RUSSIAN EDUCATION IN TRANSITION: TRENDS AT THE PRIMARY LEVEL

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INTRODUCTION

Parents in contemporary Russia are beset by myriad challenges posed by a rapidly changing educational system. Gone are the days of the highly regulated and predictable socialist school system. Today's circumstances require that parents be much more involved in educational decision making than their parents had ever been. They are exploring relatively unconventional concepts such as making learning more fun, use of positive rather than negative reinforcement, and methods of fostering intellectual curiosity. Russian parents are investigating educational strategies aimed at accelerating learner development, encouraging self-directed learning and establishing a foundation for continuous life-long learning. Many of these ideas are being explored within the framework of Leonid V. Zankov's experimental methodology, known as the "Zankovian system."

This article assesses Zankov's intellectual legacy to education, with a specific focus on the comprehensive teaching model he developed for the early years level. His model is based on the assumption that appropriate teaching methods stimulate cognitive development. Although, as far back as the 1960s, research findings showed the validity of his model, it is only recently that Zankov's ideas have received significant attention within Russian educational circles. Most notably, his model has been embraced by the newest generation of Russian educators whose memories of "teacher centred" classrooms are of recent vintage.

HARBINGERS OF CHANGE: ZANKOV AND VYGOTSKY

Leonid Zankov (1901-1977) began his pedagogical career during the Russian Civil War with a teaching post at a village school. He next became school director at a small agricultural colony following which he enrolled in studies of psychology and pedagogy at Moscow State University. On receipt of his doctorate from the Moscow Institute of Psychology, Zankov

joined the Institute of General Pedagogy at the Russian Republic's Academy of Pedagogical Sciences in Moscow. He was a prolific writer, producing over 120 academic publications, including 15 books, among them *Didactic and Life* (*Didaktika i zhizn'*, 1968) and *Conversations with Teachers* (*Besedy s uchiteliami*, 1970).

The prominent Russian psychologist, Lev S. Vygotsky (1896-1934), had a significant influence on Zankov's ideas. Unfortunately Vygotsky's ground breaking work in the field of cognitive development was, until recently, largely unknown in mainstream Western education and psychology. Among other achievements, he was the first to document the importance of private speech to the normal cognitive development of young children. Vygotsky was particularly skeptical of the popular Western assumption that teaching should respond to a learners achieved stage of cognitive development (i. e. readiness). In his writings on the relationship between teaching methods and child development, he postulated the opposite view - that teaching should anticipate and thereby stimulate cognitive development. According to Vygotsky, teachers should promote child development by drawing out capabilities not yet manifest.¹

In his view, to be effective teaching needed to anticipate and stimulate development. In this connection, Vygotsky developed a theoretical construct known as "the zone of proximal development" or

the distance between the actual developmental level, as determined by independent problem solving, and the level of potential development, as determined through problem solving under adult guidance in collaboration with more capable peers.²

According to Vygotsky, this construct

takes into account both the child's achieved stage of development with its manifest cycles on any given day and his or her incipient capabilities, which are yet undeveloped. This assumes that anything a child can do with an adult's help today, he or she will be capable of achieving independently, tomorrow.³

Therefore, if the aim of education is to promote learner development, classroom teaching should address itself not to what is manifestly achieved, but to those capabilities, functions and skills which the child has not yet expressed nor attained.⁴ Key to this process is careful and skilful lesson planning, which, in Vygotsky's words,

contributes to the intellectual development of children by giving rise to processes which do not arise outside of the educational context. Thus teaching is a more critical to a child's social development than inborn traits. Teaching stimulates the development of processes which cannot possibly arise outside the educational context.⁵

Zankov was the first to test Vygotsky's theories by conducting experimental research in Russian elementary schools. His aim was to determine the nature and degree of influence that teaching methods had on the general development of early years students. Prior to this there had been no scientific comparison of the "teaching to stimulate development" versus the "teaching in response to readiness" perspectives in cognitive psychology.

ZANKOV ON TEACHING AND CHILD DEVELOPMENT

As with much else in developmental psychology, Vygotsky's and Zankov's ideas drew on early Greek notions about human psyche. Vygotsky believed that "the teacher should attend not only to the development of the learner's mind, but also learn the learner's emotional growth."⁶ In like vein, the Zankovian system holds that elementary schooling should nurture the pupil's cognitive (*mind*), conative (*will*) and affective (*emotions*) development.

