

Stanisław Puppel

Psycholinguistics and the foreign language teacher

Acta Neophilologica 1, 73-83

1999

Artykuł został zdigitalizowany i opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

Stanisław Puppel
Instytut Filologii Angielskiej UAM w Poznaniu
Katedra Filologii Angielskiej UWM w Olsztynie

PSYCHOLINGUISTICS AND THE FOREIGN LANGUAGE TEACHER

„The tasks of the psychologist, then, divide into several subtasks. The first is to discover the innate schema that characterizes the class of potential languages – that defines the “essence” of human language... The second subtask is the detailed study of the actual character of the stimulation and the organism–environment interaction that sets the innate cognitive mechanism into operation”.

(Chomsky, 1968:88)

„Deprivation of contact between mother and newborn has effects upon the latter which may be permanently crippling socially”.

(Count, 1973:85)

„A student can become proficient only by degrees. Therefore a student needs someone to guide him, admonish him, and correct him”.

(Comenius, 1648; quoted in Kelly, 1969:274)

1. Introduction

First language acquisition does not take place in a social vacuum. On the contrary, the primary caretakers are usually around and are quite naturally more than busy attending to the child’s linguistic and social development. The caretaker’s assistance with the child’s progression from the initial pre–linguistic stage to the linguistic stage of communicative ability, no matter how conscious it appears to be,

is an especially noteworthy phenomenon due to its natural pervasiveness, particularly within the primary caretaker (mother)-infant dyad. The two rather central questions that emerge at this point are the following: (1) Are the caretaker's linguistic 'interventions' advantageous to the child's development of linguistic skills, and (2) How advantageous do they happen to be? In order to answer these questions, at least partly, I would like to offer a brief review of some of the relevant literature on the subject of primary caretaker-infant linguistic and social communicative interaction and its subsequent impact on the development of the child's linguistic competence and communicative abilities. The conclusions which follow the review make it possible to propose an approach to first language acquisition process according to which the role of the caretaker as linguist who provides the necessary environmental input is properly highlighted. What is more: the caretaker is regarded as part of the natural-occurring socio-linguistic milieu in which to guide the development of the child's linguistic competence. Subsequently, it is only in this context that it may become possible to elaborate on the role of the teacher as an 'enforced linguistic caretaker' of sorts in institutionally-based second and foreign language learning process and thus view his/her role in it as constituting a part of the artificial and enforced (therefore unnatural) socio-linguistic milieu in which the social (i.e. teacher's) impact on the acquisition of a second language is self-evident but perhaps not as pervasive as the caretaker's role in first language acquisition. Obviously, the division of the social milieu into the natural and unnatural ones must be supplemented by the genetically predetermined potential of the human learner for language.

In recent psycholinguistic debates on the seeming balance between whatever potential for language is innately present in the child (nature) and the pressures of the environment (nurture) concerning the process of first language acquisition, the pendulum seems to have swung in the direction of the former thus giving rise to a research orientation which may be conventionally termed 'preformationalism' (cf. Bates and Elman, 1993). According to the preformationalist view, whatever changes occur in the child's linguistic behaviour are attributed either (a) to the natural maturational process whereby the genetically predetermined potential reaches its adult capacity according to some kind of biological timetable (cf. Borer and Wexler, 1987; Newport, 1990), (b) to the release and subsequent enhancement of the inborn potential for language by some kind of environmental 'trigger' (e.g. due to the linguistic interventions on the part of the caretaker), or (c) to the process of internalization of preformed solutions which defines the child's continuing attempts at obtaining optimal solutions of linguistic problems through social interactions or through what Bickerton (1990) has termed 'negotiating the environment'.

The approach expressed in (a), which has been largely inspired by Chomsky's writings and which we may conveniently refer to as the 'maturation hypothesis', has been expounded in Hyams (1986), Roeper and Williams (1987), and Lightfoot (1989, 1991, 1994). The approach expressed in (b), which is cast in the Gibsonian framework (cf. Gibson, 1969, 1991), has been referred to as the 'competent infant

movement' and has been described in detail in Baillargéon (1987, 1992) and Baillargéon and de Vos (1991) as well as in Spelke (1985, 1990, 1991). In turn, the approach expressed in (c) has been inspired by the neo-Vygotskian perspective which emphasizes the significance of social interactions for bringing to the fore the uniquely human traits in the child's behaviour. The neo-Vygotskian perspective is outlined in Bruner and Sherwood (1976), in Wertsch (1983) and in Rogoff (1990). The common theme in the aforementioned approaches is the contention that everything that is really of importance in the process of first language acquisition as an ultra-stable system of communication is already present at the beginning of the process. In brief, it has been preformed.

