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Cultural-historical theory by Lev S. Vygotsky: strategies of studies on children’s learning and development. From theory to change in practice

ABSTRACT: Lev S. Vygotsky’s cultural-historical theory of development not only affected, in a special way, the understanding of individual cognitive development, but also introduced new procedures in research methodology. These procedures allow researchers to uncover the development potential in the maturing of children’s functioning by observing their forms of activities and engaged participation in performing task. An original “theory-method” by Vygotsky and methodological procedures connected with it – teaching experiments, genetic experiments – were applied to a research project in the Department of Didactics and Culture of Education Studies (*Developing teaching in early childhood education in line with Lev S. Vygotsky’s concepts – ACK*). This paper focuses on three problematic issues: (1) understanding of the development process and learning by Vygotsky under the cultural-historical approach; (2) presentation of original strategies of research on development and learning – design experiment, (3) application of these research procedures in projects recently run in the Laboratory of Educational Change-Center for Studies on Development and Learning in the Department of Didactics and Culture of Education Studies at Kazimierz Wielki University in Bydgoszcz, Poland.

KEYWORDS: cultural-historical theory by Lev S. Vygotsky, experimental and genetic method, design experiment, theoretical thinking, early education

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LEV S. VYGOTSKY'S CULTURAL AND HISTORICAL THEORY
OF DEVELOPMENT VERSUS UNDERSTANDING OF THE PROCESS
OF INDIVIDUAL COGNITIVE DEVELOPMENT

The Soviet psychologist Lev S. Vygotsky formulated his position with regard to important, classical questions pertaining to human development: Of what does human development consist in its ontogenesis? What are its characteristics? What are the factors and mechanisms of development? (cf. Filipiak, 2002, p. 135). The direction of his search was determined by more questions: How can people's own activity affect the conditions of their actions? How can people, through changing the conditions of their existence, also change themselves? (cf. Shotter, 1994, p. 15). What role do interaction and social experience play in cognitive development? How does the culture – the cultural context in which a person lives and develops – affect that person's intellectual development?

Theoretical analyses and studies contributed to Vygotsky's formulation of visionary ideas related to the role and importance of children's early contacts and enabled construction of his theory of child development. They became foundations for his original psychology of education (cf. Vygotsky, 1997; Ivić, 2000).

These premises¹ are as follows:

- Human development is a social achievement with regard to both its content and its course (Vygotsky, 1971).
- Higher mental functions have their source in social activity (Vygotsky, 1971).
- According to Vygotsky's concept, mental human development is of a (materially and socially) mediatory character through cultural auxiliary means. The mediation occurring through tools and signs leads to the structure of change in mental actions and to further development (cf. Vygotsky, 1971, p. 137; Karpov, 2005, pp. 20–33);
- The most important mediator between learning and development is language (Vygotsky, 1989; Bodrova and Leong, 2007; Filipiak, 2015).
- The Zone of Proximal Development (ZPD), one of the best-known concepts associated with Vygotsky's theory of development, creates space for the potential of

¹ These premises are presented more extensively in earlier publications by E. Filipiak, 2002, 2008, 2011, 2012, 2015a, 2015b, 2016.

teaching and defines the gap between the task levels within reach when performed under the direction and with adult assistance (that is, competence externally supported) and the actual developmental level of a child on which s/he demonstrates independent making of tasks (revealing competence without support from an adult). Not only is the concept of the ZPD an expression of original dynamic approach to the study (diagnosis) of a child's development (method of double stimulation), but its "acknowledgement" also becomes the basis of construction of developmental teaching (cf. Vygotsky, 1989, p. 254; Wood, 2006, p. 90; Bodrova & Leong, 2007, p. 40; Filipiak, 2011, pp. 16–17; Chaiklin, 2003, pp. 39–65).

- The instrument for creation of the ZPD is mediation and formative interventions by an adult (Karpov, 2005, pp. 33–39; Hedegaard, 1990; Giest, 2001).
- Relationships with others are very significant for a child's development and learning are. The asymmetrical interaction with adults, who carry all ideas of a given culture, is the most important factor in development (Vygotski, 1995; Ivić, 2000)
- The teaching-learning process is a process of joint construction of meanings in the course of actions undertaken by a child and a teacher in social interaction (Zuckerman, 2003; Giest & Lompscher, 2003).
- A specific relationship exists between learning and development. Learning is a means of strengthening the natural process of development by generation of cultural tools available to an individual, which expand the individual's natural potential and convert his or her higher mental functions (Vygotsky, 1989; Vygotsky, 1971; Ivić, 2000; Bodrova & Leong, 2007; Filipiak, 2012, 2015).