Zankov's model assumes that cognitive development is manifest not only through acquisition of knowledge, but also through its inclusion in the exercise of intellectual procedures such as logical thinking, observation, remembering and imagining. *Mind* or cognitive development is, in turn, linked to cognitive development. For example, the learner's ability to set goals and to initiate appropriate activities for achieving these goals would indicate his or her mastery of intentionality and instrumentality, in other words, development of *will*. According to Zankov, individual *will* derives from desire and evolves through achievement: "Control over self is a sign of *will* development. It is evident when one is able to take on a task and complete it without letting oneself be distract."⁷ By contrast, *emotion* or affective development pertains to the emergence of attitudes and values -- those aspects of self that represent social conscience or spiritual richness.

VYGOTSKY'S "ZONE OF PROXIMAL DEVELOPMENT"

Vygotsky's pedagogical theory is built on the premise that appropriate teaching techniques can guide the learner to ever more complex intellectual operations:

The significance of teaching derives from the fact that it creates the zone of proximal development, i. e. stimulates a child's interest in the environment which in turn awakens internal developmental processes. Once kindled, development will evolve only through interaction with real surroundings and within the context of peer relationships. Yet despite this requisite of external stimuli, the resulting intellectual growth or maturation becomes the inner accomplishment of the individual child.⁸

In his view, therefore, both internal and external factors are critical to child development. Even so, adds Zankov, while teaching does lead to development it does so indirectly because whatever is taught is always mediated by the child's own intellect and personality. Zankov believed that development is something other than learning. Development is evident in the emergence of new mental capabilities which are not directly caused by instruction:

The course of development is studied according to the logic of psychology on the basis of the lines of development of mental activity and the individual psychological features of children. If the study of development were conducted along the lines found in the organization of teaching, it would become impossible to understand the internal processes of development: the results of the study would show only what was given beforehand by teaching.⁹

Zankov concurred here with Vygotsky who stated that the most important factor in the teaching and development equation was the fact that "the processes of development do not coincide with the processes of teaching, for the former follow the latter which create 'the zone of proximal development.'"¹⁰

In short, both Vygotsky and Zankov believed that while development and teaching are interdependent, they are neither equivalent nor is their progress even. The Zankovian system aims to create educational conditions to favour the learner's development by anticipating and cultivating the child's potential. According to Zankov:

The integral connection between facilitating the process of development and the fulfilment of socio-educational goals is the cultivation of a broad world view in young learners, one which acquaints children with basic scientific, social and aesthetic principles.¹¹

Similarly, Vygotsky maintained that "whenever education is not relevant to reality there inevitably develop false and erroneous perceptions so that though knowledge is being absorbed, it remains largely irrelevant to development."¹² According to Zankov, "mastery of reading, writing and other skills should not be viewed as a distinct sphere of learning, but as part and parcel of a learner's gradual assimilation of humankind's cultural heritage."¹³

ZANKOV'S "TEACHING PRINCIPLES"

Zankov's system is based on five didactic principles that "grow out of the main goal which is to ensure that classroom teaching advances the general development of young learners."¹⁴ In fact Zankov's methodology elaborated on views already endorsed by many of his contemporaries. Thus while traditional teaching practices emphasized development of learners' knowledge, skills and habits, Zankov proposed that these goals be broadened to encompass the overall cognitive development of the child. For this to happen, the teacher's role would need to adjust from straightforward instruction to a skilful ushering of pupils along the learning process.

Zankov proposed five teaching principles to guide this new approach to primary school teaching:

- Teach at a challenging level of difficulty
- Emphasize concepts of theoretical knowledge
- Maintain a rapid pace in covering curriculum content
- Elicit learners' awareness of their own learning process
- Plan lessons carefully to foster every pupil's learning.

PRINCIPLE I: *Teach at a challenging level of difficulty*

Zankov believed that each lesson must be thought provoking because only teaching which systematically induces complex mental operations can promote rapid and full development in children. This didactic principle drew on Vygotsky's belief that daily class activities and the environment, in

general, should regularly expose the young learner to novel or unfamiliar situations whose resolutions both challenge and extend the child's problem solving skills. Moreover, to ensure optimum learning children should be left to work through lesson problems on their own. Zankov believed that overall development is inhibited whenever pupils are denied opportunities to meet and resolve challenges. Conversely, children regularly placed in the zone of proximal development, where they encounter suitably challenging puzzles or problems, would advance in terms of cognitive development and feelings of self efficacy.

