

THE THEORY OF BASIL BERNSTEIN

BASIL BERNSTEIN

Basil Bernstein was professor of the Institute of Education of the University of London and director of the Sociological Research Unit. His publications started in 1958 and flowed continuously until 2000. He is among the greatest sociologists of the 20th century, showing a particular concern for education. "His ideas have measured the change that has taken place in our systems and they offer the most developed grammar for understanding the shape and character of our current educational practice" (Davies, 2001, p.1).

Without losing his identity as a great sociologist, Bernstein made constant links with other areas of knowledge such as psychology, linguistics, anthropology and epistemology. This may be one of the many reasons why his theory has been widely used across different areas of knowledge.

The importance of his theory on the work carried out by researchers of the most diverse areas of knowledge and of the most diverse fields of analysis and intervention, has acquired crescent recognition and his ideas have gained increasing visibility through international symposiums, dedicated to research made around the theory, the first of which took place in Lisbon, June 2000.

Basil Bernstein constructed a genuinely original line of thought, developed through a constant refinement, deepening and reorganisation of ideas, as a consequence of a permanent reflexive and interrogative attitude before the problems which interested him. As a researcher, he always valued the work carried out by his research students, using the discussion around that work as a source of new ideas, experiences and fundamental sources of questioning for the development of his theory. The explicit recognition, in various of his writings, of the importance given to this joint work, reveals the sensitivity and honesty of his character.

Basil Bernstein was a magnificent talker, who was able to listen, and a marvellous company with an ironic sense of humour. Throughout the years, he made many friends among his students and colleagues. His sensitivity to others' problems, his generosity and his open minded spirit will never be forgotten by those who had the privilege of working with him.

THE THEORY

Introduction

The evolution of Bernstein's ideas appears fundamentally in five volumes referred to collectively as *Class, Codes and Control, I-V*. The first edition of Volume I was published in 1971 and the second edition of the last volume in 2000.

Looking back at his work, Bernstein (2001b) considers four of his papers as the benchmarks of the development of his theory:

1971 – *On the classification and framing of educational knowledge*

1981 – *Codes, modalities and the process of cultural reproduction: A model*

1986 – *On pedagogic discourse*

1999 – *Vertical and horizontal discourse: An essay*

He says that the early work in the Sociological Research Unit crystallised in the *Classification and Framing* paper, where he was able to free himself of the imperfections of the socio-linguistic theorising, make distinctions between power and control which he thought were absolutely invaluable and necessary and show that one could have modalities of elaborated codes. So the question was what were the principles selecting, why a particular modality was institutionalised for particular groups of children.

Although Bernstein considers this a crucial paper, he thought that the most important paper was the *Codes, Modalities and the Process of Cultural Reproduction: A Model*. It took ten years from classification and framing to the code modality paper. He says that this paper looked back and produced a much more formal and conceptually elegant theorising of codes. The code modality paper attempted to remedy earlier deficiencies with respect to the transmission/acquisition process, the defining of context, and macro-micro translations by the development of what was thought to be a more powerful language of description. This paper looked forward to the pedagogic device. Up to the 1980s the work was directed to an understanding of different principles of pedagogic transmission/acquisition, their generating contexts and change. These principles were conceptualised as code modalities. However, what was transmitted was not in itself analysed apart from the classification and framing of the categories of the curriculum.

In the mid-1980s, what was transmitted became the focus of the analysis. A theory of the construction of pedagogic discourse, its distributive, recontextualising and evaluative rules, and their social basis, was developed: the pedagogic device.

The *On Pedagogic Discourse* paper, firstly published in 1986, had a much more elegant version in 1990. There a form of analysis was created which distinguished between class fractions and where it was hypothesised that ideological orientation, interests and modes of cultural reproduction would be related to the functions of the agents (symbolic control or economy), field location and hierarchical position.

However, the *forms* of the discourses, i.e. the internal principles of their construction and their social base, were taken for granted and not analysed. Thus, there was an analysis of modalities of elaborated codes and their generating social contexts, and an analysis of the construction of pedagogic discourse which the modalities of elaborated codes pre-supposed, but no analysis of the discourses subject to pedagogic transformation (1999). This was done in the *Vertical and Horizontal Discourse: An Essay* paper.

This text does not intend to present the multiple aspects of Bernstein's theory. Its aim is to provide the reader with the main ideas of his theory which have grounded theoretically most of the research developed by the ESSA Group. A substantial part of the text is devoted to the description of the two central models of the theory – *Model of reproduction and cultural transformation* and *Model of pedagogic discourse*. This is followed by a particular reference to the most recent developments of the theory, including Bernstein's ideas about vertical and horizontal discourses and also to the importance of the theory within the framework of empirical research.

Model of reproduction and cultural transformation

Central to the development of this model, is the concept of code which, according to Bernstein, is a regulative principle tacitly acquired which selects and integrates the relevant meanings, the form of their realisation and the evoking contexts. Thus, the code is a regulator of the relation between contexts and a generator of guiding principles to the production of the texts adequate to each context. At an operational level, the code is defined

by the relation between the coding orientation and the form how this orientation is realised, according to the formulae:

$$\frac{O^{E/R}}{C_{ie}^{\pm} F_{ie}^{\pm}}$$

In this formulae, $O^{E/R}$ refers to coding orientation, restricted or elaborated. In the restricted orientation the meanings are particularistic, context dependent and have a direct relation with a specific material basis. In the elaborated orientation the meanings are universalistic, relatively independent of the context and have an indirect relation with a specific material basis. By its own nature, the official pedagogic discourse and practice of the school institutionalise an elaborated orientation. Family local pedagogic discourses and practices may correspond either to a restricted orientation or to an elaborated orientation, depending fundamentally on the family's position in the social division of labour – a simple division of labour leads to a restricted orientation and a complex division of labour leads to an elaborated orientation. However, such is not a linear relation as it can be changed by the access of the family to differentiated contexts, available either through formal education or through participation in agencies of opposition/ challenge/ resistance (unions, political parties) or agencies of cultural reproduction (e.g. sports or religious institutions). It is important to note that all families use a restricted orientation in given interactional contexts.

