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Vygotsky and the Education of Children with Severe Learning Difficulties

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Introduction

Teachers of children with severe learning difficulties (SLD) have usually received training in some aspects of behavioural or cognitive behavioural psychology if they have been able to access advanced professional development and often have been exposed to a version of Piagetian theory in their initial teacher training. Historically, these very influences have given rise to skills based instructional packages and a variety of developmental curricula. In this short article I wish to sketch some of the possibilities that may be derived from the influence of the Russian psychologist, L.S. Vygotsky, and to argue that these pedagogic possibilities should be implemented alongside the development of a curriculum which will prepare all young people to participate in the rapidly developing knowledge society.

The relevance of the zone of proximal development for the child with severe learning difficulties

Arguably, the advent of National Curricula with emphasis on uniformity and linearity in the curriculum has resulted in diminution of attempts to develop a 'developmental curriculum'. Whilst there is no doubt that the differences between Piaget and Vygotsky have been exaggerated, it is undoubtedly true that Piaget's stepladder-like metaphor of developmental possibility contrasts starkly

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with the theories of Vygotsky. His general genetic law of cultural development asserts the primacy of the social, and thus diversity, in development.

> every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first between people (interpsychological), and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relations between human individuals (Vygotsky, 1978: 57)

The conception of the teaching and learning process that lies at the heart of schooling is itself derived from beliefs about the relationship between instruction and development. Should the teacher wait for development to take place before teaching and thus be looking for signs of instructional readiness as indicated by developmental markers? Should the teacher take no account of development whatsoever and proceed to develop instructional packages on the basis of analyses of specific tasks?

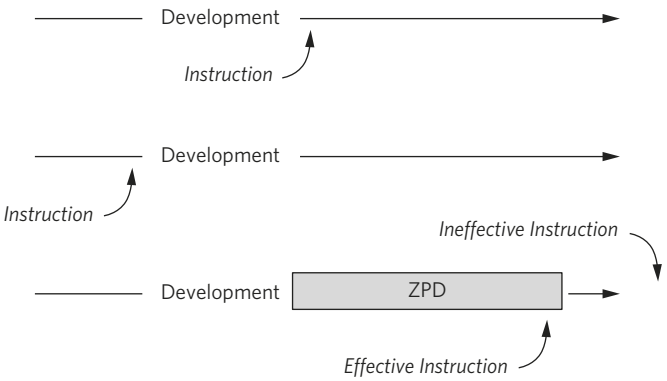

Figure 1 The relationship between learning and development in Skinner, Piaget and Vygotsky.

The diagram in figure 1 identifies three positions. 1) A crude behaviourist position is one in which instruction and development proceed together. In one sense this is a model in which development and instruction are synonymous. In this case task analysis in teaching may be viewed as a determinant of developmental sequence. 2) A version of the Piagetian position in which teaching comes to view the characteristics of the child's thinking as a lower threshold for instruction. Here instruction must wait for development to have done its work before it can be effective. 3) Vygotsky's (1978) position *is* that instruction actually creates possibilities for development rather than being seen as subordinate and incidental

to developmental processes. Organisation and content of teaching implied by this suggestion is directed towards formation of developmental possibilities rather than trailing behind developmental inevitabilities. This is the now well-known Zone of Proximal Development (ZPD) which was originally defined as the distance between the actual developmental level of a child as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978: 86). For Vygotsky ZPD embodies a concept of readiness to learn that emphasizes upper levels of competence. These upper boundaries are not immutable, however, but constantly changing with the learner's increasing independent competence. What a child can perform today with assistance, she will be able to perform tomorrow independently, thus preparing her for entry into a new and more demanding collaboration. These functions could be called the "buds," rather than the fruits of development. The actual developmental level characterizes mental development retrospectively, while the ZPD characterizes mental development prospectively (Vygotsky, 1978: 86–87).