PRINCIPLE II: *Emphasize concepts of theoretical knowledge*

Zankov's research in Russian primary school classrooms provided empirical evidence to support the premise that children are fond of inquiry and analytical activities. Within the Zankovian system learners are encouraged to freely proffer observations about the material being studied. The teacher's role is to draw pupils' attention to the obvious patterns and connections in the subject matter and require that they deduce and explain the nature of those relationships, as shown in Fig. 1.

The emphasis in elementary education should be on concepts rather than on developing dexterity in manipulating linguistic and mathematical symbols. The latter skills are better set on a firm understanding of fundamental language patterns and mathematical relations.¹⁵

Here Zankov echoes the very observation which led Vygotsky to posit "the zone of proximal development.

PRINCIPLE III: *Maintain a rapid pace in covering curriculum content*

Rapid pace and varied content suit children's intellectual needs. Their minds are better stimulated by variety than by repetition and drills, as Zankov observes:

Focus on endless drill and the monotony of excessive review produces mental laziness, spiritual apathy and serves to obstruct rather than facilitate development.¹⁶

Zankov did caution that such pacing not be viewed as an end in itself, but as a function of what will best promote development in learners.¹⁷ In Zankov's model, review and repetition is achieved subtly through incorporation with

new or more challenging content. In this manner, referred to as the "layered pie" technique by Russian educators, there is no obvious interruption of the content nor of learning momentum.

Previously learned material is thus reintroduced with new content allowing learners to observe the familiar in a new light even as they explore unfamiliar ground. Previous knowledge is integrated with what comes next and becomes synchronous with the learners' expanding pool of knowledge. Instead of accumulating isolated bits of information the learner gains a sufficient sense of the "integral relationship between elements, of the diversity and versatility of these relationships, to ensure that such knowledge is firmly set in memory."¹⁸ Here again, Zankov drew on Vygotsky who believed that "the psychological advantage derives from diffusing tasks of review and repetition, so that they are widely separated rather than concentrated activities."¹⁹

It should also be noted that the idea of rapid pace in study does not mean rushing classroom activities. The Zankovian system does not aim to force development. The aim is to create favourable conditions for awakening and unfolding the learner's potential. Zankov often used the phrase "hurrying without haste" (*toropit'sia nado ne spesha*) when cautioning against expending class time on non issues such as the correct and incorrect answer to a certain problem, or difference between an old and new method for solving problems.

PRINCIPLE IV: *Elicit learners' awareness of their own learning process*

This refers to the learner's self awareness of his or her progress or development in the course of a specific learning experience, for example, a project, a specific course, etc. This self awareness or self monitoring of learning involves various mental activities, as Zankov explains:

When the children are studying spelling rules (for example, the rules prescribing the change of a word or the selection of a 'native' word), their similarity often leads to confusion. In our experimental system, the children are warned that they must be especially careful in such cases, because the rules are similar to one another and can be confused. Thus, the process of mastering knowledge and skills itself becomes the object of awareness to a certain extent. How is the knowledge to be learned linked

together? What are the various aspects of mastering spelling or computational operations? What is the mechanism underlying errors and the prevention of errors? These and many other questions relating to the mastery of knowledge and skills are the subject of unflagging attention on the part of school pupils.²⁰

PRINCIPLE V: *Plan lessons carefully to foster every pupil's learning*

Zankov considers any segregation or streaming of students on the basis of their progress or other criteria as contrary to the principles of development and to the very nature of learning. In his view, barring pathological deviations, all children should be able to progress in their development. The process of development may be slow, it may be uneven for a variety of reasons -- psychological, personal experience. However, in his view, weak and strong students should learn together, for the class, according to Zankov:

is a learning collective in which, given appropriate organization of activities, each student makes a unique and valuable contribution to the common life of the class. When all weak students are grouped together they ... are denied the enrichment that comes from working alongside stronger learners. Moreover, such arrangements tend to diminish learner's self concept and self-esteem.²¹

In a similar vein, Zankov's mentor, Vygotsky, wrote that:

A notable feature of attaining advanced cognitive operations is that the acquisition of such functions in a child's development occurs twice. First through collective or social activity and secondly, through the independent activity of the child's own thought process.²²

Collaborative efforts thus nurture personal development. In Zankov's system the teacher employs the contributions of all classmates to advance the cognitive development of each pupil in the class. Zankov believed that "lessons should be planned to encourage optimal progress in each student's development, from the weakest and the strongest learner."²³

A Sample Lesson

The teacher draws a rectangle with a diagonal on the chalkboard.