CULTURAL-HISTORICAL APPROACH TO STUDIES ON DEVELOPMENT AND LEARNING (CHAT): NEW, ORIGINAL PROCEDURES IN RESEARCH METHODOLOGY

In Kuhn's opinion, effective studies cannot begin if a researcher designing the studies is not clear as to the primary entities or elements on which they are undertaken; as to how they affect one another as well as the meanings constructed; and as to what questions may justifiably be posed with regard to such entities and what techniques may be applied in search for answers to these questions (cf. Kuhn, after Schotter, 1994, p. 28). All these remarks need to be referred to the cultural-historic paradigm, for when adapting the cultural-historic paradigm and designing research from this perspective, a researcher assumes or declares responsibility for comprehension, interpretation of (cognitively refined) categories specific of CHAT (*perezhivanie*, ZPD, higher mental functions, etc.).² On the other hand, s/he is aware of the consequences of applying methodological procedures designated by Vygotsky's original "theory-method" – the functional double stimulation method (micro-genetic method), the genetic experiment

² Vygotsky's theory, cognitively sophisticated and not easy in reception, is replete with terminology that expresses the innovativeness of his views. These language concepts are clarified in E. Filipiak's glossary of key terms (2011).

method, the design experiment. The methodological consequence of the CHAT approach is also a search for and application of research methods that make possible the recording of the course of research.

First of all, it needs to be noted that Vygotsky did not mean to study experimentally what can make up the current level of a child's development, but rather wished to study what a child can do alone or with help from others – that is, how a change can be brought about so that children can control their own behavior (cf. Shotter, 1994, p. 25; Stachowski, 2002, pp. 30–31). He thus studied phenomena and processes central to human development. He emphasized that a researcher should be interested not in the final result, a complete product of development, but in the very processes of the creation and establishment of a higher form (Vygotsky, 1971, p. 76). As B. Smykowski observes, in contemporary scientific studies on development but also in everyday practice, test methods are used. Their application is not so demanding as that of experimental methods. It is noted, however, that these studies are less significant for the psychology of development, as they make it possible to diagnose states and not – as Vygotsky presumed – processes (cf. Smykowski, 2017). According to Vygotsky (1971, p. 77), a reliable psychological analysis should take into account three elements. First, it should concern processes, not subjects. Its task is to reveal authentic relations and causal dynamic relationships occurring in the process analyzed, not only to record external features of that process. Second, an analysis of this type should perform explanatory tasks, not descriptive ones. Third, an analysis of higher forms of behavior should be a genetic analysis, returning to the onset and reproducing all developmental processes of each form. The main subject of the experimental-genetic method of studies (genetic experiment) proposed by Vygotsky is a dynamic analysis of the creation and formation of reactions, reconstruction of the moment of creation, formation of the final form and reproduction of the dynamic image of the entire process of its creation (Vygotsky, 1971). In the process as thus understood, observation and its tools play a significant role. Smykowski rightly observes that the observation method and the experiment method not only remain bound in a genetic relationship, but are also intertwined in a uniform empirical process (Smykowski, 2017). Vygotsky draws attention to marked difficulty of the genetic analysis, which “consists of studying by means of experimental, artificially aroused behavioral processes how the natural process of development proceeds [...]. The task of the genetic study is always to transfer the experimental scheme to real life” (cf. Vygotsky, 1971, p. 113). Experimental studies carried out in laboratory space make it possible to discover only abstract schemata of development, a sequence of consequences, or principles. Only when the experimental scheme is transferred to real life and filled with content obtained in a non-experimental way can a researcher assign meaning to things in practice, and discover and trace the natural history of sign and the mechanism of its development (Vygotsky, 1971, pp. 113–115; Smykowski, 2017).³ “The task of

³ D. El'konin and V. Dawidow developed an educational system that works as an experimental method enabling exploration and expansion of a human mind's potential with children throughout education by organizing learning conditions. This longest formative experiment has been going on since 1958 in Moscow in School No. 91. The Laboratory's researchers, continuing the study of a multi-cycle with Davidov's method (genetic modeling), run laboratory observations, implement educational projects in the classroom, draw up

a genetic study is not . . . to explain the creation of new forms of behavior with the act of discovery, but on the contrary: its task is to show the very beginnings of that development, its role in a child's behavior, and also the role of other factors determining its symptoms and influences" (cf. Vygotsky, 1971, p. 114). It needs to be noted here that a researcher's interpretations must be derived "not so much from controlled conditions of the laboratory environment, which is isolated from entangling impacts of everyday matters, but from the specific current tumult of everyday social life in full broom" (cf. Shotter, pp. 26–27). In the CHAT methodology and the studies designed, two concepts characterize the research procedure: the double stimulation (microgenetic) method and design experiment. The double stimulation (microgenetic) method is a research method whereby "one group of stimuli plays the function of an object of activity of a researched person, and the other – of signs enabling organization of that activity" (cf. Stachowski, 2002, p. 30). Participating in the study, a child learns something new using mental tools, e.g. symbols or categories, while the researcher records both what the child is capable of doing independently and how the child absorbs the tools; s/he registers what a child can do with help from others (Filipiak & Lemańska-Lewandowska, 2015, p. 44).