In the currently dominant preformationist/nativist perspective, learning appears to be a process which requires the application of rules to inputs of some kind (handling the data), and in which the rules are additionally assumed to inhere in the child's cognitive system. Subsequently, the very process of learning is understood as a process of hypothesis making and hypothesis testing in which a set of hypotheses are tested by the learning subject against the data and where the learner applies an algorithm for deciding which hypothesis fits the data in the best possible way (so-called 'goodness of fit' procedure). At the same time, the nativist orientation requires that both the hypotheses and the algorithm be predetermined and that the development of language be understood as an innately guided process (i.e. according to some internal scheduling) of problem solving. Although problem solving by very young infants (i.e., in the early phases of human ontogenesis) generally cannot be likened to problem solving by adults in that in the former group learning as problem solving is part and parcel of ontogenesis, the very nature of the problem solving strategy remains the same in the human species. One may venture to say that it consists in 'moving' through a series of reactions (or single psychological acts), that is, in taking off from some initial state and moving towards a final (i.e., steady) state. In the growing and developing child, the process of developmentally-oriented problem solving constitutes the essence of the maturational and developmental sequence of first language acquisition, whereas in adult problem solving the maturational factor is not present. One should also add that in the preformationist perspective, the role of the caretaker as 'competent adult' appears to be a subsidiary one in child first language acquisition in the sense that the adult serves to trigger the otherwise self-centred problem-solving learning process rather than viewing the adult's role as accompanying the child in his/her linguistic development in compliance with a strict scenario of steps in which the caretaker's linguistic assistance constitutes an indispensable and significant component.

2. Role of the primary caretaker in inducing favourable pre-linguistic and linguistic behaviour in the child

Despite the current general insistence on the importance of what is genetically predetermined in young infant's first language acquisition in the problem solving perspective, evidence has accrued to the effect that the role of the child's immediate environment in first language acquisition, most notably personified by the primary caretaker(s), appears to be decisive in bringing about and accelerating socially favourable changes in the child's general behavioural repertoire, and in language behaviour in particular. Indeed, the evidence accumulated to date provides a stimulating and unequivocal picture of the primary caretaker's presence as a significant and positive factor in first language acquisition. This has been emphasized both in developmental psychological studies (cf. Bell, 1970; Gross, 1985; Bradley et al.; 1989, Sroufe et al., 1996) as well as in specific (i.e. pertaining to the direct impact of caretakers) first language acquisition studies (cf. Lewis and Freedle, 1973; Bateson, 1975; Ellias et al.; 1986, Ginsburg and Kilbourne, 1988). In addition, it must be emphasized that researchers have long maintained the view that, although the caregivers' impact upon shaping the behaviour of their children is decisive, the children in turn do influence their parents' behaviour (cf. Bell, 1968; Bell and Harper, 1977; Bateson, 1976; Bandura, 1986). These bi-directional effects have been termed "reciprocal determinism" by Bandura and have served as the basis for the formulation of a so-called „transactional model" of caregiver-infant interaction (cf. Sameroff and Fiese, 1989). The model asserts that a new born child enters the primary social world (i.e. the family system) with a set of innate predispositions, cognitive, linguistic, and social, and gets involved in a subtle transactional child-parent play as a result of which the child's behaviour gradually changes. This happens due to the parents' influences and due to a progressing maturation process. The final outcome of this reciprocal and transactional process, in which the parents influence the child and the child influences the parents, is an establishment in the child of a coherent cognitive system, a functional linguistic system of communication, and a more solid basis for further social interactions. In other words, the transactional process in which the child is actively involved, with cycles of mutual influences which have not been strictly planned, tends to exert a demonstrable influence upon the child's future social and cognitive successes or failures, upon the child's future expertise as a fully mature cognitive-linguistic-social agent. One may say that a successful establishment of a conceptual-executive basis in the ultra-stable system of linguistic communication appears to require the child-caretaker intercommunication through reciprocal exercising of a code shared (to an increasing degree) by the child and the adult(s). During this process, there occur negotiations between what one may call the child's and the adult's *Umwelts* (cf. Uexküll, 1934); the two parties reciprocate by using the same code, though the complexity of the code used by both is not comparable. In addition, the positive or negative outcome of these transac-

