ir nerimo (MacLoy, 2001). Šiomis principinėmis nuostatomis grindžiama metakognityvinių skaitymo strategijų

<sup>19</sup> Piaget, J. (2002). Vaiko kalba ir mąstymas: vaiko logikos tyrinėjimai. Vilnius: Aidai.

Piagert, J. (1954). The construction of reality in the child. New York: Balantine Books.

Vygotsky, L. S. (1978). Mind in society. The development of higher psychological processes. Cambridge, MA: Harward University Press.

<sup>20</sup> Socialinę-kognityvinę mokymosi ir asmenybės teoriją, kaip atsvarą biheviorizmui, sukūrė ir pagrindė A. Bandura.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). Self Efficacy: The Exercise of Control. New York: W. H. Freeman.

mokymo metodika: siekiama sudaryti galimybes išmokti planuoti skaitymo procesą atsižvelgiant į išsikeltus skaitymo tikslus, turimą informaciją, kontroliuoti supratimo procesą keliant klausimus, išsiaiškinant ir numatant teksto faktus ir prasmes, vertinti rezultataj atsižvelgiant į išsikeltus skaitymo tikslus ir skaitymo procesą.

**Disertacijos struktūra ir apimtis.** Darbą sudaro įvadas, du skyriai, išvados, apibendrinimas, rekomendacijos, literatūros sąrašas ir priedai. Bendra darbo apimtis – 155 psl. Disertacijoje pateikti 53 paveikslai ir 33 lentelės. Prieduose (4 priedai) pateikiami apklausų instrumentai, statistinių skaičiavimų lentelės, interviu medžiaga ir kt.

## IŠVADOS

1. Atlikus metakognicijos konstrukto teorinę operacionalizaciją buvo išskirti du pagrindiniai komponentai: žinios apie pažinimą ir pažinimo reguliavimas (strategijos). Pažinimo reguliavimas remiasi žiniomis apie save, kaip besimokantįjį ir susideda iš trijų etapų: prieš skaitymą (planavimas), skaitymo metu (stebėjimas) ir po skaitymo (ivertinimas). Neefektyvios ir neracionalios skaitymo strategijos lemia skaitymo sunkumus, menką savo kognityvinių gebėjimų vertinimą ir susilpnėjusią motyvaciją skaityti. Strategijų mokymo(si) integravimas į ugdymo praktiką leidžia tikėtis akademinių pasiekimų skaitymo srityje.
2. Didaktinio proceso bendrojo lavinimo mokykloje stebėjimas atskleidė, kad mokyklose dominuoja į mokytoją orientuotas ugdymas, kuris pasireiškia informacijos teikimo ir atgaminimo metodų dominavimu, nepakankamai stimuliuojančiu mokinį (ypač patiriančių mokymosi sunkumų) progresą ir pasiekimus, gebėjimų planuoti, kontroliuoti ir vertinti savo mokymosi procesą formavimasi. Situacija bendrojo lavinimo mokykloje, kai inkliuzinio ugdymo idėjų kontekste siekiama tenkinti skirtingus kiekvieno mokinio ugdymosi poreikius, sukuria naujų, orientuotų į heterogeninės klasės ypatumus, metodų poreikį.
3. Skaitymo motyvacijos ir teksto supratimo gebėjimų vertinimo klausimynų atskirose skalės pasižymi nevienodu patikimumu ir tinkamumu:
  - Skaitymo motyvacijos testas **patikimai matuoja** tokius vidinės ir išorinės motyvacijos aspektus, kaip: *nusiteikimas priimti skaitymo iššūkius, nusiteikimas dirbti, smalsumas, interesai, skaitymo gebėjimų pripažinimo siekimas, lenktyniavimas, socialumas, paklusnumas*. **Mažiau patikimos skalės**, matuojančios aš-veiksmingumo lygi, skaitymo svarbos suvokimą, pažymiu, kaip skaitymo stimulo, svarbą.
  - Teksto supratimo klausimynas, susidedantis iš trijų skalių, pasižymi **pakankamumu patikimumu** matujant mokinį gebėjimą sieti teksto faktus ir tuo pagrindu daryti nesudėtingas išvadas. **Mažiau patikimos yra pažodinė teksto faktų supratimą ir gebėjimą apibendrinti visą tekstą** matuojančios skalės.
4. Klausimynais ivertinus 5–6 klasių mokinį teksto supratimo gebėjimus ir skaitymo motyvaciją, nustatyta, kad:
  - Tirtoje populiacijoje dominuoja išorinė skaitymo motyvacija. Didžiausia skirtumai išryškėjo respondentus diferencijuojant pagal lytį ir pagal mokymosi pasiekimus (pažymius): berniukai dažniausiai yra linkę vengti skaitymo užduočių, o mergaitės dažnai skaito siekdamos pripažinimo, paskatinimų; geresniais pažymiais vertinami mokiniai pasižymi aukštesne vidine ir išorine skaitymo motyvacija. Specialiųjų ugdymosi poreikių turinčių mokinį skaitymo motyvacija, lyginant su bendraamžiais, skiriiasi

nereikšmingai. Tačiau šie mokiniai pasižymi didesniu skaitymo svarbos suvokimu ir mažesniu pripažinimo siekiu.