The coding orientation, restricted or elaborated, may give rise to a large range of realisations. The form how meanings are realised depends on the distribution of power and on the principles of control which regulate the social relations and the contexts of pedagogic interaction. In the above formulae, C and F correspond to the concepts of classification and framing, used to analyse respectively power and control relations which characterise a given social structure; +/- refer to strong and weak values of classification and framing; *i* refers to internal relations that is relations within a given context of communication (family, school, work); *e* refers to external relations that is relations between distinct communicative contexts (family and school, community and school, school and work). Classification refers to the degree of maintenance of boundaries between categories (subjects, spaces, discourses). Classification is strong when there is a sharp separation between categories, this originating hierarchies in which each category has a specific status and voice and therefore a given power; classification is weak when there is a blurring of boundaries between categories. Framing refers to the social relations between categories, that is to

communication between these categories. Framing is strong when the categories with higher status have the control in that relation and is weak when the categories with lower status also have some control in the relation. Between the extremes of strong and weak classifications and framings a grading may exist.

When using in the analysis the concepts of classification and framing, Bernstein considers two ideal types of social structure. One is based on the rule 'things must be kept apart'. The stronger this rule, the stronger the classification and framing which control the transmission. Control is explicit and appears as inherent of a formal position. The other type of social structure is based on the rule 'things must be kept together'. In this case, the control is implicit and appears as inherent to a person and not to a formal position. Socialisation within this rule encourages spontaneous behaviours, the manifestation of social relations and their questioning and the social types produced are probably not strong and well marked. The structure of the socialisation reflects, therefore, given classification and framing relations which model the mental structures by establishing coding procedures based on distinct rules. However, behind a given classification and framing are, respectively, the power relations and the fundamental principles of social control. Power maintains the classification that is the insulations, the boundaries between 'things', be them internal or external to the subject. The modality of socialisation, that is the pedagogic interaction, is regulated by the strength of framing. However, because power can be realised through framings of distinct strengths, a situation may occur in which power relations are not altered but they are realised through a change in the form of socialisation.

With the model which refers to the generation and acquisition/transformation of codes (Figure 1), Bernstein intends to make explicit the relations between the macro institutional level and the micro interaccional level. It explores the idea that, depending on the social structure that characterises a given society, given principles of the distribution of power and social control are generated which, at the level of the code, will translate respectively in given values of classification and framing. From a theoretical point of view, this means that in a society characterised by an equitable distribution of power and by principles of control based on horizontal/open social relations, the dominant code is a code which legitimates weak classification and framings. On the contrary, in a society characterised by a hierarchical distribution of power and by principles of control based on vertical/closed social relations, the dominant code is a code which legitimates strong classifications and framings.

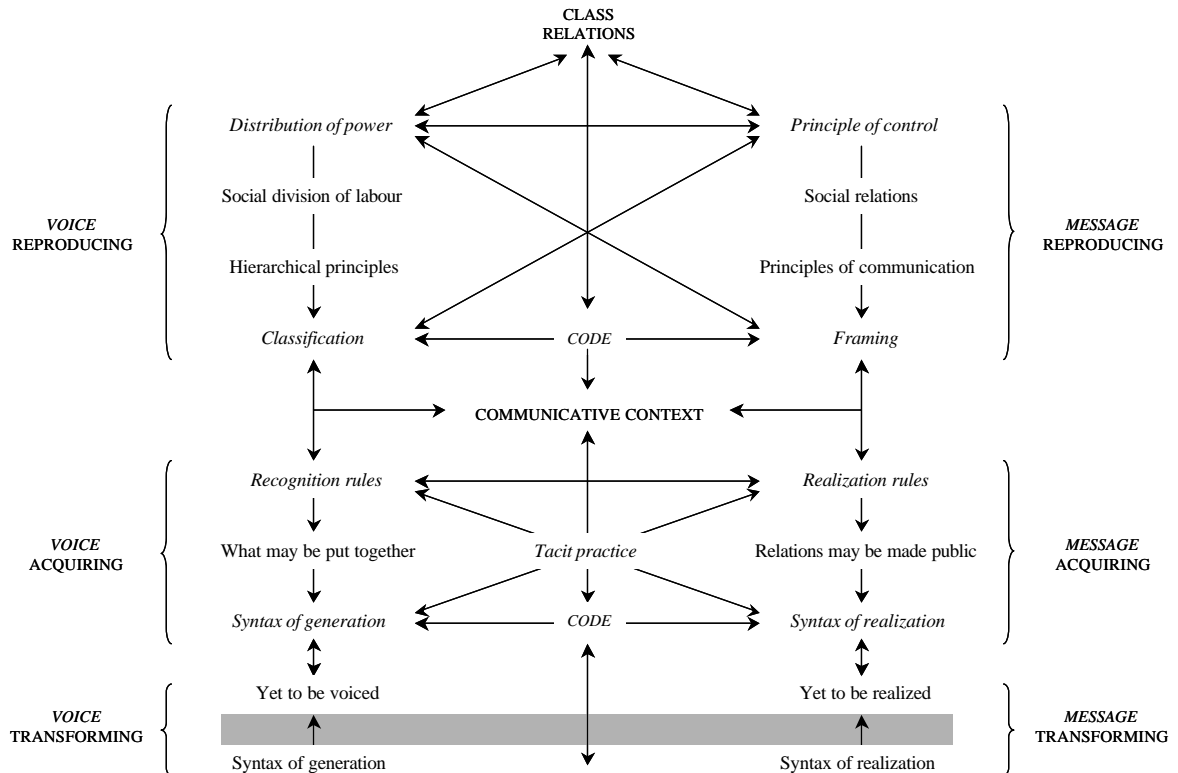


Figure 1 – *Generation, acquisition and transformation of the code (Bernstein, 1981).*

The vertical lines of the model indicate that power refers to classification and the principle of control refers to framing, showing in the first case what must be reproduced and in the second the process of its acquisition. The codes integrate two aspects and give the subjects the possibility of making their reading and creating the texts which can be legitimately constructed, or texts which are within the possibilities of the syntaxes of generation and realisation, as orthodox/heterodox potential texts. The diagonal lines indicate the process of resistance, challenge and opposition. The shadow area represents the process of modelling answers to clivages, contradictions and dilemmas that the insulations created by classification intend to suppress.

It is through the codes that the subjects acquire a given voice and message. The voice is generated by the nature of the categories created by the principles of the social division of labour. If categories – agents or discourses – are specialised, each of them has its specific identity and that identity can only be maintained and reproduced if the insulation between the categories is kept. The strength of the insulation between categories (classification) gives

a specificity to the category according to it a given voice. Thus, the various degrees of insulation between categories refer to diverse principles of classification. In this way, power relations regulate the principles of classification, through the maintenance or change of the degree of insulation between categories created by the social division of labour. Power relations establish the voice of a category, positioning the subjects through the principles of classification they establish.