tions (i.e. family harmony versus family discord) tends to perpetuate itself, as has been demonstrated by some studies (cf. Elder et al., 1986; Simons et al., 1991). The unquestionably positive side of the transactional process, evidenced in these and similar studies, on the one hand allows one to answer the two questions posed at the beginning of the paper in the positive, and is an especially noteworthy feature which may be used in a critical evaluation of the traditional role of the teacher in foreign language teaching, on the other.

Drawing on the positive influence of the primary caretaker on the acquisition of first language and related behaviours, one is ready to postulate that the caretaker(s) should be granted the status of a factor which plays a clearly stimulating role in this process. Subsequently, any psycholinguistic research focusing on the problem of first language acquisition should consider the impact of a naturally „friendly” adult caretaker environment stimulation on the acquisition of the first language as overly positive. Moreover, the positive effects of the caretaker’s presence should be opposed to the negative effects of the lack of adult caretaker simulation in the process of first language acquisition. This has been attested by reports on such language-deprived individuals as Genie (Curtiss, 1977, 1981), the wild boy of Aveyron (Itard, 1962), or Casper Hauser (von Feuerbach, 1833). The nature of the „friendliness” of the primary caretaker in the development of the child’s motor, pre-linguistic and linguistic skills has not been defined precisely. However, drawing on research work carried out to date one may contend that some of its more conspicuous indicators comprise the following:

- the adult’s constant readiness to get involved in gestural-vocal exchanges (i.e. transactional interactions) with the child,
- the adult’s readiness to elicit the child’s responses,
- the adult’s reliance on total physical and communicative framework of these interactions,
- lack of any strict scenario with regard to the kinds and number of steps that should be taken in order to get the interaction going,
- the adult’s readiness to accept the child’s attempts at exploring and producing a variety of responses, and
- overall lack of expectations concerning the net effects of primary caretaker-infant interactions on the part of the interacting adult.

An important observation that may be offered at this point is that although no special plan to educate the child linguistically accompanies the adult caregiver, the child is nevertheless exposed to a whole plethora of interactive modes, both verbal and non-verbal for a prolonged period of time, which lead collectively and in maturational sequence to the child’s improved linguistic behaviour. The above observation on the basically friendly and temporally protracted nature of the adult-infant transactional and interactional process of successful first language acquisition may serve to emphasize the importance of the primary caretaker-infant dyad in shaping

up the educational process in general. The process may be viewed as 'apeironic' (from the Greek *peiron*, the 'indeterminate', 'endless', 'unfamiliar', cf. Johnson, 1995) and following an updating scenario whereby the child's linguistic competence and performance skills are built gradually, with the caretaker's assistance as mediator, from what the child already knows and which, overall, leads to fully adult conceptual differentiation and categorization. The above remarks may be regarded as essentially recapitulating the psycholinguistic findings on the nature of the caretaker–infant link. It remains to be determined whether this link may be applied in dealing with the more formal problem of foreign language teaching viewed in the framework of general education.

3. The traditional model of education: the teacher *qua* authority

The traditional model of education does not resemble the above-depicted interactional and transactional framework. On the contrary, it has always been very clearly goal-oriented. It was already Socrates who expressed the view that the young human mind needs a lot of training, for the 'rightly' trained mind would always turn toward virtue. His distinguished followers, Plato in *Republic*, and Aristotle in *Nicomachean ethics*, also observed that human nature is essentially imperfect and that it is therefore more than desirable that it be assisted in the form of careful education so that its hidden potentialities would be fully developed. This central idea has never been abandoned in Western civilization and in modern times thinkers such as Comenius, Rousseau, or Pestalozzi, to name but the few most distinguished names, provided more than articulate justification for an educational paradigm in which the teacher's presence as a final authority in the process of shaping up the young mind's individual development would be granted utmost importance. It goes without saying that the educational attempts undertaken by the official schooling institutions had been set at directing an individual's development very much in accordance with the adults' (i.e. parents' and educators') expectations. Margaret Mead (1970) would consider this educational paradigm as expressing the so-called 'postfigurative culture' at its fullest. In this paradigm, a growing child is simply considered inferior to adults. Therefore, it appears mandatory to 'mold' the child accordingly by imparting on it the skills and modes of thought and behaviour considered essential by the society. The above constitutes a partly non-apeironic type of education, with a strong focus on the purposiveness and directedness of the training procedure.