WHAT IS THE SPECIFIC CHARACTER OF DESIGN EXPERIMENT?

The organization of design experiment requires the creation of conditions in which respondents can undertake activity that is subject to modification in the process of direct interaction between the researcher-interventionist and the research subject. Situations of activity with involvement are recorded, then replayed and subjected to analysis and reconstruction (cf. Filipiak & Lemańska-Lewandowska, 2015). Design experiment is a method of researching mental development; it pertains to the relationship Vygotsky discovered between the zones of current and proximal development. The basic feature of design experiment is not, as Dawydow observes (1978, after: Zak, 1989, p. 41), "... simple construction of qualities or other empirical forms of psyche, but their active modeling, formation in special conditions making it possible to discover their essence." Such a procedure enables discovery of the development potential embedded in the maturing way of a child's functioning; enables observation of conditions causing developmental changes in everyday practices, in real conditions or conditions similar to those; creates an opportunity to observe engaged forms of activity and participation of a respondent in solution of tasks and ways of using assistance of an interventionist; and enables control over the quality of the respondent's motivation and involvement in the solution of tasks (Zak, 1989; also: Stachowski, 2002; Smykowski, 2000; Filipiak & Lemańska-Lewandowska, 2015). Therefore, "(...) *the of the experimental-genetic*" research method is not measurement of the current level of performance, but ways of reaching that performance" (Shotter, 1994, p. 26; Stachowski, 2002, p. 30; Zuckerman,

original educational tools supporting children's intellectual potential, diagnose and evaluate the process. This method enables assessment of capacity and effectiveness of the project (model) describing the origin (genesis) of concepts as a tool of learners' minds (Zuckermann, 2018).

2018). Thanks to the application of design experiment and creation of a pulsating social situation, researchers obtain the possibility of effectively interpreting a child's recorded activity, the child's assigning sense to things in practice. As Shotter emphasizes (1994, p. 26) "(...) *it is in practice (praxis, practical discourse) that Vygotsky's psychology starts and closes.*" Thus understood and designed, methodological procedure has been applied in the experiment of developmental teaching organized in the Academic Creativity Center (ACK) project (www.ack.ukw.edu.pl).

PROJECTS RUN IN THE LABORATORY OF EDUCATIONAL CHANGE-CENTER
FOR STUDIES ON DEVELOPMENT AND LEARNING
AT THE DEPARTMENT OF DIDACTICS AND CULTURE OF EDUCATION
WITH THE APPLICATION OF CHAT METHODOLOGY⁴

At Kazimierz Wielki University in Bydgoszcz, Poland, in the Institute of Pedagogy, Department of Didactics and Culture of Education, scientific and exploratory studies have been undertaken for a number of years on applications of Vygotsky's and J.S. Bruner's cultural theories of development and activity for educational practice and improvement of schoolwork.

The main aim of the project *Academic Creativity Center (ACK): Developmental teaching according to Lev S. Vygotsky's theory on child's early education* (no 7/POIG/ACK/2014)⁵ carried out by the scientific team of the Department of Didactics and Culture of Education at Kazimierz Wielki University in Bydgoszcz was to work out (testing and popularization) an innovative model of teacher-pupil work with a child at the first stage of education. That model, based on premises derived from Vygotsky's socio-cultural theory, was to contribute to the improvement of work by both a pupil and a teacher of early education. The project provided an opportunity to construct a social network for learning, authentic co-creation of knowledge in educational activity, and in-depth transfer between the Novice (pupil) and the Expert (teacher). University students' involved participation of in the project contributed to changing their educational philosophy and creating space for them to think about child development and education. Most important, however, active forms of children's participation in situations of solving tasks and their ways of using an interventionist aid were subjected to analysis and interpretation.

During the experiment, conditions were created for development of theoretical thinking by children in early education by introducing specially constructed develop-

⁴ The scientific research team of the Department of Didactics and Culture of Education, Laboratory of Educational Change-Center for Studies on Development and Learning at Kazimierz Wielki University, has run two projects in recent years in which the CHAT (Cultural Historical Activity Theory) methodology was applied: the ACK project (www.ack.ukw.edu.pl).