The social division of labour in education may exemplify the relation between power, classification and voice. This social division of labour is constituted in the school by categories of agents and discourses. When classification is strong there is a strong insulation between the educational discourse and the everyday discourses and, consequently, each one of these discourses has its specialised voice. In this way, the transmitters and the acquirers constitute specialised categories with specialised voices. From the point of view of the acquisition of the voice, the distinction of categories provides a set of criteria of demarcation that permit the recognition of categories in the variability of its presentation and give to the subject the basis to infer the recognition rules. These rules regulate what can be associated, that is which meanings can be legitimately associated, therefore regulating the principles for the generation of legitimate meanings, and in this way they create what can be designated by syntax of generation of the legitimate meanings. In this way, a relation can be established between the distribution of power (external to the subject) and the syntax of the generation of meanings (internal to the subject), a relation which derives from the principle of classification of the social division of labour. However, in the tacit acquisition of a specific syntax of generation of meanings, are produced not only dominant and dominated voices, but there is also, in opposition to the voice, the production of something that is to have voice and whose syntax is constituted by the insulations created by the principle of classification. It is the arbitrary nature of the principles of classification and of power relations that create the potential for the tacit practice of the transformation of the voice.

Although it is not possible at the level of the subject to separate the voice from the message, it is important from an analytical point of view, the distinction between power and control, that is between the what it is to be reproduced and the form of its acquisition. The message constitutes the form of socialisation in the code and refers to the relations which, at the school level, correspond to pedagogic relations. The principles of control establish the form of social relations between categories that is they establish the principles of communication

that translate a given message. The pedagogic relations which take place in the classroom can exemplify the relation between control, framing and message.

It is also explicit in the model the idea that, depending on the values of classification and framing that characterise the regulative code of a given context of communication, at the level of the subjects are acquired recognition and realisation rules which are a function of those values. According to Bernstein, the values of classification and framing define the mode of transmission-acquisition or practice in the basic contexts of communication. Classificational values in a pedagogic practice create specific recognition rules whereby students recognise the specificity of a particular context. If classificational values change from strong to weak, so do their contexts and recognition rules. Framing values shape the form of pedagogic communication and context management. Different framing values transmit different rules for the creation of texts, whether these texts are instructional or regulative. Just as different classificatory values produce and expect different recognition rules on the part of the subject, so different framing values entail different realisation rules to be acquired by the subject.

Generally it can be stated that whereas the part of the model which relates the social structure with the code corresponds to the level of the generation of the code, the part of the model which refers to the relation of the context of communication with the specific coding orientation corresponds to the level of the acquisition of the code. When Bernstein makes the link between these two parts, he intends to make explicit the mechanisms that are accountable for the social and cultural reproduction. However, when he considers, in the same model, reciprocal relations between distinct components and distinct levels he also intends to highlight the mechanisms that may lead to potential situations of change and therefore to social and cultural transformation. This is an aspect of crucial importance in the development of the model as it shows how the relations generated at the structural level may be reproduced, but also transformed at the interactional level. It is also important, in the analysis of this model to refer that the code contains both an interpersonal dimension and an intrapersonal dimension. The first is social and reflects the relations created by the type of structure of society, therefore being external to the subject. The second, although socially determined, reflects what occurs at the level of the subject, therefore being internal to it.

When attention is focused on the intrapersonal component of Bernstein's model, it is important to explicate in a detailed way the relation between the specific coding orientation and the text considered legitimate in communicative contexts (e.g. educational contexts).

According to Bernstein, text production in a given context depends on the possession of the specific coding orientation to that context. This means that subjects must have both the recognition rules, that is, be able to recognise the context, and the realisation rules, that is, be able to produce a text adequate to that context. Realisation rules concern both the selection and the production of meanings. Subjects must select adequate meanings and produce texts according to them, in this way showing correct performance in context, demonstrating possession of both recognition and realisation rules. Failure to show performance may indicate lack of recognition or realisation rules or both. As to realisation rules, subjects may not be able to select meanings or produce them or both. If they are able to select meanings but are incapable of producing the text, we say that they have a passive realisation. If the text is produced, they exhibit active realisation. However, for text production to be accomplished, subjects must also possess socio-affective dispositions specific to the context, that is, they must have the appropriate aspirations, motivations and values. Recognition rules regulate realisation rules. Both principles and the requisite socio-affective dispositions are socially acquired and become part of the subjects' internal structures.

Figure 2 shows the relations between specific coding orientations and socio-affective dispositions in text production. The interrelation shown in the model between specific coding orientation and socio-affective dispositions is intended to highlight their mutual influence. Although constituting different realities within the subject, the possession of a specific coding orientation may be limited by socio-affective dispositions, which are in turn limited by coding orientation.

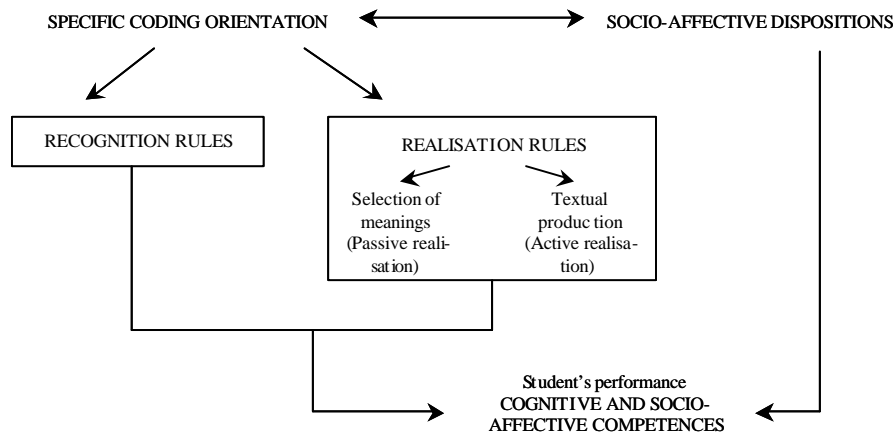


Figure 2 – *Specific coding orientation, socio-affective dispositions and student's performance in specific learning contexts (Morais & Neves, 2001).*

Exemplifying these relations among the cognitive competences required in specific classroom contexts, we would say that students receiving a pedagogic practice which requires, for instance, problem solving competence succeed by (a) recognising the specificity of the micro-context of problem solving within the instructional context of their practice (recognition rules); (b) selecting meanings adequate to that micro-context, that is, knowing how to proceed to solve problems correctly (passive realisation); (c) producing the text, that is, presenting a correct solution to the problem (active realisation); and (d) possessing socio-affective dispositions favourable to that realisation (motivations, aspirations, values). In the case of socio-affective competences, students receiving a pedagogic practice which requires, for instance, the competence of co-operation succeed if they (a) recognise the specificity of the micro-context of co-operation within the regulative context of their practice (recognition rules); (b) select meanings appropriate to that micro-context, that is, know what should be done to achieve co-operation (passive realisation); (c) produce the text, that is, co-operate according to the rules of the classroom (active realisation); and (d) possessing socio-affective dispositions towards that realisation (motivations, aspirations, values).