If we accept the Vygotskian position, we have to accept a notion of a complex relationship between teaching and development. The first two positions have been associated with practices assuming that instructional sequences are rather unproblematic and universal. In the first position the sequence of teaching arranges the sequence of development. In the second the sequence of development predicts the sequence of teaching. In the third position teaching must be responsive to the individual within a specific curriculum context. A discussion of the post-Vygotskian principles that may be employed in the selection of curriculum content is beyond the scope of this article. It is, perhaps, sufficient to note that these would be designed to guide the development of the structured systematic concepts which Vygotsky termed 'scientific' and would introduce general principles and seek to explore their implications in a variety of contexts[12].

In schooling the first model of the relationship between learning and development may result in a view of the child as a passive recipient of educational transmissions. The second leads to the view of the child as the active constructor of understanding along pre-established paths. In the third the learner

12. For example a circle would be introduced through the examination of the shapes that may be drawn by placing one end of a piece of string at a fixed point and drawing with a pencil fixed to the other end whilst the string was taut. This contrasts with the introduction of a variety of shapes and sizes of circles to a pupil who is expected to understand the essence of the circle on the basis of this empirical 'everyday' experience. In the Vygotskian model the 'scientific' concept informs the design of the instruction.

becomes an active participant in a socially negotiated project. Vygotsky developed a conception of a teaching and learning process based on dialogue. For example, teacher and child start out doing the task together. The teacher may initially take the major part of responsibility for executing the task, and the child may play a relatively small part. The teacher's intention will be to gradually transfer control of progress in task completion to the learner. The transfer is negotiated in dialogue. This dialogue may be mediated by a variety of tools and signs which Vygotsky referred to as 'psychological tools' or, more recently, cultural artefacts. These cultural products, such as speech or symbol and sign systems, are human products which are seen as the means which humans employ in their own development. However, the social influence does not become individual through a process of simple transmission. Individuals construct their own sense from socially available meanings. Vygotsky argues that it is through the use of whatever cultural artefacts and tools (e.g. speech, Braille, Makaton, form boards, Paget Gorman etc.) that are accessible to the child and made available socially, that they are able to 'master themselves from the "outside" through symbolic, cultural systems (Knox & Stevens, 1993: 15). Crucially, he states that it is the meaning encoded or that could be encoded in such cultural artefacts that is important. For him the *type* of symbolic system does not matter.

> All systems (Braille for the blind and for the deaf, dactylology or finger spelling, mimicry or a natural gesticulated sign language) are tools embedded in action and give rise to meaning as such. They allow a child to internalise language and develop those higher mental functions for which language serves as a basis. In actuality, qualitatively different mediational means may result in qualitatively different forms of higher mental functioning (Knox & Stevens, 1993: 15)

The emphasis is thus on meaningful communication irrespective of means. For the teacher this becomes a matter of making meaningful connection between the concepts that the child has formed on the basis of their everyday experiences and the concepts that are being introduced through schooling. This approach to teaching not only involves the acquisition of new teaching skills, such as interpreting when a child is operating within the ZPD, but it also involves a major attitude shift. The dimensions of this shift may be couched in terms of difference rather than deficiency, informed and supported acquisition rather than transmission, and transfer of control.

In practice this approach to teaching is much more difficult than rehearsing a preordained curriculum script, as David Wood (1991) reminds us when he