⁵ Project *Academic Creativity Center (ACK): Developmental teaching according to Lev S. Vygotsky's theory on child's early education* (no 7/POIG/ACK/2014) was run under the systems project "Supporting the system of management with scientific research and its results," POIG.01.01.03-00-001/08. Dates of execution: **Nov. 14, 2014, to Nov. 15, 2015.** A complete description of the project is available at www.ack.ukw.edu.pl

mental tasks (on the basis of Vygotsky's and V.V. Davidov's theories), consisting of the examination of linguistic, mathematical, scientific and artistic phenomena. The indispensable prerequisite for realization of cognition directed at the developmental of theoretical thinking was a child's performance of tasks in "a mental plan," "in the mind," in an internal plan. As follows from analyzes conducted (cf. Filipiak, 2015 a, Tab. 1; Tab. 2, pp.183–184; cf. also Giest and Lompscher, 2003), theoretical knowledge is located in the Zone of Proximal Development.⁶ Its acquisition is possible only through cooperation with an adult during organization and realization of didactic tasks purposefully constructed and posed to a child (cf. also Filipiak and Lemańska-Lewandowska, 2015). The experiment monitored the process of these developmental tasks posed to children in five experimental forms being solved in the natural environment of those forms at the first stage of school education (cf. Fig. 1).

In the organization of the studies conducted with the application of design experiment procedure, the following stages may be recognized:

- **STAGE I – WORK WITH THEORY:** establishment of premises, a hypothesis concerning tools to support theoretical thinking.

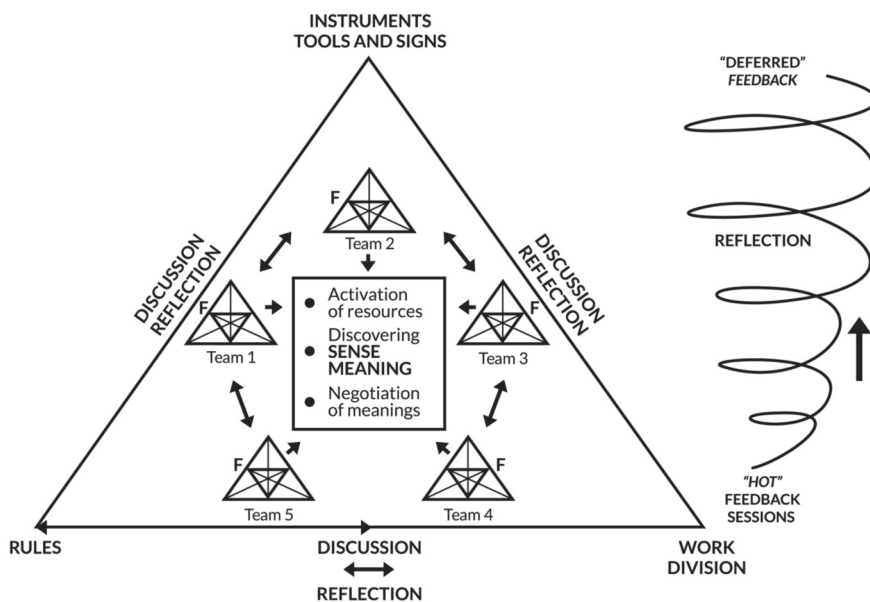


Fig. 1.

Source: Filipiak, E., Lemańska-Lewandowska, E. (2015). Raport tematyczny z badań. *Model nauczania rozwijającego według Lwa S. Wygotskiego we wczesnej edukacji. Gotowość studentów i nauczycieli. Możliwości aplikacji*, p. 46

⁶ Experimental studies realized by M. Hedegaard showed that most kindergarten children have conditions for developing theoretical thinking (Hedegaard, 1999).

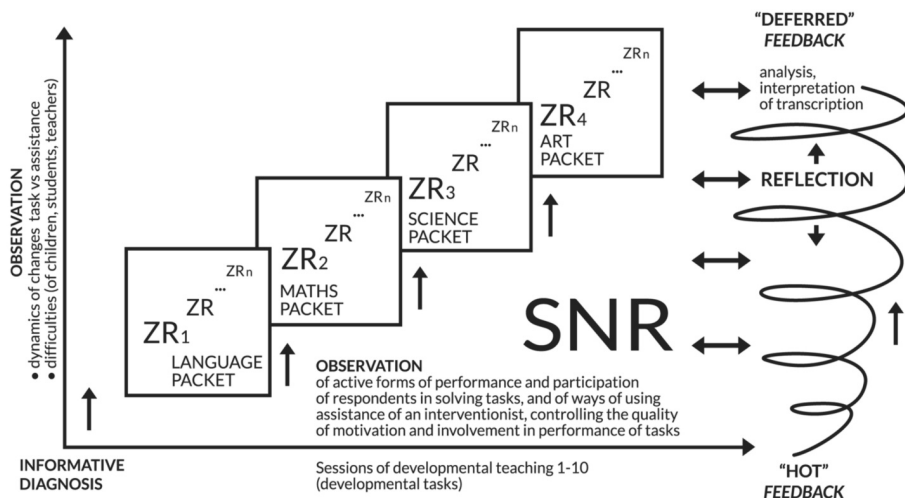


Fig. 2.