In these terms, a relation of continuity is established between family and school whenever an elaborated orientation is present in the former and both practices are convergent in terms of the classification and framing relations present in their socialisation processes. However, a relation of discontinuity is not a necessary condition of children's school failure, that is, it is not a condition of non-recognition and non-realisation in the school specific contexts in

which students are evaluated. Specific characteristics of school pedagogic practices can be favourable to the acquisition of recognition and realisation rules underlying the development of cognitive and socio-affective competences.

The possession of recognition and realisation rules to local contexts leads to the acquisition of a restricted orientation whereas the possession of these rules to generalised contexts leads the subject to the acquisition of an elaborated orientation.

Another crucial aspect, present in the model, refers to the relation “social structure-positioning-code”. This relation expresses the idea that the subjects positioning, determined by the principles of power and control that characterise a given social structure, determines the code that regulates the form of interaction with other subjects. In this way, and considering the macro hierarchical structure of society, subjects with distinct positionings in that structure will tend to have access to distinct codes, showing in the communicative contexts a specific coding orientation (recognition and realisation rules) which varies in function of that positioning. However, the model allows also to think of a relation of inverse direction between positioning and code. In fact, the access to contexts of formal education or the participation in agencies of opposition/challenge/resistance (e.g. unions, political parties) or agencies of cultural reproduction (e.g. sports, religious institutions), may lead to a change of the code initially acquired by the subjects and that change may, in its turn, influence their positioning and, consequently, the form of their relation with other subjects in specific contexts of communication.

The application of the model to the analysis of contexts of communication in the family, in the school and in teacher training (e.g. at the level of the father/mother-child, teacher-student and educator-teacher relations) assumes that any context of pedagogic interaction reflects a social structure with a given hierarchical organisation. Thus, in the same way as at the macro-level of the social structure are created principles of power and control that generate the code, also at the level of the family and school contexts are created power and control relations which will determine the code that regulates the pedagogic interactions present in these contexts. In this case, to speak of code means to speak of the principle which regulates the discourses and practices present in transmission-acquisition contexts in the family and in the school and which lead to the acquisition by children/students/teachers to the specific coding orientation to these contexts. Furthermore, in the same way that at the macro level of the social structure there is a hierarchical organisation where the various subjects are placed

in distinct positions, also at the level of the various contexts of the family and the school there is a similar type of organisation where parents and children, teachers and students and educators and teachers occupy given positions. Therefore, to speak of positioning in the family, in the school or in teachers education means to speak of a position of the subject in the interaction with other subjects differentially positioned.

The application of the model to the analysis of the social relations which characterise any pedagogic context, shows that, in the same way as at the macro level of the structure of society also at the micro level of the educational structures, is the nature of those relations which will greatly determine the reproductive or transformative role of the social structure. This shows the interest that should be attributed, in the educational context, to the interactions that take place.

Model of pedagogic discourse

The model of pedagogic discourse is directly centred on the *what* is transmitted as educational knowledge and with it Bernstein develops a theory about the production and reproduction of pedagogic discourse. He considers that the internal grammar of that discourse is provided by the pedagogic device, through the distribution, recontextualising and evaluation rules. Distribution rules accord and specialise, for distinct social groups, the thinkable/unthinkable and respective practices, through pedagogic agencies differently specialised. The distribution rules regulate the degree of classification between the thinkable and the unthinkable (and respective practices) and, therefore, the degree of insulation between groups, practices and contexts and between principles of communication differently specialised and as such they constitute a principle of basic classification which regulates the relations between the distribution of power, the knowledge and the forms of consciousness. The recontextualising rules, which are regulated by the distribution rules, regulate the constitution of specific pedagogic discourses, that is, they regulate the *what* (discourses to be transmitted-acquired) and the *how* of the transmission-acquisition (discourses which regulate the principles of transmission-acquisition). The evaluation rules are regulated by the recontextualising rules and constitute the fundamental principles of ordering of any pedagogic discourse, therefore regulating the specific pedagogic practices that is the relation between transmission and acquisition of the specific pedagogic discourses. The pedagogic device regulates the relation between the distribution, recontextualising and evaluation rules and as such establishes

the relation between *power*, *knowledge* and *consciousness*, constituting a crucial instrument of cultural reproduction. The pedagogic device, through the distribution rules, distributes the *power*. This power, embedded in the educational *knowledge*, according to the recontextualising principles of the pedagogic discourse, is internalised by the subjects when, through the evaluation rules, they are differentially positioned, acquiring a specific *consciousness*.

In order to understand the importance of the pedagogic discourse as a dominant instrument in the regulation of cultural reproduction, it is important to understand how it is produced and reproduced. The model of figure 3 refers to the production and reproduction of the official pedagogic discourse in developed contemporary societies and is based on two fundamental assumptions.

One of the assumptions is that the general contemporaneous context of educational reproduction is related to the field of economy which refers to the production of goods and services and distribution and circulation of economic capital. It is also related to the field of symbolic control where takes place the legitimate creation, distribution, reproduction and change of consciousness through symbolic means, that is principles of communication. Another assumption is that the context of educational reproduction has the general objective of positioning the subjects (teachers and students) with reference to a set of *meanings*, that is recontextualised discourses, generally designated by educational knowledge transmitted by the school. It also has the objective of positioning the subjects with reference to a set of *social relations*, that is specific regulative practices of the transmission-acquisition of legitimate meanings and of the constitution of order, relation and identity. Implicit to the meanings and social relations is the *pedagogic code* which is tacitly acquired by students. The model contains three fundamental levels of analysis – generation, recontextualising and transmission – and shows that the pedagogic discourse is determined by a complex set of relations which require the intervention of distinct fields and contexts. The two first levels of analysis are associated to the production of the pedagogic discourse and the third level to its reproduction.

Although being primarily constructed for the formal educational system, the model may be (and it has been) extended to other contexts of cultural reproduction, namely to the context of family/community. Thus, the analyses that take as reference this model have potentially the capacity of establishing relations at the various levels of educational intervention, either internally in the formal educational system or between formal education and family education.

