Vygotsky and Language

Tony Brown (2013)

**Psychological theory of classroom learning**

Lev Semionovitch Vygotsky occupies an interesting pedagogical position in UK education. He was born in Orcha in 1896, during the period of the Russian Empire, and died in Moscow in 1934.

He was the originator of a theory of human development that not only drew on ideas of race and heredity but also insisted that human psychology develops as a result of being immersed in social and cultural processes.

To survive in Soviet Russia in the Stalinist era meant managing expectations in ways that recognised and promoted state ideals. It is no surprise, and indeed possibly a strength for us a hundred years later, given the US-dominated twentieth century obsession with the cult of the individual, that Vygotsky’s theoretical psychology emphasised social practices.

His theoretical position is that development of cognitive functions in children, such as higher order reasoning, is possible only through practical activity in a social (read socialist?) environment. Teachers in schools will easily recognise that practical activities in social settings are what typify classrooms. They are social spaces where children learn, often in collaboration, through engagement with practical activity. That is certainly the theoretical basis of *The Really Useful Maths Book*.

There is also a political dimension to this dependence on Vygotsky. His social and socialist perspective on education is a valuable counter to the reductionist processes that have led children and parents in the UK to be rebranded by politicians as customers to whom education can be sold. No longer viewed as members of social groups who own the schools that they are paying for through taxation, ordinary people are now customers who are forced to join the market that will sell them education, despite the fact that they must pay twice for the privilege.

We are faced in the UK today with the excesses of the cult of the individual. Individual children are assessed more often in UK schools than almost any other country, and not to their benefit. The purpose of Margaret Thatcher’s Education Reform Act (1988) was to provide a basis for the sale of schools and the privatisation of education, which is only now being foisted on us by the coalition government. From President Reagan, Thatcher was taught the link between measuring children, measuring teachers (in terms of performance and competence) and the measuring of schools in order to make the most attractive schools available for sale.

The UK coalition government, via Tony Blair’s interest in faith schools, has found a slightly different way to sell education: by modifying the definitions of “free” schools and academies, and by re-defining taxpayer’s money as incentive contributions to be made available to businesses wishing to own and run schools. The same process is now underway in universities through the removal of the block teaching grants which provided tax payers’ money to the universities to educate for free the children of those paying taxes. Now tax payers pay twice or three times: once in initial taxation to maintain universities, second when their children pay for teaching in those universities and third when taxpayers’ money is given to private businesses that create fee-paying colleges and universities (Collini, 2013).

Vygotsky’s theories were largely unknown beyond Russia until some 30 years after his death. They gained prominence when translated and used by some Anglophone teachers and educationalists as a counter to
post-war teaching methods in the UK and elsewhere. At the time there were two or more powerful cultural forces at work, competing for dominance. The totalitarian and fascist threats of the 1930s which were popular with many British people (see Oswald Mosley, the British Union of Fascists and the Blackshirts) were only just averted in 1945.

In educational settings, there followed a surge in individualist theories and practices that emphasised the cult of the individual – “free to do whatever is desired” in terms of wider society and, in terms of education, “learning is the result of individual changes in cognition brought about by activities with the material world”. The approaches of the 1950s failed, among other things, recognise the many experimental educational and social practices in Britain that had continued from the 1920s, for example with schools run by Anna Freud and others in London. In the event the theories of the individual, bolstered by evidence of the very enormous gains in wealth made by the US from the 1950s onwards, propelled British schools towards a schism: pre-schools and “infant” schools (4–7) focusing on play and exploratory learning, whilst “junior” (7–11) and secondary (11–14) schools focused on teaching through a curriculum subject list.

Vygotsky’s theories and emphasis on the social nature of learning provided a valuable alternative perspective, theorising the experience of children and the effective practices of teaching in terms of mutual support, social interaction, learning from others and the centrality of language as a means of not only communication and transmission of knowledge, but also the actual construction of meaning, by children, of their world. Vygotsky is criticised by some for an over-emphasis on the role of language in development and the relative lack of discussion of emotional factors in his theories of child development.

Vygotsky is recognised within the UK as having had a significant impact on pedagogy, as witnessed in an Early Years publication by Teaching and Learning Scotland (2005), Let’s Talk About Pedagogy, which lists Froebel, Montessori, Steiner, Piaget, Vygotsky, Bowlby, Isaacs and Bruner as important early influences on EY practice.

Perhaps today in the UK, Vygotsky’s name is most strongly associated with “zpd” – described by some commentators as one of the most misunderstood and misapplied, yet most referenced of psychological theories. Some argue that current notions of zpd – zone of proximal development – are a long way from Vygotsky’s original zona blizhaishego razvitiia (ZBR), but there are precious few who can untangle the differences, linguistically and pedagogically. Another example, possibly, of pseudo-critical discussion of Vygotsky that lacks actual substance. We know from observation that a child’s competence in applying newly acquired skills varies with the context in which the child finds itself. We are frequently reminded that children often realise this for themselves, “Can you help me – I can’t do this by myself.” By ZBR, Vygotsky appears to have been theorising this variability in skill application. The lower limit of the zone is the level of skill achieved when working independently while the upper limit is the level achieved with the skilled assistance of another child or adult. For Vygotsky the notion of ZBR offered a useful way of explaining the complex interplay between children’s learning and cognitive development.