Source: Filipiak, E., Lemańska-Lewandowska, E. (2015). Raport tematyczny z badań. *Model nauczania rozwijającego według Lwa S. Wygotskiego we wczesnej edukacji. Gotowość studentów i nauczycieli. Możliwości aplikacji*, p. 45

- **STAGE II – DESIGNING THE EXPERIMENT:** designing developmental-didactic tasks; designing tools for observation and recording thinking strategies (SOD-ZD scale); development of students’ and teachers’ competence of “sensitive instruction” (competence workshop; observation/reflection/feedback).
- **STAGE III – IMPLEMENTATION OF DESIGN EXPERIMENT:** recording the process of solving tasks and undertaking strategies.
- **STAGE IV – ANALYSIS “FILTERS”:** interpretation of empirical material; analysis.
- **STAGE V – CONCLUSIONS.**

In the research being executed, two essential concepts need to be defined more specifically: **developmental tasks** and **theoretical thinking**. In the first stage they were subjected to a thorough analysis:

A developmental-didactic task is problem requiring a learner to discover and master a general way (rule) when solving a sequence of detailed didactic tasks and performing specific didactic activities⁷ directed at activation of mental operations: comparison, analysis, synthesis, abstraction, generalization (Davydov, 2003, p. 566). This task is characterized by thought-over and specific content that not only is rich but also enables a child to undertake activity directed at building foundations for theoretical knowledge. The process of posing a didactic task is extended over time. The indicator

⁷ The learner’s and the teacher’s actions (initiative-based cooperation), being an effect of scaffolding for theoretical thinking, are characterized more extensively in a publication by Filipiak (2015b).

of the undertaking of task is a child hypothesis (child hypotheses) on possible ways of acting, a discussion, a study note, a plan of actions (cf. Staragina, 2009).

The following findings concerning **theoretical thinking** were adopted (cf: Filipiak, 2015a).

Theoretical thinking:

- is a complex cognitive activity, *rational reasoning* aimed at generation of a concept. In the course of its performance by means of appropriate ways of acting, thanks to an in-depth exploration of the objects studied, analyzing relationships and interdependence within a system, an individual discovers genetically primary relations, distinguishes first in the objects a general relation and, then, specific forms of that relation.
- because of the “mediated” character of the content (internal relations) reflected, bears a specific set of features characteristic of thinking that is better organized and rests on actions at the generation of idea of the objects studied.
- Fundamental for the creation of theoretical knowledge is acting directed at modification of objects, projecting their internal relations and associations, reaching beyond the framework of sensual imagery.
- Theoretical knowledge is expressed via a child’s ways of mental work, in multiple symbol-and-sign systems used in actions undertaken. Theoretical thinking describes a specific route of cognition, the way children think about the content of the object studied.
- Theoretical knowledge is constructed in the Zone of Proximal Development. Its creation is possible only in cooperation with an adult during organization of specific environmental conditions and realization of purposefully constructed developmental-didactic tasks (Filipiak, 2015a, b).

Theoretical knowledge and actions accompanying theoretical thinking need to be distinguished from empirical knowledge and actions accompanying empirical thinking.⁸ The specifics of activity undertaken jointly by a teacher and a learner in the ZPD, directed at the development of theoretical thinking, is addressed more extensively by Filipiak (2015b). Formative instructions deom an adult, her/his activity directed at initiative-based cooperation and purposeful development of theoretical thinking, are a key to success. The teacher builds a child’s scaffolding by posing appropriate questions that provide intellectual support. S/he leads theoretical thinking, poses instantiative problematic questions, aids in the creation of a mental model, modifies mental observation of features and relations, directs an analysis, and enables exploration of the objects studied. Insufficient analysis and abstraction at this stage of building foundations of theoretical thinking and too-hasty generalizations make it harder for a child to understand new situations and construct concepts.

⁸ The comparisons of empirical and theoretical knowledge taking into account: (1) aim, (2) path of knowledge use, (3) fundamental bases, (4) instantiation of knowledge, and (5) transfer were made in the publication by E. Filipiak 2015a. Additionally, the characteristics of features and properties of theoretical thinking was developed by a comparative analysis of actions accompanying practical and theoretical reasoning (cf. Tab. 2, Filipiak 2015a).

The procedure of design experiment was preceded by researchers' preparation for understanding the concept subjected to analysis. The theoretical preparation of researchers, interventionist teachers and university students encompassed many meetings and laboratory workshops (cf. Filipiak & Lemańska, 2015, pp. 73–80)

The development process of a child's cognitive activity (theoretical thinking) was monitored by means of a tool drawn up specially for the purposes of the project: the *Scale for Observation of Child in a Task Situation* (SOD-SZ) by A. I. Brzezińska, and a "hot feedback" sheet for the researcher by E. Filipiak. The *SOD-SZ Scale* is designated to record the results of observation of children at the early education age (from first to third graders) in tasks requiring cooperation in pairs in planning and performing a task. (For more comprehensive discussion, see Chapter 1.6 in Filipiak & Lemańska, 2015, pp. 80–83 and pp. 168–169). Children's behaviors and task activity were recorded and observation sheets. Transcripts of recordings were subjected to analysis.