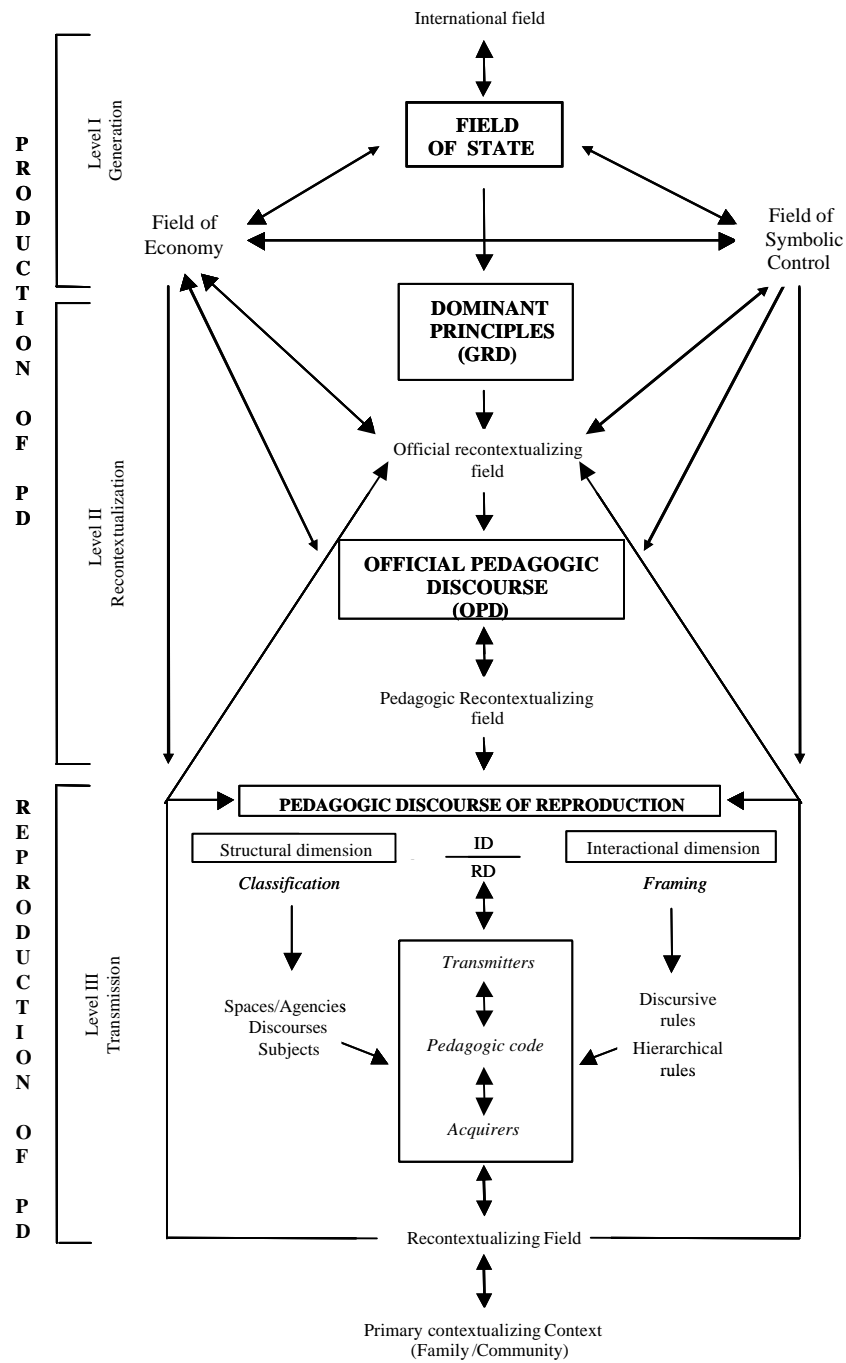


Figure 3 –Bernstein’s model of pedagogic discourse (1986, Adapt. by Morais & Neves)

Focusing on the distinctive characteristics which constitute and distinguish the specialised form of communication which is realised by pedagogic discourse, this model shows the

multiple and complex relations which intervene in the production and reproduction of such discourse. In the model, the production of official pedagogic discourse is seen as the result of relations which are established at the generative and recontextualising levels of general regulative discourse. The general regulative discourse contains the dominant principles of society and is generated as a result of the relations and influences between the State field and the fields of economy (physical resources) and symbolic control (discursive resources). It is also, to a lesser or greater extent, under international influence. The State functions at the generative level to legitimise the principles of distribution of social power and control which are incorporated in official pedagogic discourse. However, official pedagogic discourse is not the mechanical result of the dominant principles of society because these principles undergo a recontextualising process. In this recontextualising process, two fields intervene directly—the *official recontextualising field*, which is directly controlled by the State, and the *pedagogic recontextualising field*. They are both influenced by the fields of economy and symbolic control and their main activity is the definition of the *what* and the *how* of pedagogic discourse. When pedagogic discourses produced at the level of the official and pedagogic recontextualising fields are inserted at the transmission level, they can still undergo a recontextualising process dependent on the specific context of each school and the pedagogic practice of each teacher. In this way, the discourse reproduced in schools and classrooms is influenced by the relationships which characterise its specific transmission contexts. It can also be influenced by relations between schools and family and community contexts.

The model suggests that the production and reproduction of pedagogic discourse involve extremely dynamic processes. On the one hand, the dominant principles which are conveyed by general regulative discourse reflect positions of conflict rather than stable relationships. On the other hand, there are always potential and real sources of conflict, resistance, and inertia among the political and administrative agents of the official recontextualising field, among the various agents of the pedagogic recontextualising field, and between the primary context of the acquirer and the principles and practices of the school. Furthermore, teachers and textbook authors may feel unable or reluctant to reproduce the educational transmission code underlying official pedagogic discourse. It is this dynamism which enables change to take place. According to Bernstein, a pedagogic device which offers greater recontextualising possibilities through a greater number of fields and contexts involved,

and/or a society characterised by a pluralistic political regime, can lead to a higher degree of recontextualising and, therefore, to greater space for change.

At the level of the transmission of the discourse, the code, a concept central to Bernstein's theory, comes out in its pedagogic dimension as the principle which regulates the relation between transmitters and acquirers (be they teachers-students, parents-children, teachers educators-teachers) which takes place, during a given period of time in specialised contexts/spaces. The pedagogic discourse is defined by the relation ID/RD in which ID corresponds to the instructional discourse, related to the acquisition of knowledges and cognitive competences, and RD corresponds to the regulative discourse related to the acquisition of values, norms of social conduct and socio-affective competences. The pedagogic discourse is transmitted in the context of pedagogic relation according to practices whose characteristics are a function of the code which regulates that relation.