points out that monitoring children's activity, remembering what one had said or done to prompt that activity and responding quickly to their efforts at an appropriate level is a demanding intellectual feat. Thus, effective teaching is as difficult as the learning it seeks to promote. This statement suggests that we should not only be concerned about responding in face-to-face teaching but that we should also organise our institutions in such a way that they are learning systems which are themselves responsive to feedback. This is the force of the approach being developed by Nixon et. al. (1996). It also accords with the recent development in interpretations of the term ZPD. The early "scaffolding" definition of the distance between problem-solving abilities exhibited by a learner working alone and that learner's problem-solving abilities when assisted by or collaborating with more experienced people reflects Vygotsky's view of the role of instruction. This is refined in the "cultural" interpretation which draws on Vygotsky's distinction between scientific and everyday concepts. Here the emphasis is on the distance between the cultural knowledge, usually made accessible through instruction and the active knowledge, as owned by individuals in their everyday experience. More recently a "collectivist" or "societal" perspective has emerged. The focus tends to be on processes of social transformation and on what can be done together that cannot be done alone. It places the study of learning beyond the context of face to face pedagogical structuring, and includes the structure of the social world in the analysis. The concept of ZPD was created by Vygotsky as a metaphor to assist in explaining the way in which social and participatory learning takes place whilst he was in charge of the education of street children and children with disabilities in post-revolutionary Russia (John-Steiner & Mahn, 1996). However, Vygotsky discussed ZPD in terms of assessment and instruction. His interest was in assessing the ways in which learners make progress. The focus on process as well as product in assessment has become embedded in the range of techniques now called 'dynamic assessment'.

Vygotsky argues in the following way: Suppose I investigate two children upon entrance into school, both *being* twelve years old chronologically and eight years old in terms of mental development. Can I say that they are the same age mentally? Of course. What does this mean? It means that they can independently deal with tasks up to the degree of difficulty that has been standardized for the eight-year-old level. If I stop at this point, people would imagine that the subsequent course of development and of school learning of these children will be the same, because it depends on their intellect … Now, imagine that I do not terminate my study at this point, but only begin it … Suppose I show

that … [these children] have various ways of dealing with a task … and that the children solve problems with my assistance. Under these circumstances it turns out that the first child can deal with problems up to a twelve-year-old's level; the second up to a nine-year-old's. Now, are these children mentally the same?

> When it was first shown that the capability of children with equal levels of mental development to learn under a teacher's guidance varied to a high degree, it became apparent that those children were not mentally the same and that the subsequent course of their learning would obviously be different. This difference between twelve and eight, or between nine and eight, is what we call the zone of proximal development (Vygotsky, 1978: 85–86).

Within both assessment and instructional frames of reference, Vygotsky discusses the relationship between an individual learner and a supportive other or others, even if that other is not physically present in the context in which learning is taking place. For example, a child may solve a problem with the help of a remembered series of prompts from the teacher. Whilst there are surprisingly few references to ZPD in his own writing, there is no doubt that in many ways the concept lies at the heart of Vygotsky's social account of learning. He emphasises this in one of his relatively rare published discussions of the education of children with severe learning difficulties (SLD).

> The developmental path for a severely retarded child lies through collaborative activity, the social help of another human being, who from the first is his mind, his will, his activities. This proposition also corresponds entirely with the normal path of development for a child. *The developmental path for a severely retarded child lies through relationships and collaborative activity with other humans*. For precisely this reason, the social education of severely retarded children reveals to us possibilities which might seem outright Utopian from the viewpoint of purely biologically based physiological education … (Coll. Works, Vol.2, 1993: 218)

This raises questions about the nature of the 'social' in the pedagogic relationship alongside questions concerning the nature of the relationship itself. I have sketched the implications for instruction, introduced the idea of dynamic assessment and hinted at the need for responsive cultures (ultimately cultures of learning) in schools. I now wish to speculate on the nature of the curriculum and its objects.

Collaborative knowledge building

In 2001The World Health Organisation (WHO) published a new system of classification, *International Classification of Functioning, Disability and Health* (ICIDH-2). In this new scheme functioning and disablement are viewed as outcomes of an interaction between a person's physical and mental condition and a social and physical environment. The classification speaks of interventions concerned with impairment, activity limitations and participation restriction. I will now raise the question as to what kind of activity and what form of participation will be required as schools attempt to prepare young people for the knowledge society.

Schools encounter great difficulties when they attempt to become learning organisations. From the point of view of those concerned with schools as organisations, there is a need to shift schools from positions of passive compliance and/or resistance to change and ask how they can be transformed. The answer has been sought in the development and supervision of new management structures, formal standards and curriculum development. Alternatively and arguably more realistically (given the new economic and communications reality), schooling should be more responsive to the demands of whatever the 'knowledge society' becomes.

