

## Crossing boundaries between disciplines: A perspective on Basil Bernstein's legacy

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"You may stay if you wish but I don't think this is going to be of much use to you." That's how I was allowed into Professor Bernstein's seminars some twenty years ago.

I am not a sociologist, I am a science educator. At that time science education was again in a consensual state of crisis. After the international enthusiasm of the new science education of the sixties and seventies, it was evident that students were not achieving the level of scientific literacy they were expected to reach. New lines of research were developing based on psychology and epistemology, that is within the same paradigm as previous science education developments. Everything I had been doing at that time in teacher training, curriculum development and classroom teaching was also founded on that same kind of assumptions. Arriving in London at this Institute I was feeling that I was having more of the same. By chance, I came across a paper by Basil Bernstein and immediately felt I wanted to attend his seminars.

The first time I went there I clearly saw two apparently contradictory things. First I didn't understand most of what he was saying. Second, what he was saying was definitely what I wanted to learn.

In time, Professor Bernstein accepted to supervise my PhD thesis. And in time Professor Bernstein became Basil.

That's how everything started. Later on, back home I managed to pass on my interests to others and, with the invaluable help of my research students and of my students' research students, we initiated a line of research which departed from all science education research done at the time.

Science educators have always resisted the sociological. Apart from some theoretically poorly grounded research on gender and vague cultural issues, their interests did not go much farther. Only recently, in the nineties, are a few turning to Vygotsky as a way of considering the social context of the science classroom.

The general rejection by science educators of sociological approaches is very deep and can be seen as having many roots. I am just going to refer here to one of them. Experimental sciences are vertical structures of knowledge. Theories of instruction are horizontal structures of knowledge. That is to say *the what* to be taught in science classes is quite distinct in its structure from *the how* to be taught.

Science educators have been primarily socialised within specific vertical structures of knowledge and they have always found some difficulty in accepting knowledges characterised by parallel languages.

However, because of the strong grammar which characterises psychology, science educators have accepted more willingly its knowledges as a grounding for science education than they have accepted the knowledges of sociology, characterised by weak grammars. In general, they tend to feel that sociology is very 'loose', poorly conceptualised and unable to help them with their research and practice.

In my view, this constitutes a serious problem for improving science education because sociological analysis is then in general discarded as non-relevant.

However, Basil Bernstein's theory constitutes a remarkable exception. I contend that Bernstein's theory, which departs from other sociological theories in many aspects, can be seen as characterised by a strong grammar because "it has an explicit conceptual syntax capable of 'relatively' precise empirical descriptions and/or of generating formal modelling of empirical relations" (Bernstein, 1999). And this may be one of the many reasons why some science educators have been more willing to accept it. In fact, the strong conceptualisation that it contains, its evolution to higher and higher levels of abstraction, its power of description, explanation, diagnosis, prediction and transferability have appealed to science educators. These science educators are those who have an interest in the sociological (the Vygotskian followers, but not only) and who have found in Bernstein's theory a 'form of thinking' closer to the vertical structures in which they were socialised.

However, many have felt that the theory is very complex and have not been prepared to make the effort to learn it. They have already been socialised into psychological and epistemological theories and most sociological analyses and interventions have led them to think it is not worth the effort. And, because they don't know the theory, they have not been aware of how much they are missing in their educational analysis and intervention.

If things are somehow different in my own country, it is because my former science education students and myself have systematically taught Bernstein's theory and the empirical research based on it to undergraduate and research students. This has always been done not by undervaluing psychological and epistemological approaches but by giving to sociological approaches the same level of importance.

In this way we have tried to weaken the classification between usually strongly classified fields, that is, we have pushed further something Basil Bernstein did himself.

In fact, without losing his identity as a great sociologist, Bernstein has always made links with other areas of knowledge such as psychology, linguistics, anthropology and epistemology.

My contention is that this is but one of the many reasons why his theory has been widely used across different areas of knowledge. But it is also one of the reasons why many sociologists have not accepted it easily and have criticized it for so long. Their identities have been formed in the strongly classified knowledge of sociology and its weak grammar and they reject any attempt at blurring the boundaries between disciplines. Many think that Bernstein's work stopped thirty years ago and hence their critique is only directed at his former work. But I believe that what lies behind this is much related to the fact that his theory departs from other sociological theories in many crucial aspects. Bernstein's theory has a very strong conceptual structure which places it, as I said before, within the horizontal structures of knowledge of strong grammars and even, I would say, in many aspects, within a vertical structure of knowledge.

The way Bernstein has developed his theory can be seen as having features of the way theories in experimental sciences have developed. It is extremely interesting to think of it as within a rationalist view, where a model is firstly constructed and a methodological approach is defined to open way for the work of researchers, to its testing, modification and enlargement. And this is again another feature which is not easily accepted by many sociologists. The power of description, explanation, diagnosis, prediction, transferability, which is part of the greatness of Bernstein's theory, is again a reason for rejection of something many sociologists do not share.

So far I have not used the word ideology but that is what I have been talking about when looking at the positioning towards Bernstein's theory of science educators on the one hand and of sociologists on the other. Surely, what I have said is just a very restricted perspective on Bernstein's legacy.

Coming back to science education, I believe that I have brought into it a new dimension, in both research and educational practices. But I also know that this has

hardly yet passed beyond my own country. And this, again, is sociological. Were I British or American, things might be different. I do hope that, in the future, science educators can see the gains they would introduce in their research and practices if Bernstein's views were *really* included in science education.

As for me, I must say that to have done a Ph Thesis under his supervision was a difficult experience but one I shall never forget. As I shall never forget the discussions and support I always found in the work following the thesis. That is why in my thesis I acknowledged him for his willingness to overcome difficulties in crossing boundaries of established disciplines and conceptual frameworks.

But I owe him much more than that.

He changed my whole mind, my whole way of looking at the world... and he was also a very great friend.

That is why I am so very much honoured and yet in great sadness too, to be here today.

## Reference

Bernstein B. (1999). Vertical and horizontal discourse: An essay. British Journal of Sociology of Education, 20 (2), 157-173.