Students are invited to offer definitions of the line or diagonal shown in the rectangle.

At first students advance the idea that a rectangle's diagonal is a line that connects its corners.

Next, the teacher draws another rectangle with a sinuous diagonal in it.

Again, students are invited to offer a definition of the first diagonal

This time they come closer to the truth. Refining their definition, they include the information that the diagonal is a straight line connecting the rectangle's corners.

Next, the teacher draws a rectangle with a straight line which connects two corners and moves beyond one corner.

Learners now expand their definition to include the view that a diagonal is a fragment of a straight line connecting two corners of a rectangle.

Now the teacher draws another rectangle sketching a straight line over one of the rectangle's sides, connecting two corners.

Learners specify how the diagonal differs from the horizontal line connecting two corners.

This leads the learners to observe that a diagonal is a fragment of a straight line connecting two opposite corners of a rectangle.

Figure 1: Grade 2 lesson in geometry, following Principle II.

CONDITIONS FOR LEARNING AND DEVELOPMENT

Zankov believed that children's intellectual curiosity is best whetted by the unexpected, the seemingly inexplicable, the surprising. Vygotsky wrote that "an emotionally charged fact is absorbed more easily and retained more firmly than one to which a child is indifferent."²⁴ So if the goal is to improve student learning and thinking, their feelings must be involved in the process. "Curriculum content," observed Vygotsky, "should engage students on an active level."²⁵ Lessons should begin with an element of surprise or with something that perplexes or captivates the child's interest. However, a child's curiosity will be aroused only when he or she feels comfortable. This necessitates an atmosphere of encouragement and congeniality. Only in such a context does a learner acquire the necessary self respect and confidence to proffer ideas, solve problems and come up with explanations - to welcome the exercise of making sense. In such a receptive learning environment even the most hesitant pupil will readily contribute to the joint creative efforts of the class. So an atmosphere conducive to learning, in which learners enjoy congeniality and a sense of comfort, is a requisite feature of Zankov's system.

Yet another important condition for learner development is creation of opportunities for making choices. This cannot occur when learning is not perceived as the shared responsibility of teacher and pupil. With each lesson the teacher should encourage students to recognize their ownership of and responsibility for their own work. Pupils thus develop a sense of accountability for their own efforts. Through such perceptions the learner comes to recognize him- or herself as a creative, thinking member of society. In Zankov's model learners are encouraged to conduct themselves according to the following simple precepts:

- Listen and hear
- Look and see
- Think and ponder
- No repeating (it is not interesting)
- Be happy and experience.

The Zankovian system also recognizes that the classroom is alive with the give-and-take of dialogue. In this atmosphere the teacher's role is to foster group collaboration and shared responsibility or credit for the outcomes.

Zankov's didactic or teaching principles are thus achieved through a

combination of curriculum content and teaching methodology. In his system teacher effectiveness is increased by the richness of curriculum content which consists mainly of topics in science, literature and art. These subject areas correspond particularly well with the special interests of young learners. The main function of the early years teacher is to imbue learners with the beginnings of a well rounded intellectual disposition through systematic exploration of key concepts in the selected domains.

ATTRIBUTES OF ZANKOV'S IDEAL LESSON

Zankov's didactic methodology identifies four imperatives of a good lesson or teaching session:

- Cross-disciplinary perspective
- Exponential presentation of subject matter
- An element of incongruity or dissonance
- Inclusivity or incorporation.

Cross-disciplinary perspective refers to a program that encourages cross-disciplinary integration curriculum content. This serves educational functions. While acquiring a broad knowledge and skill base, the learner is given the opportunity to appreciate the relevance of specific concepts to a wide range of contexts. Cross-disciplinary teaching also infuses the learning process with manifold hands-on activities which simultaneously draw on and expand the child's affective, cognitive and social competencies.