With the questions presented below, scientific activity undertaken by children was examined:

- What type of activity do children undertake to solve a task?
- What strategies of acting and thinking do they apply to this end?
- What meaning do they assign to them?
- How do they use the teacher's verbal instructions?
- How do they include (not only human) "mediators"/intermediaries in the situation?
- What is their motivation and initiative-based involvement in performing tasks? (Filipiak & Lemańska, 2015, p. 48)

The tasks proposed to children in the experiment were scientific tasks hidden in problematic situations, aimed to develop their scientific activity (cf. Elkonin's premises, 1989). The analysis of problematic situations undertaken by children was scientific activity taken up by them. The conditions created for solving the problematic situation provoked the children to seek new methods of solution; they required their abstract thinking and performance of complex mental operations, such as comparison, analysis, synthesis, abstraction and generalization. The major effect of performing tasks was discovery of the mode of action. The children's cognitive activity was directed not at finding an answer to the question *What needs to be done?* but rather *how* this task needs to be performed. An important element of the scientific activity children performed was control gradually turning into self-control; hence the possibility of checking the results of one's own work (scientific activity undertaken) and comparing it to the activity of other children. The last component was assessment, gradually becoming self-assessment, by establishing the level of the mastery of knowledge (specification of ways of performing mental operations) (cf. Filipiak & Lemańska-Lewandowska, 2015).

In the conducted design experiment, we managed to grasp children's construction (in mind) of such concepts, which enabled them to develop *rational thinking*. The conducted design experiment confirmed earlier results of studies of D.B. Elkonin (1989), Ł. Bercfai and K. Polivanov (1988), M. Hedegaard (1999), A. B. Woroncow (2010) and G. Zuckerman (2003, 2018) stipulating that children have a much greater develop-

mental potential than is commonly believed and that developmental teaching offers the possibility of children conducting scientific activity. Multiyear experimental studies by Elkonin and Davidov (and those who continued their work) show that the dominant system of education does not develop theoretical (reflective) thinking in primary-school pupil, because it “equips” children’s minds with empirical concepts. The valid educational system overshadows and depreciates the potential of children’s intellectual possibilities. Laboratory experiments prove that children in early education are sensitive to the development of theoretical (reflective) thinking. The traditional classroom, however, does not create conditions and does not undertake activities in which a child is a subject searching for new ways of acting (cf. Zukerman, 2018).

The procedure of actions adopted in the design experiment of ACK and the conditions created for the process of cognition directed at the development of theoretical thinking would enable children not only to understand the educational content more deeply, but also to master it more swiftly. Monitoring the process of children’s performing developmental tasks showed them to be capable of generating valuable (linguistic, mathematical, scientific, artistic) knowledge and producing new, original strategies of thinking and acting. Moreover, the studies discovered possibilities and opportunities for developing higher mental functions by children with special difficulties in learning, with regard to not only social or communicative abilities, but also widely understood cultural abilities. They drew attention to the problem of creating appropriate “made-to-measure” support, and tension between excessive and deficient scaffolding was observed (cf. M. Wiśniewska, 2015).

On the basis of conducted studies and analyses of empirical material, detailed conclusions and recommendations for educational practice were formulated, which are contained in the Thematic Study Report *Model nauczania rozwijającego według Lwa S. Wygotskiego we wczesnej edukacji. Gotowość studentów i nauczycieli. Możliwości aplikacji* E. Filipiak and E. Lemańska-Lewandowska.

CONCLUSION

The research inspired by Vygotsky-Elkonin-Davidov’s experimental method allowing exploration and expansion of potential learning opportunities for children is being continued at the Laboratory for Educational Change-Center for Research on Learning and Development. Developmental tasks, diagnostic tools of interventional importance, are constructed and tested; training sessions with children are recorded in a learning situation; children’s sensitivity to formative interventions is analyzed, as well as the behavior interchangeability of interaction partners. The process is analyzed and evaluated. Important aspects of the research work undertaken in the laboratory are cooperation with interventionist teachers and monitoring of their reflexivity, changes in the “child theory,” readiness and revealed difficulties in implementing developmental teaching.