The consequence of applying the social dimension to the education of a growing individual is apparent in the socially accepted assumption that there exists vital need for social assistance in developing the young individual's potential to the (socially desirable) fullest. This has automatically exposed the role of the teacher as a 'competent adult' who has been required to provide solutions in a willingful and orderly fashion to young individuals who are, in turn, most naturally confronted by an imminent danger of making unwelcome (and costly) errors. In this sense, the

presence of the teacher is both inevitable and advantageous, since error making and error propagation, vacillation and backsliding, which are otherwise naturally expected to occur amply in the learning process, are largely reduced. However, it must also be stated clearly that the presence of the 'competent adult' as teacher leads to the establishment of a heteronomous approach to learning, whereby the learner is inadvertently subjected to the power of the teacher who simply epitomizes the omniscience of the institution and who, in the extreme version of this heteronomy, reduces the interactional dimension of the teacher-learner link to the minimum. Needless to say, the heteronomous and non-apeironic paradigm may have a largely inhibitory effect upon the foreign language learner's exploratory potential, though it may at the same time reduce the production and propagation of errors to an essential minimum. At this point the unavoidable implication is that maintaining a high exploratory potential in the learner appears more desirable than maintaining a high monitor for errors in the light of the primacy of the communicative framework. As has been indicated above, this is also the case with the primary caretaker-infant interactions.

4. A recent model of general education: the teacher as an attentive by-stander and willing helper

The traditional acceptance of the educational system in which the teacher's role has been considered pivotal has been challenged by what has been referred to in relevant literature as 'antipedagogical movement' (cf. von Braunmühl, 1975). Within this relatively recent paradigm, a growing child is no longer considered an inferior individual. On the contrary, it has been contended that if the child's overall development is to proceed without any disturbances and harmful side effects, s/he must be given complete freedom with regard to selecting the kind and depth of knowledge a young learning individual wishes to pursue, ways of gaining it, as well as determining the speed of learning. Put simply, it has been postulated that the child must be transferred from the heteronomous educational system and placed in an autonomous system in which the learner's self-determination is accorded the most essential role. That is, the learner must be taken from a system that basically lacks learner autonomy and placed in one which secures full autonomy of the latter. It should be emphasized that this view is consonant with the findings of developmental psychology and psycholinguistics concerning the interactional and transactional nature of the primary caretaker-infant dyad and the positive effects the mediating and assisting presence of the caretaker exerts upon the developing child, especially in the cognitive and linguistic domains.

A similar postulate concerning the amplification of the learner's autonomy was proposed in general learning theory by Joseph Novak (1977) as well as by Holec (1981, 1988) with regard to the narrower field of foreign language learning by both

children and adults. Obviously, this does not mean that in the new educational paradigm the presence of the 'competent adult' is abandoned altogether. Rather, the teacher is now expected not so much to get involved in a realization of a strict scenario of carefully weighed goal-oriented steps as to elicit (or work out) a solution or a set of solutions from the learner in a friendly and co-operative manner. The teacher becomes an attentive by-stander ready to assist the learner. This is clearly analogous to the predominantly friendly, helping and apeironic nature of the mother-infant interaction described above. In fact, one may conclude at this point that the overall positive effects of the co-operative and transactional nature of the primary caretaker-infant dyad upon the child's cognitive and linguistic development prompt such a change in the educational system as a permanent one.