Scardamalia and Bereiter (1991; 1996) suggest that the kind of education that will best prepare mainstream students for life in a knowledge society should foster:

- flexibility
- creativity
- problem-solving ability
- technological literacy
- information-finding skills
- a lifelong readiness to learn

As Scarmadalia and Berieter argue, the idea of students as participants, along with teachers and perhaps others, in a collaborative enterprise has been around at least since Dewey, but has been taking a more definite shape over the past decade in various experimental programmes. The new approaches are all to some extent based on the model of the scientific research team. Brown and Campione (1990; 1994) have used the term 'fostering communities of learners' to characterise the very impressive approach they have developed. In it, teaching and learning are closely intertwined. In a typical activity, different groups

of students research different aspects of a topic and then prepare materials that they use to instruct the members of the other groups. A robust application of the scientific research team model is in what Bereiter and Scardamalia call 'collaborative knowledge building' (Scardamalia & Bereiter 1992; Scardamalia, Bereiter, & Lamon, 1994).

Therefore, if the future lies in schools as knowledge-building organisations, we need to rethink teaching by examining the relationships between cognition and context and between learning and knowledge production. International research is already highlighting the advantages of a combined focus on cognition, context and knowledge in research on pedagogy. This research has led to the following three premises:

(i) *Learning occurs through engaged participation in the activities of knowledge communities*. Participation involves both the use and production of knowledge and a disposition to engage. The current policy agenda, aimed at social inclusion through economic participation in a knowledge-based economy, calls for a pedagogy which addresses students' self-beliefs and knowledge use and production in and out of school (Bentley, 1998; Brighouse & Woods, 1998; Osin & Lesgold, 1996).

(ii) *Teaching involves informed interpretations of and responses to students' orientations to knowledge*. Teaching is therefore a complex activity which demands that teachers interpret students' constructions of opportunities for engagement and select responses which assist that engagement. Effective teaching is informed by knowledge of pupils, knowledge of disciplines and knowledge of pedagogy.

(iii) *Schools seen as sites of teachers' knowledge use and production need to understand the range of orientations to knowledge held within them and how they originated*. We therefore need to know more about how schools interpret and respond to the situational affordances of their internal and their wider communities as they work to engage students as learners. It is clear that pedagogies which respond to the shifting demands of a fast moving knowledge economy will best be developed in schools which are capable of using and producing new knowledge.

In classrooms that adopt the collaborative knowledge building approach, the basic job to be done shifts from learning to the construction of collective knowledge. The nature of the work is essentially the same as that of a professional research group, with the students being the principal doers of the work. Thus,

in the ideal case, there is a complete shift from students as clients to students as participants in a learning organisation. The primary function of schooling shifts from learning to the construction of collective knowledge in "problem-based learning" and "project-based learning". There is an emphasis on the distinction between knowledge content residing in people's minds and knowledge as resource or knowledge as product. The job of a school class that takes a knowledge building approach is to construct an understanding of the world as they know it (Scardamalia & Bereiter, 1996).

If schools of the future are to become sites for the construction of collective knowledge rather than sites where prescribed outcomes are 'delivered', then we must rise to the challenge of understanding the kinds of interventions that will facilitate successful participation by all. This is not to deny the need for tools for learning and participation (e.g. literacies and numeracies). If the school is to become the place where young learners are prepared for a knowledge building future, then appropriate supportive interventions must be available. The danger is that systems of support retain a focus on outdated knowledge and competence. I see no reason why the education of children with severe learning difficulties (SLD) should not be informed by these developments in the mainstream of educational theory.