The form of specialisation of educational communication is regulated by the pedagogic code, this meaning that the pedagogic discourse, present at the various levels and in various educational agencies, contains a sociological message which is a function of the code modality that regulates the pedagogic interaction (being, at the same time, regulated by that interaction). From this point of view, the pedagogic code may originate diverse forms of pedagogic discourse (and practice) and its social contexts, depending on the distribution of power and principles of control.

The concepts of classification and framing, used to explore distinct contextual realisations of the coding orientation (restricted or elaborated), come here as fundamental concepts to make the crucial distinction between the power and control dimensions which underly the structure of the formal educational knowledge. A code of educational knowledge is a principle which models a given curriculum, pedagogy and evaluation, and as such, the typology of pedagogic codes (invisible reality) derives from the distinction between the types of curriculum (visible reality). Thus, on the basis of two extreme types of curriculum (collection and integration), it is possible to characterise, by using the concepts of classification and framing, the general codes that underly them – collection code and integration code. When classification is strong (collection code), contents are well insulated by sharp boundaries; when classification is weak (integration code), the insulation between contents is reduced as boundaries are blurred. Classification refers to the degree of maintenance between contents, the strength of the boundary being the critical distinctive

feature of the division of educational knowledge. Framing tends to be strong in a collection code because there are reduced options available to teacher and students concerning the control of what is transmitted and acquired in the context of the pedagogic relation. In an integration code, framing tends to be weaker, teachers and students having a range of options in the context of the pedagogic relation.

A change from collections codes to integration codes may correspond to a change in the form of control and yet power relations are not altered. If integration codes may be considered as technological procedures, they may also correspond to potential matrixes of change to alter the distribution of power and the principles of control. This explains why integration codes may be supported by groups with radically distinct ideologies.

Let us now concentrate on specific pedagogic social contexts, namely the classroom/school. These contexts are defined by specific power and control relations between subjects, discourses, and agencies/spaces (Figure 4). The interactional dimension of a context is given by relationships between its subjects, the organizational dimension by those between subjects, discourses and spaces. Classification is used to analyse the organisational dimension and framing is used to analyse the interacional dimension of pedagogic contexts.

CATEGORIES	RELATIONS	POWER/CONTROL
<i>Spaces</i>	Teacher-student Student-student	
<i>Discourses</i>	Between disciplines Within a discipline	C_iF_i
<i>Subjects</i>	Teacher-student Student-student	
<i>Agencies</i>	School – family/community	
<i>Discourses</i>	Academic – non-academic	C_eF_e
<i>Subjects</i>	Teacher – parents	

i – internal
e – external

Figure 4 —*Specific power and control relations in pedagogic social contexts.*

Particularly important at the level of the interactional dimension and within the teacher-student relation, are the relations which refer to *selection* of knowledges and competences, *sequence* of learning, *pacing* i.e. expected rate of acquisition, and *evaluation criteria*, i.e. the criteria that determine the production of the legitimate text. The principles underlying these relations are jointly designated by *discursive rules* as they refer to the principles which regulate the transmission-acquisition of the *specific instructional discourse* (SID) – e.g. Biology, History, Arts, etc. However, the transmission-acquisition of attitudes and values, that is the *specific regulative discourse* (SRD) is also regulated by discursive rules. In the first case, we speak of an instructional practice to the instructional discourse and in the second case of an instructional practice to the regulative discourse.

The discursive rules refer to the control that transmitters and acquirers may have in the process of transmission-acquisition and the concept of framing allows to determine the nature of control for each one of the rules. For example, concerning the discursive rules which regulate the SID, framing will be strong if the teacher (transmitter) has control upon the subjects and activities (selection), the order followed by learning (sequence), the time given to learning and if s/he makes clear to students the text produced as the result of learning (evaluation criteria). Framing will be weak, when the student (acquirer) has some control upon selection, sequence, pacing and evaluation criteria.

In order to characterise the pedagogic practice, again in the teacher-student relations, *hierarchical rules* are also crucial. They regulate the form of communication between subjects with distinct hierarchical positions (as it is the case of teacher and students) and which refer to the control that the subjects in interaction may have upon the norms of social conduct. In this case, a weak framing means, for example, that the student may criticize teachers' practices, the teacher explains the reasons why the student should behave in a given way, etc., appealing therefore to an interpersonal relation – *personal control*. A strong framing characterises a *positional control* in which the teacher appeals to given rules and statuses. When the teacher uses orders, admonitions, verbal or physical, as a form of leading students to behave in a given way, without providing reasons, the control is *imperative* and, in this case, framing is very strong.

At the level of the structural dimension of the pedagogic code, in the classroom context, various relations can be considered: (a) between subjects – teacher-student and student-

student; (b) between discourses – intradisciplinary relation, interdisciplinary relation and relation between academic and non-academic knowledges; (c) between spaces - teacher's space–students' space and spaces of different students. These relations may be characterised by distinct values of classification. For example, a weak classification of the student-student relation means that boundaries are blurred between students of different social groups (social class, gender, race, school achievement) and a weak classification between spaces of different students means that they share physical and material spaces. Contrary, a strong classification means the existence of hierarchies between students themselves and very sharp boundaries between spaces and material. The relation between teacher's space and students' spaces may be characterised by different values of classification according to the existence of a separation (strong classification) or proximity (weak classification) of those spaces. The teacher-student classification is always strong, given the high status of the teacher in the pedagogic relation. Thus, differences in the teacher-student relation correspond to strong degrees of classification of a greater or smaller degree of intensity.

With regard to the relation between discourses, there is a weak classification at the intradisciplinary level when boundaries between the several contents of a given discipline are blurred, this giving rise to an interrelation between its contents to achieve more and more broad concepts. A strong classification corresponds in this case to a separation of the contents, this giving rise to a sum of facts without explicit interrelation between them. At the interdisciplinary level, there is a strong classification when a relation of the contents of a discipline with contents of other disciplines of the curriculum does not exist, whereas classification is weak when that interrelation is present. In the first case we are in the presence of a collection code and in the second case we are in the presence of an integration code, underlying respectively a collection and an integration curriculum. It is important to notice that in a collection code, the classification will always have a strong value as, even when relations with knowledges of other disciplines exist, it is the knowledge of the discipline in question that has higher status; the differences will not lie on a weak or strong classification but on a more or less strong classification. The same applies to different classifications that may exist at the level of the relation between academic and non-academic knowledge – in the school context it is the academic knowledge that has higher status and therefore the possible relations with the non-academic knowledge correspond to different degrees of an always strong classification.