REFERENCES

- Aaronson, D. and R. Rieber. (eds.). 1975. *Developmental psycho-linguistics and communication disorders. Annals of the New York Academy of Sciences* 263.
- Baillargéon, R. 1987. „Object permanence in three-and-a half- and four-and-a half-month-old infants”. *Developmental Psychology* 23. 655–664.
- Baillargéon, R. 1992. „The object concept revisited: new directions in the investigation of infants' physical knowledge”. In Granrud, C. (ed.). 265–315.
- Baillargéon, R. and J. de Vos. 1991. „Object permanence in young infants: further evidence”. *Child Development* 62. 1227–1246.
- Bain, B. (ed.). 1983. *The sociogenesis of language and human conduct*. New York: Plenum Press.
- Bandura, A. 1986. *Social foundations of thought and action: a social cognitive theory*. Englewood Cliffs, N. J. : Prentice-Hall.
- Bates, E. and J.L. Elman. 1993. „Connectionism and the study of change”. In Johnson, M. H. (ed.). 623–642.
- Bateson, M.C. 1975. „Mother-infant exchanges: the epigenesis of conversational interaction”. In Aaronson, D. and R. Rieber. (eds.). 21–29.
- Bateson, P.P. G. 1976. „Rules and reciprocity in behavioral development”. In Bateson, P. P. G. and R.A. Hinde. (eds.). 401–421.
- Bateson, P.P.G. and R.A. Hinde. (eds.). *Growing points in ethology*. Cambridge: Cambridge University Press.
- Bell, R.Q. 1968. „A reinterpretation of the direction of effects in studies of socialization”. *Psychological Review* 75. 81–95.
- Bell, R.Q. and L.V. Harper. 1977. *Child effects on adults*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Bell, S.M. 1970. „The development of the concept of object as related to infant-mother attachment”. *Child Development* 41. 291–311.
- Bickerton, D. 1990. *Language and species*. Chicago: The University of Chicago Press.

- Borer, H. and K. Wexler. 1987. „The maturation of syntax”. In Roeper, T. and E. Williams. (eds.). 123–172.
- Bradley, R., B. Caldwell, S. Rock, C. Ramey, K. Barnard, C. Gray, M. Hammond, S. Mitchell, A. Gottfried, L. Siegel and D. Johnson. 1989. „Home environment and cognitive development in the first three years of life: a collaborative study involving six sites and three ethnic groups in North America”. *Developmental Psychology* 25. 217–235.
- Bruner, J.S. and V. Sherwood. 1976. „Peekaboo and the learning of rule structures”. In Bruner, J.S. et al. (eds.). 209–219.
- Bruner, J.S., A. Jolly and K. Silva. (eds.). 1976. *Play: its role in development and evolution*. New York: Basic Books.
- Carey, S. and R. Gelman. (eds.). 1991. *The epigenesis of mind: essays on biology and cognition*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Chomsky, N. 1968. *Language and mind*. New York: Harcourt Brace Jovanovich.
- Count, E.W. 1973. *Being and becoming human: essays on the biogram*. New York: Van Nostrand Reinhold Company.
- Curtiss, S. 1977. *Genie: a psycholinguistic study of a modern-day 'wild child'*. New York: Academic Press.
- Curtiss, S. 1981. „Feral children”. *Mental Retardation* 12. 129–161.
- Elder, G.H., A. Caspi and G. Downey. 1986. „Problem behavior and family relationships: life-course and intergenerational themes”. In Sorensen, A.B. et al. (eds.).
- Ellias, G., A. Hayes and J. Broerse. 1986. „Maternal control of covocalisation and interspeaker silences in mother-infant vocal engagements”. *Journal of Child Psychology and Psychiatry* 27. 409–415.
- Gibson, E.J. 1969. *Principles of perceptual learning and development*. New York: Appleton-Century-Crofts.
- Gibson, E.J. 1991. *An odyssey in learning and perception*. Cambridge, Mass.: The MIT Press.
- Ginsburg, G.P. and B.K. Kilbourne. 1988. „Emergence of vocal alternation in mother-infant interchanges”. *Journal of Child Language* 15. 221–235.
- Granrud, C. (ed.). 1992. *Carnegie-Mellon symposium on cognition. Vol. 23: Visual perception and cognition in infancy*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Gross, T.F. 1985. *Cognitive development*. Monterey, CA: Brooks/Cole.
- Holec, H. 1981. *Autonomy in foreign language learning*. Oxford: Pergamon Press.
- Holec, H. 1988. *Autonomy and self-directed learning: present fields of application*. Strasbourg: Council for Cultural Co-operation.
- Hyams, N. 1986. *Language acquisition and the theory of parameters*. Dordrecht: Reidel.
- Itard, J.M.G. 1962 [1801]. *The wild boy of Aveyron*. New York: Appleton-Century-Crofts.
- Johnson, M.H. (ed.). 1993. *Brain development and cognition*. Oxford: Blackwell.