- Tirtiems mokiniams sunkiau sekasi įsiminti ir suprasti tekste aiškiai pateiktamus faktus, nei juos sieti tarpusavyje ir daryti elementariais išvadas. Tai būdinga visoms respondentų grupėms, diferencijuojant jas pagal mokymosi pasiekimus, lyti, specialiųjų ugdymosi poreikių turėjimą arba ne.
5. Remiantis metakognityvinių strategijų mokymo teorinėmis prielaidomis ir atsižvelgiant į didaktinio proceso bendrojo lavinimo mokykloje ypatumus sukonstruota strategijų mokymo(si) metodika ir jos pagrindu atlirkas eksperimentas atskleidė, kad:
- Skaitymo motyvacijos pokyčiai po eksperimento nevienareikšmiai: mokslo metų pabaigoje susilpnėjo tiek kontrolinės, tiek eksperimentinės grupės skaitymo motyvacija, tačiau daugiau neigiamų tendencijų užfiksuota kontrolinėje grupėje. *Stipria skaitymo motyvacija pasižyminčių mokinį* skaitymo motyvacija eksperimentinėje grupėje reikšmingai nepakito, o kontrolinėje grupėje išvysko ir teigiamų, ir neigiamų pokyčių. *Vidutine skaitymo motyvacija* pasižyminčių mokinį motyvacijos struktūroje reikšmingi pokyčiai užfiksuoja tik neigiami tiek eksperimentinėje, tiek kontrolinėje grupėje. *Sustiprėjo eksperimentinės grupės silpna motyvacija pasižyminčių mokinį* nusiteikimas *priimti skaitymo iššūkius*.
  - Teksto supratimo gebėjimų srityje metakognityvinių strategijų mokymasis sietinas su reikšmingai pagerėjusių eksperimentinės grupės *vidutiniaisiai ir silpnais teksto supratimo gebėjimais* pasižyminčių mokinį *gebėjimu suprasti ir įsiminti tekste pateiktamus faktus*. Kontrolinėje grupėje pokyčiai nevienareikšmiai: gerai suprantančių tekštą mokinį gebėjimas suprasti teksto faktus pagerėjo, tačiau pablogėjo gebėjimas faktus sieti ir tuo pagrindu daryti nesudėtingas išvadas; taip pat pablogėjo prastai tekštą suprantančių mokinį gebėjimas apibendrinti visą tekštą (eksperimentinėje grupėje tokios tendencijos nepastebėta).
6. Metakognityvinių strategijų mokymo(si) modeliavimo rezultatai, atskleidžiantys pozityvesnius silpnai ir vidutiniškai besimokančių mokinį teksto supratimo gebėjimų ir skaitymo motyvacijos pokyčius iš dalies patvirtina hipotezę, kad metakognityvinių strategijų mokymasis heterogeninėje klasėje gali sustiprinti mokinį teksto supratimo gebėjimus ir skaitymo motyvaciją.
- Metakognityvinių strategijų mokymasis nevienodai efektyvus, ugduant gerais ir prastais teksto supratimo gebėjimais, stipria ir silpna skaitymo motyvacija pasižyminčius, mokinius: geru teksto supratimu ir stipria skaitymo motyvacija pasižyminčių mokinį gebėjimui suprasti tekštą ir motyvacijai skaityti reikšmingos įtakos neužfiksuoja.
  - Pasitvirtino hipotetinė prielaida, kad metakognityvinių strategijų mokymasis ne visas skaitymo motyvacijos ir teksto supratimo savybes keičia vienodai: skaitymo motyvacijos srityje reikšmingi pokyčiai susiję su nusi-

teikimu priimti skaitymo iššūkius, o teksto supratimo gebėjimų srityje – su teksto faktų supratimu ir įsiminimu.

7. Tyrimas parodė, kad metakognityvinių strategijų mokymuisi svarbūs ir konteksto veiksmiai: pedagogo nuostata taikant naujas didaktines prieigas ugdyti mokinį sąmoningumą mokantis; vidinė mokytojo motyvacija mokyti planuoti, kontroliuoti ir vertinti skaitymo procesą ir rezultatus; siekimas pačiam eksperimentuoti; dialogų klasėje iniciavimas; mokinį motyvacijos mokyti skatinimas, kt.

## **TYRIMO REZULTATU APROBAVIMAS**

*Publikacijos disertacijos tema recenzuojamuose periodiniuose leidiniuose:*

Ruškus, J., Melienė, R., Eliošienė, L. (2003). Didaktinių paradigmų realizavimas mokant specialiųjų ugdymosi poreikių turinčius vaikus: stebėjimo bendrojo lavinimo mokyklos klasėje duomenys. *Specialusis ugdymas*, 2 (9), 85–97.

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*Straipsnių konferencijų leidiniuose:*

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*Seminarių pedagogams:*

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***DEVELOPMENT OF TEXT COMPREHENSION ABILITIES AND  
ENHANCEMENT OF READING MOTIVATION TEACHING AND  
LEARNING METACOGNITIVE READING STRATEGIES IN THE  
HETEROGENIC CLASS***

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