LITERATURE

- Bodrowa, E., Leong, D.J. (2007). *Tools of the Mind. The Vygotskian Approach to Early Childhood Education*. New Jersey: Pearson Education.
- Dawydow, V.V. (1998). *Ucebnaja zadaca*. W: B.G. Mescerakova & V.P. Zincenko (eds.), *Bolszoi psichologičeskij slovar*. Moscow: Pedagogika Press.
- Filipiak, E. (2011). *Z Vygotskym i Brunerem w tle. Słownik pojęć kluczowych*. Bydgoszcz: Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Filipiak, E. (2002). *Konteksty rozwoju aktywności językowej dzieci w wieku wczesnoszkolnym*. Bydgoszcz: Wydawnictwo Akademii Bydgoskiej im. Kazimierza Wielkiego.
- Filipiak, E. (2008). *Uczenie się w klasie szkolnej w perspektywie socjokulturowej*. In E. Filipiak (ed.), *Rozwijanie zdolności uczenia się. Wybrane konteksty i problemy* (pp. 17–50). Bydgoszcz: Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Filipiak, E. (2012). *Rozwijanie zdolności uczenia się. Z Vygotskim i Brunerem w tle*. Sopot: Gdańskie Wydawnictwo Psychologiczne.
- Filipiak, E. (2015a). *Możliwości rozwijania myślenia teoretycznego u dzieci w wieku wczesnoszkolnym. Podejście Lwa S. Vygotskyego*. *Studia Pedagogiczne*, LXVIII, 177–190.
- Filipiak, E. (2015b). *Budowanie rusztowania dla myślenia i uczenia się dzieci w perspektywie społeczno-kulturowej teorii Lwa S. Vygotskyego*. In E. Filipiak (ed.), *Nauczanie rozwijające według Lwa S. Vygotskyego we wczesnej edukacji dziecka. Od teorii do zmiany w praktyce* (pp. 15–39). Bydgoszcz: ArtStudio (Publication prepared as part of the systemic project “Supporting the system of research and research outcomes management”, no POIG.01.01.03-00-001/08; Project no 7/POIG/ACK/2014).
- Filipiak, E., & Lemańska-Lewandowska, E. (2015a). *Raport tematyczny z badań. Model nauczania rozwijającego według Lwa S. Vygotskyego we wczesnej edukacji. Gotowość studentów i nauczycieli. Możliwości aplikacji*. Bydgoszcz: ArtStudio (Publication prepared as part of the systemic project “Supporting the system of research and research outcomes management”, no POIG.01.01.03-00-001/08; Project no 7/POIG/ACK/2014).
- Filipiak, E., & Lemańska-Lewandowska, E. (2015b). *Możliwości rozwijania myślenia i uczenia się dzieci poprzez stawianie zadań rozwojowych*. In E. Filipiak (ed.), *Nauczanie rozwijające według Lwa S. Vygotskyego we wczesnej edukacji dziecka. Od teorii do zmiany w praktyce* (pp. 39–67). Bydgoszcz, ArtStudio (Publication prepared as part of the systemic project “Supporting the system of research and research outcomes management”, no POIG.01.01.03-00-001/08; Project no 7/POIG/ACK/2014).
- Filipiak, E. (ed.). (2015). *Nauczanie rozwijające według Lwa S. Vygotskyego we wczesnej edukacji dziecka. Od teorii do zmiany w praktyce*. Bydgoszcz: ArtStudio (Publication prepared as part of the systemic project “Supporting the system of research and research outcomes management”, no POIG.01.01.03-00-001/08; Project no 7/POIG/ACK/2014).
- Giest, H. (2001). *Instruction and Learning in Elementary School*. In M. Hedegaard (ed.), *Learning in Classrooms: A Cultural-Historical Approach* (pp. 59–77). Aarhus: Aarhus University Press.