Exponential presentation of subject matter refers to the construction of a continuous interdependent learning experience which incorporates and builds on the content of each successive lesson leaving the student with an integrated, ever expanding body of knowledge. In the process, previously introduced simple concepts are gradually reframed within steadily more abstract questions and viewed within new contexts. While this method ensures that reinforcement of previously acquired concepts is frequent, the learning experience is neither dull nor obviously repetitive as is the case with drill and review exercise. Exponential presentation of content requires that lessons be carefully planned to incorporate and relate what has been learned to what is about to be introduced. In terms of development, each lesson advances the learner's grasp of concepts to a higher level of generalization or abstraction.

An element of incongruity or dissonance is a necessary feature of a

good learning experience because such anomalies tend to focus learner attention on the subject at hand, forces comparison and analysis of dissonant factors and gives rise to questions. In terms of development, all these intellectual activities are beneficial in themselves. This thought provoking process also helps the learner gain a firmer and more sophisticated grasp of the concepts under scrutiny. Finally, the experience demonstrates the contrast between comprehensive versus incomplete knowledge and the difference between intuition versus investigation. Incongruity spurs inquiry, research and critical thinking. By comparison, a lack of dissonance in the learning environment tends to inhibit development of creative problem solving skills.

Inclusivity or incorporation refers to the importance of adjusting lessons directly to individual learner's needs. It also refers to the fact that the exponential presentation of content is not restricted to a single discipline, but that it is a component of an entire didactic or pedagogical scheme whose features are to be applied across disciplines or in all subject areas in the primary school.

INNOVATIVE FEATURES OF THE ZANKOVIAN SYSTEM

The Zankovian system does not measure student progress in terms of grade scores so students are under no pressure to duplicate content. The system differs from traditional Russian classroom teaching in that it removes attention from the teacher, centring it on individual learner development. Instead of drill, review and rote work, field trips and suitably intriguing, brief homework assignment are recommended.

To accommodate the relatively short concentration span of a young learner and recognizing that this age group thrives on variety, Zankov proposed changing the standard forty-five minute lesson to a half hour. In contrast to the traditional sharply defined boundaries separating subject areas the Zankovian framework fosters an interdisciplinary perspective.

While advocating flexibility and varied teaching techniques, the model places great emphasis on careful lesson planning. Teachers are expected to inspire learner exploration of new concepts, but to achieve this unobtrusively. This entails a solid grasp of content combined with lesson planning skilfully modulated to be just a step ahead of the learners drawing them onward. For their part, pupils have the task of investigation the ideas

set before them through discussion, observation, analysis and creative problem solving.

THE EXPERIMENT

In the early 1950s Zankov and colleagues at the Russian Republic's Academy of Pedagogical Sciences²⁶ were doing a comparative study of oral presentation and presentation using visual teaching aids. While conducting this research, which took them to over 25 elementary schools, these researchers returned with the contingent finding that learner development at the early years levels was surprising slow. Subsequent research of this observation indicated that the factors most significantly contributing to the slow development of early years students included the narrow scope of curriculum content and the practice of monotonous repetition.

As a result of these finding, Zankov's laboratory commenced work on developing school programs, materials, curricula and textbooks based on his didactic principles. The upshot of this reconstruction was that "many teaching methods and methodologies for individual subject areas were changed, and many new teaching methods were developed."²⁷

Zankov's new or experimental pedagogy evolved in stages. It was installed in September of 1957 as a pilot project for once class of pupils at Moscow Elementary School No. 172. The class was taught by N. V. Kuznetsova, a recent university graduate with a specialty in early years education. The experiment then moved to the national level, spreading to a number of urban and rural schools, both Russian and bilingual, in the case of former Soviet republics. During the 1962-63 school year the Zankovian system was adopted by thirty additional schools in the cities of Kalinin and Tula. With official endorsement in 1964 Zankov's methodology could now spread throughout the Soviet primary education system. A year later over 100 classrooms were using Zankov's experimental system. By 1966-67 over 1200 classrooms across territories, regions, autonomous and constituent republics of the former Soviet Union joined the experiment.²⁸ In 1968 Zankov's Laboratory of Social Education and Development was renamed, becoming the Laboratory for Problems in Teaching and Student Development. However, despite all the progress, in the following year, this remarkable momentum suddenly abated. In subsequent decades Zankov's system was being practiced in only a few experimental classes.