Vygotsky offers something significantly different from alternative contemporary theories. Constructivists would argue that development must precede learning. Development being associated with the accommodation between already internalised concepts and what we might call experiential challenges to a current way of thinking (i.e., a child knows that heavy things sink, but finds when playing with a heavy bowl that it can be made to float, forcing a need for accommodation between the original conceptual understanding of what sinks and an experience that appears to contradict this mode of thought). Maturity precedes understanding in the constructivist world. Behaviourism presents a different view: learning develops simultaneously with experience. Behaviour is modified primarily by further adjustments to
previous behaviour and this is what leads to development. Gestalt psychology argues that learning and development are separate but interdependent and interactive with each effectively preparing the mind for the influence of the other. For Vygotsky, learning precedes development.

There are connections to be made between the thinking of Vygotsky and Bruner (see RUM p. 212–3), much of whose writing extends across the second half of the 20th Century. Bruner has made extensive use of the notion of scaffolding, a term that appears to have been first used in the literature in Wood, Bruner and Ross (1976).

Most teachers in the UK will be familiar with the term as applied to the differential help offered to children to support learning, based on the child’s perceived level of performance: more support and perhaps a different quality of support for children struggling with their studies; less support and perhaps qualitatively more complex support offered to children clearly coping with new ideas.

Scaffolding is intended to maintain the child’s engagement with the task in hand so that the child remains within the ZPD, an essential element of which is the child’s ability to function linguistically in ways that promote thinking and learning. According to Vygotsky, speech allows children to communicate with and learn from others through dialogue in ways that bring the child’s under-developed concepts under the influence of the teacher’s more systematic and logical thinking. Later psychologists may argue that language, both external and internalised, structures thought and is inseparable from higher-order thinking.

Mathematics presents a number of challenges to learners including:

1. Its hierarchical nature (if you don’t understand multiplication and have a good grasp of multiplication facts then understanding division isn’t going to come easy. If you are not very aware spatially, then aspects of geometry can be hard to grasp, etc.)

2. The special language – pentagon, octagon, fraction, multiple, angle, division, etc.

3. The special use of language – a child in the classroom could hear the following utterances from the teacher in a five minutes period: Don’t go into the hall until I tell you. I haven’t got time to go into that now. Six goes into 18 three times.

Language, it seems, not only supports thinking but also structures thinking. Maths understanding depends on language fluency as much as on any other single factor. There are two dimensions to mathematics that distinguish it from many other areas of learning:

1. Maths and maths relationships can be represented by objects: stones, money, number lines, tables and lists, equations, plastic cubes, wooden rods and paper shapes. Using them supports thinking and also structures new thoughts.

2. Maths can be represented by concrete objects but the purpose of much of the maths we do is to forego reliance on physical objects in favour of symbolic reasoning. Somewhere in the middle of this process of increasing abstraction are written objects like $x + y = z$ which are generalised statements (in this case containing only 3 letters and 2 other symbols whose power is in its ability to represent an infinite number of possible situations. Moving to an abstract understanding of mathematical relationships is difficult for most learners, who need lots of experiences with single instances of $x + y = z$

   $(5 + 7 = 12)$ $(0.5 + 0.7 = 1.2)$ $(5 + 7 = 12) –$ minus 5 and minus 7 equal minus 12

   $(5 + 7 = 10) –$ in base 12.

   before they can use the generalised formula.
Scaffolding in maths is often provided by physical objects: pencil and paper, calculators and computers, measuring tapes, etc. There is no inherent maths in these objects, although there may be relationships between the different cubes, as for example in a set of Dienes blocks or Cuisenaire rods.

Relationships are part of a conceptual structure in the brain. The cubes and rods jog the mind, help us to pose questions and remember the steps needed in solving a problem. The physical objects help us break things down into a logical sequence that we can understand. They help us record. They challenge us to name the patterns we perceive and to use (and invent) language to think something new – something that we haven’t thought before.

Vygotsky’s theorising is helpful in understanding this process. He makes a different argument from that of the constructivists, because Vygotsky suggests that we can provoke development rather than wait for the child to mature sufficiently before more complex thought is possible. By structuring the challenges that we present to children, we can invite them to think beyond their current knowledge and then, by scaffolding imaginatively, we can provide sufficient support to allow thinking to proceed, without overdependence on memory (which is a weak faculty in most humans), and without stealing the intellectual kudos from the child, so that overcoming the challenge, solving the problem, is pleasurable for the child because it is achieved with a degree of independence and intellectual creativity.

**References**