- Giest, H. & Lompscher, J. (2003). Formation of Learning activity and Theoretical Thinking in Science Teaching. In V. Ageev, B. Gindis, A. Kozulin, S. Miller (eds.), *Vygotsky's Theory and Culture of Education* (pp. 267–289). New York: Cambridge University Press.
- Hedegaard, M. (1999). The Influence of Societal Knowledge Traditions. In M. Hedegaard & J. Lompscher (eds.), *Learning Activity and Development* (pp. 22–51) Aarhus: Aarhus University Press.
- Ivić, I. (2000). *Lew Siemionowicz Vygotsky*. In C. Kupisiewicz (ed.), *Myśliciele o wychowaniu* (pp. 477–493, vol. 2). Warszawa: Graf-Punkt.
- Karpov, Y.V. (2005). *Vygotsky for Educators*. New York: Cambridge University Press.
- Shotter, J. (1994). Psychologia Vygotskyego: wspólna aktywność w strefie rozwoju. In A. Brzezińska, G. Lutomski (ed.), *Dziecko w świecie ludzi i przedmiotów* (pp. 13–44). Poznań: Zysk i S-ka.
- Smykowski, B. (2000). Podejście rozwojowe do badania form zachowań. In A.I. Brzezińska (ed.), *Z Vygotskym w tle* (pp. 137–151, series *Nieobecne dyskursy*, vol. VI). Toruń: Wydawnictwo Uniwersytetu im. Mikołaja Kopernika.
- Smykowski, B. (2017). Eksperymentalna metoda podwójnej stymulacji w diagnozowaniu gotowości dzieci do uczenia się pod kierunkiem. *Psychologia Wychowawcza*, 11, 19–40. DOI: 10.5604/01.3001.0010.5503.
- Stachowski, R. (2002). Lew S. Vygotsky – prekursor psychologii o dwóch obliczach. In A. Brzezińska & M. Marchow (eds.), *Lew S. Vygotsky. Wybrane prace psychologiczne II. Dzieciństwo i dorastanie* (pp. 19–40). Poznań: Zysk i S-ka.
- Wiśniewska, M. (2015). Budowanie rusztowania dla myślenia i działania dzieci z trudnościami w uczeniu się: między nadmiarem a niedomiarem wsparcia. In E. Filipiak (ed.), *Nauczanie rozwijające według Lwa S. Vygotskyego we wczesnej edukacji dziecka. Od teorii do zmiany w praktyce* (pp. 165–181). Bydgoszcz: ArtStudio (Publication prepared as part of the systemic project “Supporting the system of research and research outcomes management”, no POIG.01.01.03-00-001/08; Project no 7/POIG/ACK/2014).
- Wood, D. (1995). Społeczne interakcje jako tutoring. In A. Brzezińska, G. Lutomski & B. Smykowski (eds.) *Dziecko wśród rówieśników i dorosłych*. Poznań: Zysk i S-ka.
- Vygotsky, L.S. (1971). *Wybrane prace psychologiczne*. Warszawa: PWN.
- Vygotsky, L.S. (1989). *Myślenie i mowa*. Warszawa: PWN.
- Vygotsky, L.S. (2002). Wczesne dzieciństwo. In A. Brzezińska & M. Marchow (ed.), *Wybrane prace psychologiczne II. Dzieciństwo i dorastanie* (pp. 91–131), Poznań: Zysk i S-ka.
- Zak, A. (1989). *Rozwój myślenia teoretycznego u dzieci w młodszym wieku szkolnym*. Warszawa: WSiP.
- Zuckerman, G. (2003). The learning activity in the first years of schooling: the developmental path toward reflection. In V. Ageev, B. Gindis, A. Kozulin & S. Miller (eds.), *Vygotsky's Theory and Culture of Education* (pp. 177–199). New York: Cambridge University Press.
- Zuckerman, G. (2018). Longitudinal formative interventions in the Elkonin – Davydov's context. *Problemy Wczesnej Edukacji/Issues in Early Education (Z inspiracji konstrukttywizmu socjokulturowego)*, 42(3), 20–27.

**KULTUROWO-HISTORYCZNA TEORIA LWA S. WYGOTSKIEGO:
STRATEGIE BADAŃ ROZWOJU I UCZENIA SIĘ DZIECI.
OD TEORII DO ZMIANY W PRAKTYCE**

ABSTRAKT: Kulturowo-historyczna teoria rozwoju Lwa S. Wygotskiego w sposób szczególnie wpłynęła nie tylko na rozumienie procesu rozwoju poznawczego jednostki, ale także wprowadziła nowe procedury w metodologii badań. Procedury, które pozwalają odkryć potencjał rozwoju tkwiący w dojrzewającym sposobie funkcjonowania dziecka, obserwowanie jego form działalności i zaangażowanego uczestnictwa w rozwiązywaniu zadań. Oryginalną „teorio-metodę” Wygotskiego i związane z nią procedury metodologiczne: eksperyment nauczający, eksperyment genetyczny, metodę podwójnej stymulacji, zastosowano w realizowanych w Katedrze Dydaktyki i Studiów nad Kulturą Edukacji projektach badawczych (*Developing teaching in early childhood education in line with Lev S. Vygotsky's concepts – ACK, Narrative environment of play and learning – NEPL*). W artykule skupię się na trzech wątkach problemowych: (1) rozumieniu procesu rozwoju i uczenia się według Lwa S. Wygotskiego i podejścia kulturowo-historycznego; (2) przedstawieniu oryginalnych strategii badań rozwoju i uczenia się – eksperymentu nauczającego; (3) zastosowaniu tych procedur badawczych w realizowanych ostatnio projektach w Laboratorium Zmiany Edukacyjnej – Centrum Badań nad Rozwojem i Uceniem się, jednostce utworzonej przy Katedrze Dydaktyki i Studiów nad Kulturą Edukacji UKW w Bydgoszczy.

SŁOWA KLUCZOWE: kulturowo-historyczna teoria rozwoju Lwa S. Wygotskiego, metoda eksperymentalno-genetyczna, eksperyment nauczający (design experiment), myślenie teoretyczne, wczesna edukacja