- Johnson, M.L. 1995. „Swamped by the updates: expert systems, semioclasism, and apeironic education”. *Stanford Humanities Review* 4. Issue 2: *Constructions of the mind*.
- Lewis, M.M. and R. Freedle. 1973. „Mother-infant dyad: the cradle of meaning”. In Pliner, P, et al. (eds.).
- Lightfoot, D. 1989. „The child’s trigger experience – degree-O learnability”. *Behavioral and Brain Sciences* 12. 321–375.
- Lightfoot, D. 1991. *How to set parameters: arguments from language change*. Cambridge, Mass.: The MIT Press.
- Lightfoot, D. 1994. „Degree-O learnability”. In Lust, B. et al. (eds.). Vol. 2. 453–471.
- Lust, B., M. Suñer and J. Whitman. (eds.). 1994. *Syntactic theory and firstlanguage acquisition: cross-linguistic perspectives*. Vol. 2. *Binding, dependencies, and learnability*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Mead, M. 1970. *Culture and commitment: a study of the generation gap*. Garden City, N.Y.: Natural History Press.
- Mehler, J. and R. Fox. (eds.). 1985. *Neonate cognition: beyond the blooming, buzzing confusion*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Meisels, S.J. and J. Shonkoff. (eds.). 1989. *Early intervention: a handbook of theory, practice, and analysis*. Cambridge: Cambridge University Press.
- Newport, E. 1990. „Maturational constraints on language learning”. *Cognitive Science* 14. 11–28.
- Novak, J. 1977. *A theory of education*. Ithaca: Cornell University Press.
- Pliner, P., L. Krames and T. Alloway. (eds.). 1973. *Communication and affect: language and thought*. New York: Academic Press.
- Roeper, T. and E. Williams. (eds.). 1987. *Parameter setting*. Dordrecht: Reidel.
- Rogoff, B. 1990. *Apprenticeship in thinking: cognitive development in social context*. New York: Oxford University Press.
- Sameroff, A. and B. Fiese. 1989. „Transactional regulation and early intervention”. In Meisels, S.J. and J. Shonkoff. (eds.).
- Simons, R.L., L.B. Whitbeck, R.D. Conger and C. Wu. 1991. „Intergenerational transmission of harsh parenting”. *Developmental Psychology* 27. 159–171.
- Sorensen, A.B., F.E. Weinert and L.R. Sherrod. (eds.). 1986. *Human development and the life course: multidisciplinary perspectives*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Spelke, E.S. 1985. „Perception of unity, persistence, and identity: thoughts on infants’ conceptions of objects”. In Mehler, J. and R. Fox. (eds.). 89–113.
- Spelke, E.S. 1990. „Principles of object perception”. *Cognitive Science* 14. 29–56.
- Spelke, E.S. 1991. „Physical knowledge in infancy: reflections on Piaget’s theory” In Carey, S. and R. Gelman. (eds.). 133–169.
- Sroufe, L.A., R.G. Cooper, G.B. DeHart, M.E. Marshall and U. Bronfenbrenner. 1996. *Child development: its nature and course*. 3rd ed. New York: McGraw–Hill.

- Uexküll, J. von. 1934. *Streifzüge durch die Umwelten von Tieren und Menschen*. Berlin: Springer Verlag.
- von Braunmühl, E. 1975. *Antipädagogik. Studien zur Abschaffung der Erziehung*. Basel: Weinheim.
- von Feuerbach, A. 1833. *Casper Hauser*. (Translated from the German). London: Simpkin and Marshall.
- Vygotsky, L.S. 1962. *Thought and language*. Cambridge, Mass.: The MT Press.
- Wertsch, J.V. 1983. „The role of semiosis in L.S. Vygotsky’s theory of human cognition”. In Bain, B. (ed.). 17–31.