Vygotsky presents a profoundly social understanding of development. The implications for teaching are significant, particularly if we are to develop a curriculum that looks forward. The emphasis on learning with the assistance of others calls for the development of schools as places where learning is socially supported rather than prescribed according to a curriculum script *that is* not meaningful or, perhaps, even useful in the society of the future. This calls on teachers to be interpreters of the meaning that is encoded in children's attempts at communication, by whatever means, and for them to be responsive to that meaning. Their responses must be designed to be within the cognitive and affective 'reach' of the child (the ZPD). These responses may at times be formulated in terms of the design and management of classrooms and community-based environments in which they are brought into productive relationships in the social worlds of peers who are more capable of solving a particular task at a particular time. It also calls on teachers to select items for instruction which are commensurate with active participation in the social world. We should make plans designed to support social learning of individuals rather than constrain them through the kind of planning that may – through its focus on an individual in relation to a prescribed, linear script – serve to sever social and thus learning networks.

References

Bentley, T. (1998). *Learning Beyond the Classroom: education for a changing world*. London: Routlege.

Brighouse, T. & Woods, D. (1998). *How to Improve your School*. London: Routledge.

Brown, A. L., & Campione, J. C. (1990). Communities of learning and thinking, or a context by any other name. *Contributions to Human Development*, 21, 108–126.

Brown, A. L., & Campione, J. C. (1994). Guided discovery in a community of learners. In K. McGilley (Ed.). *Classroom Lessons: Integrating Cognitive Theory and Classroom Practice* (pp. 229–270). Cambridge, MA: MIT Press.

Collected works (The) of L. S. Vygotsky (1993). Volume 2, *Problems of Abnormal Psychology and Learning Disabilities*. New York: Plenum Press.

John-Steiner, V. & Mahn, H. (1996). Sociocultural Approaches to Learning and Development: A Vygotskian Framework. In *Educational Psychologist*, Vol 31, pp. 191–206.

Knox, J. E. & Stevens, C. (1993). Vygotsky and Soviet Russian Defectology: An introduction to Vygotsky, L. S (1993) *The Collected Works of L. S. Vygotsky, 2, Problems of Abnormal Psychology and Learning Disabilities*. New York: Plenum Press.

Nixon, J., Martin, J. & McKeown, Ranson, S. (1996). *Encouraging Learning: Towards a Theory of the Learning School*. Milton Keynes: Open University Press.

Osin, L. & Lesgold, A. (1996). A proposal for the reengineering of the educational system. *Review of Educational Research*, 66 (4) 621–656.

Scardamalia, M. & Bereiter, C. (1991). Higher Levels of Agency for Children in Knowledge-Building: A Challenge for the Design of New Knowledge Media. *The Journal of the Learning Sciences*, 1(1), 38–68.

Scardamalia, M. & Bereiter, C. (1992). Two models of classroom learning using a communal database. In S. Dijkstra (Ed.), *Instructional Models in Computer-Based Learning Environments* (NATO-ASI Series F: Computer and systems sciences) (pp. 229–241). Berlin: Springer-Verlag.

Scardamalia, M., Bereiter, C., & Lamon, M. (1994). The CSILE project: Trying to bring the classroom into world 3. In K. McGilly (Ed.). *Classroom Lessons: Integrating Cognitive Theory and Classroom Practice* (pp. 201–228). MA: MIT Press.

Scardamalia, M. & Bereiter, C. (1996). Student communities for the advancement of knowledge. *Communications of the ACM*, 39 (4), 36–37.

Vygotsky, L. S. (1978). *Mind in Society: the Development of Higher Psychological Processes*. M. Cole, V. John-Steiner, S. Scribner & E. Souberman (Eds.). Cambridge: Harvard University Press.

WHO. (2001). *International Classification of Functioning, Disability and Health* (ICIDH-2). Final draft, full version. Geneva: World Health Organisation. http://www.sustainable-design.ie/arch/ICIDH-2Final.pdf

Wood, D. (1991). Aspects of teaching and learning. In P. Light, S. Sheldon & M. Woodhead (Eds.*). Learning to Think* (pp. 97–120). London: Routledge.