Classification and framing refer either to relations within a given agency (internal C and F) or to relations between agencies (external C and F) and can vary according to different degrees of power and control in the relations between categories. Variations in classification and framing at various levels and in the coding orientation itself determine specific modalities of code. These modalities of code regulate specific pedagogic practices, either in the school or in the family.

The classification and framing relations in school contexts presented in Figure 4 apply equally well to family contexts, provided we change teacher by mother/father, student by child, and disciplines by family knowledges. They also apply to teacher education contexts, exchanging teacher by trainer, student by teacher, parents by other agents, school-family/community by teachers' educational agencies/external agencies, and non-academic knowledge by teachers' practical knowledge.

Vertical and horizontal discourses

In a more recent development of his theory, Bernstein focus on the *forms* of the discourses, that is in the internal principles of their construction and in their social basis, that are subject to pedagogic transformation. He relates the internal structure of specialised knowledges, the positional nature of their fields or practices arenas, the construction of identities and their change and the forms of acquisition for successful performances.

Bernstein starts from the distinction between 'horizontal' and 'vertical' discourses and considers, as the criteria for their definition, the distinct 'forms of knowledge' which are realised in the two discourses. The *horizontal discourse* corresponds to a form of knowledge which is segmentally organised and differentiated. Usually understood as the everyday or common sense knowledge, tends to be an oral, local, context dependent and specific, tacit and multy-layered discourse. The *vertical discourse*, referred as school or official knowledge, presents the form of a coherent, explicit, hierarchically organised structure (as in the case of natural sciences) or the form of a series of specialised languages with specialised modes of questioning and specialised criteria of production and circulation of texts (as in the case of the social sciences and humanities). In the context of formal education, the distinction between the horizontal and vertical discourses corresponds to the distinction that

is usually made between non-academic and academic knowledge, between local and official knowledge, the two discourses being ideologically positioned and differently evaluated.

Given the distinct nature of the horizontal and vertical discourses, the form taken by pedagogy and, consequently, the mode of acquisition of those discourses, has distinct characteristics. In the case of the horizontal discourse, knowledges to be acquired are related not by the integration of their meanings through a given coordinating principle but through the functional relation of segments or contexts to the everyday life. This means that what is acquired and the form how it is acquired in a segment or context may not have any relation with what is acquired or how is acquired in another segment or context. For example, to learn how to do one's shoes laces has no relation with to learn how to use the bathroom correctly. In this way, the segmented organisation of the knowledges of the horizontal discourse leads to segmentally structured acquisitions, where there is no necessary relation between what is learned in the different segments of this discourse. Furthermore, the pedagogic practice may also vary according to the segments and, depending on social groups/classes, similar segments may differ in the modality of code which regulates acquisition. The emphasis of this segmented pedagogy of the horizontal discourse lies, in general, in the acquisition of a common competence and not in a graded performance.

The integration within the vertical discourse is not made at the level of the relation between segments/contexts but at the level of meanings. Consequently, the procedures of the vertical discourse are not horizontally interrelated by the contexts but hierarchically interrelated to other procedures. Given the fact that the vertical discourse does not consist of segments culturally specialised but of specialised symbolic structures of explicit knowledge, the official or institutional pedagogy of the vertical discourse is a process that takes place along the time. The social units of acquisition of this discourse have an arbitrary basis different from the arbitrary basis of the social units of the segmented pedagogy of the horizontal discourse, being constructed, evaluated and distributed by different groups and individuals and structured in time and space by principles of recontextualisation. Whereas in the horizontal discourse there is contextual specificity through 'segmentation', in the vertical discourse there is contextual specificity through 'recontextualisation'.

Bernstein distinguishes two modalities of knowledge within the vertical discourse – *hierarchical structures* and *horizontal structures* of knowledge. The hierarchical structures

of knowledge (as in the case of natural sciences) correspond to forms of knowledge which are characterised by integrating propositions and theories that operate at more and more abstract levels, so that as to explicate the uniformity underlying an extense range of apparently distinct phenomena. The horizontal structures of knowledge (as in the case of social sciences and humanities) are characterised by a series of specialised languages with their specialised modes of questioning and with specialised criteria for the production and circulation of texts. Whereas in the hierarchical structures of knowledge there is an integration of language, in the horizontal structures of knowledge there is an accumulation of languages. From the point of view of the development of these two forms of knowledge, the opposition between theories in the hierarchical structures of knowledge is, in some way, analogous to the opposition between languages in the horizontal structures of knowledge.

If we take Biology as an example of knowledge of a hierarchical structure, we can say that the theory of evolution or the cell theory contain principles which integrate and unify ideas related with a set of biological phenomena and that the development of these theories results from a more and more broad conceptualisation of former theories about the same phenomena. The development of a conceptual language in Biology, as in any knowledge of a hierarchical structure, may imply the refutation of former positions or incorporation of former positions into more general propositions but, in any case, it corresponds to a development which occurs according to a hierarchical structure.

If we take Sociology as an example of knowledge of a horizontal structure, we can say that functionalism, pos-structuralism, pos-modernism, etc, correspond to distinct languages within that area of knowledge which are not transmutable, as each one of them starts from distinct and sometimes opposed assumptions. Thus, whereas the development of hierarchical structures of knowledge corresponds to the development of successfully more general and integrating theories, the development of the horizontal structures of knowledge corresponds to the introduction of a new language, with a new set of questions, relations and with an apparent new problematic and with a new set of theoreticians/speakers.

In the case of the horizontal structures of knowledge, there is also a difference between those knowledges which have an internal language of description with strong grammars (e.g. economics, mathematics, linguistics and parts of psychology) and those which have an internal language of description with weak grammars (e.g. sociology, social anthropology and cultural studies). That difference lies in the fact that the former possess an explicit

conceptual syntax which has the potential of generating relatively precise empirical descriptions and/or the construction of formal models of empirical relations. Another aspect which distinguishes among horizontal structures of knowledge is related to the number of internal languages that characterise these structures, being smaller in the case of the structures of knowledge of strong grammars.