Even so, the pedagogy had proved conducive to improving learner development. In later grades, pupils who had participated in the experimental classes at the primary level, outperformed their peers whose early grades had operated on the traditional model. The evidence indicated that those years of dedication on the part of researchers and educators had produced an effective comprehensive educational model. Given its auspicious beginning, it would have been reasonable to expect a gradual conversion of the entire early years program to the Zankov system. But this did not happen. There are several explanations for the sudden waning of interest in this methodology.

The Zankovian system had been introduced into a social and educational culture which was inimical to individualism. Communism endorsed the collective, the cooperative, the communal. Like educators elsewhere, Soviet educators were expected to transmit the prevailing values of their society. Their mandate was to reproduce Soviet culture, not to initiate social change. Zankov's experimental didactic system with its emphasis on nurturing individual learner potential was not only inconsistent with the dominant value system, but seemed to exceed education's mandate. Hence its sudden decline. Articles critical of Zankov's system raised questions about the new and strange ideas in education. Some writers argued that Zankov's system was too complex, that it needed simplifying.

There was also opposition within the educational system. Some viewed Zankov's system as a threat to the status quo. For example, a key feature of his model was the reduction of early years education from the traditional four to three years of schooling. Stolid resistance to this proposal prevented initially its implementation. As a result, those aspects of Zankov's system that had been adopted in classrooms were not as effective as they might have been within their ideal framework. Zankov, himself, had emphasized the importance of implementing his methodology within a compatible educational context:

Teaching will advance the general development of students not through application of disconnected didactic principles but only through implementation of the integrated didactic system.²⁹

Patching pieces of one system onto another with entirely opposing goals and methods was bound to produce disappointing results. This is exactly what happened to Zankov's system in Russian elementary schools

during the 1960s. Thus what had begun as an integrated pedagogical model became, either through ignorance or willful disregard, distorted or diluted in practice. Education in Russian primary schools generally retained its subject- and teacher-centred orientation and its strong emphasis on memory, drill and review. After Zankov's death in 1977, his Laboratory was closed, although his ideas did not disappear entirely.

Those teachers who had participated in the early experiment and who had observed the effects of this methodology on the general development of young learners, preserved Zankov's ideas. From the late seventies through the eighties, especially in the cities of Tula, Kaluga, Jaroslav, Rybinsk, Volgograd and Nal'chik, these educators along with new converts continued to implement Zankov's principles in their classrooms. These teachers were sustained by continuous support from Zankov's former colleagues. These decades were also a period of gradual overall innovation in the elementary school curriculum. As well the dramatic developments in the Russian society since 1991 have, of course, created a more suitable ideological climate for the Zankovian system. Today, almost 30 years since Zankov's ideas first showed great promise, his teaching methodology is increasingly recognized as a leading edge blueprint for Russian education.

TEACHING EARLY GRADES IN RUSSIA TODAY

That concern about early years education is widespread in contemporary Russia is no surprise. As a society engaged in reconstruction, Russia is conscious of its need for institutional change and for an educated populace capable of keeping this complex transformation on track. Moreover, there is widespread dissatisfaction with the performance of middle years students in Russia. Despite introduction of new textbooks and curriculum, middle years learners generally display little initiative in problem solving, and seem at a loss when presented with the complex or unusual. Equally troubling is their tendency not to transfer knowledge acquired in school to practical use beyond the classroom. These observations have persuaded many that early years education is inadequate and must be changed. Thus the resurgence of the Zankovian model which has been quietly but steadily refined by a circle of dedicated educators.

Since 1990 publications about Zankov's system have included teaching resources, educational literature and attractive primary school textbooks for

grades 1 through 3. The demand for textbooks continues to exceed supply. Special courses and professional conferences on the Zankovian methodology have been offered to elementary school teachers in Moscow and Tula. The first crop of educational graduates specializing in Zankov's method have recently joined the school system. About one-third of Russian elementary schools have now adopted the Zankovian system and are poised in the wings, awaiting textbooks.

Decades ago research demonstrated the validity of Vygotsky and Zankov's ideas. Mounting evidence from Russian elementary schools reinforces those original findings. It is therefore remarkable that in a recent English language publication about Vygotsky's work the authors declared "the door to pragmatic objectivization of the zone of proximal development closed."³⁰ In view of the very real trends in Russian education today, this assertion would seem to be, at best, debatable.

ENDNOTES

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