Speaking about these distinctions, Bernstein intends to make evident the internal principles of the construction of distinct areas of academic knowledge which are the subject of pedagogic transformation. He also gives special attention to the problems of acquisition of different forms of knowledge. He says that, within the hierarchical structures of knowledge, the acquirer is not concerned with the problem of knowing if s/he is talking about physics or writing about physics but with the correct use of physics. Since this form of knowledge is characterised by a strong grammar, that grammar makes visible its subject and, for the acquirer, the passage from a theory to another does not indicate a breaking of language but simply an extension of the explanatory and descriptive power of the language. In the case of the horizontal structures of knowledge (as in the social sciences), the problems of acquisition exist, in particular, when the grammar is weak.

The languages of the horizontal structures of knowledge tend to be redundant and may be called retrospective languages. The hegemonic conceptual relations they generate have the past embedded in them and, for that reason, their descriptions refer to something that belongs to the past. However, in conditions of rapid social change, what it is to be described is not describable or is only inadequately describable in a retrospective language. In order to support the fact that the languages of the horizontal structures of knowledge are retrospective, Bernstein considers that those who contribute to the horizontal structures of knowledge have no means to insulate their constructions from the experiences constructed by the horizontal discourse. As a consequence of their acquisition, the horizontal structures of knowledge tend to originate speakers obsessed by problems of language which in their turn will be used to construct, destruct, state and, as such, reproduce the positional structure of a given intellectual field. This obsessive orientation is particularly accentuated where the derivations of the specialised language give rise to very weak powers of non ambiguous specific empirical descriptions. Weak powers of empirical descriptions remove a crucial source of either development or rejection of a particular language and, in this way, they contribute to their stability as a frozen form.

Within the weak grammars of the horizontal structures of knowledge, a distinction can be made on the basis of the form according to which they are transmitted and acquired. In the case of the social sciences, transmission is explicit and refers to a pedagogy which makes explicit (or tries to do it) the principles, procedures and texts to be acquired. In the case of the arts, transmission is tacit, according to a pedagogy where the showing and modeling precedes the making. This is the structure of knowledge which is closer to the horizontal discourse (non academic, local discourse), emerging as a specialised practice to satisfy the material demands of its segments.

As part of the movement to make specialised knowledges more accessible to youngsters, the segments of the horizontal discourse are recontextualised and inserted in the content knowledge of school disciplines. However, such recontextualising does not necessarily lead to a more effective acquisition. When segments of the horizontal discourse become resources to facilitate the access to the vertical discourse, such appropriations are probably mediated through the distributive rules of the school. The recontextualisation of the segments is limited to specific social groups, usually the 'less able'. This movement to use segments of the horizontal discourse as resources to facilitate the access, usually limited to the processual or operational level of a discipline, may also be related to the 'improvement' of students competence to deal with students' everyday emergent themes (health, labour, domestic skills, etc.). Here, the access and relevance are restricted to the level of strategy or operations derived from the horizontal discourse. Vertical discourses are reduced to a set of strategies that become resources which allegedly improve the efficiency of the repertoires made available in the horizontal discourse. However, another motive may exist. The horizontal discourse may be seen as a crucial resource to the pedagogic populism in the name of giving power to or listen to the silenced voices, in order to fight the elitism and alleged authoritarianism of the vertical discourse. It is offered to the students an official context where it is spoken what is thought that students are. The change from equity of equality ('of opportunity') to the recognition of diversity (of voice), may well be responsible by the colonisation of the vertical discourse or by the appropriation of the horizontal discourse by the vertical discourse. This raises an interesting question of the implications for equality of the recognition and institutionalising of diversity.

An interesting aspect which comes out of the conceptualisation about the difference between hierarchical and horizontal structures of knowledge is related to the form how teachers of

areas of scientific knowledge are socialised. Experimental sciences are hierarchical structures of knowledge. Theories of instruction (social sciences) are horizontal structures of knowledge. That is to say, *the what* that is to be taught in science classes is quite distinct in its structure from *the how* that is to be taught. Science teachers and educators have been primarily socialised within specific hierarchical structures of knowledge and they have always found some difficulty in accepting knowledges characterised by parallel languages. This primary socialisation prepares science teachers and educators to *the what* of teaching and learning. However, *the how* of teaching and learning requires from teachers a further socialising process in the horizontal structures of knowledge. To reconcile them, teachers have to make a 'big jump', especially when passing to horizontal structures characterised by weak grammars. This may be one of the reasons why science teachers, science teachers' trainers and science educational researchers have not shown much interest for subjects like sociology.

However, because of the stronger grammar that appears to characterise some aspects of psychology, science educators have accepted them more willingly as knowledges for grounding science education than 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. This may constitute a serious problem for improving science education because sociological analysis is then, in general, discarded as non relevant.

Bernstein's theory constitutes a remarkable exception. This theory, which departs from other sociological theories in many aspects, can be seen to be 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, p.164) 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 tendency 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 likely to be those who have an interest in the sociological, mainly (but not only) the Vygotskian followers, and who have found in Bernstein's theory a 'form of thinking' closer to the hierarchical structures in which they were socialised.

The theory in the framework of the empirical research

One of the important aspects of Bernstein's theory, and which expresses his epistemological position in the field of empirical research, refers to the model of the methodology he defends as the 'motor' of the development of a theory.

On the basis of a reflection about the opposite modes of inquiry, that is about the quantitative and qualitative methods of research, Bernstein uses the concepts of internal and external languages of description to propose a model of methodology in sociological research which has the potential to allow a reflexive dialectical relation between the concepts contained in a theory (internal language) and the empirical data one intends to analyse. He defines language of description as a scheme of translation through which a language is transformed in another language and he associates the internal language of description to the synthax through which a conceptual language is created (theoretical model) and the external language of description to the syntax through which the internal language may describe something more than itself. In other words, the external language of description is the means through which the internal language is activated, functioning as the interface between the empirical data and the concepts of the theory.

The language of description should not be confounded with content analysis, as this is, in general, interested in apparently self proclaimed contents. The principles of description construct what counts as empirical relations and transform those relations in conceptual relations. A language of description construct what counts as empirical referents, how these referents relate to each other in order to produce a specific text and how these referential relations are transformed in theoretical objects or potential theoretical objects.

To synthesise, the methodology of research, as suggested by Bernstein, rejects both the analysis of the empirical without an underlying theoretical basis and the use of the theory which does not allow for its transformation on the basis of the empirical. He defends the development of an external language of description where the theoretical and the empirical are viewed in a dialectic way. The theoretical models, the language of description and the empirical analysis interact transformatively to lead to greater depth and precision.

Figure 5 shows these relations between the components of the research schematically.

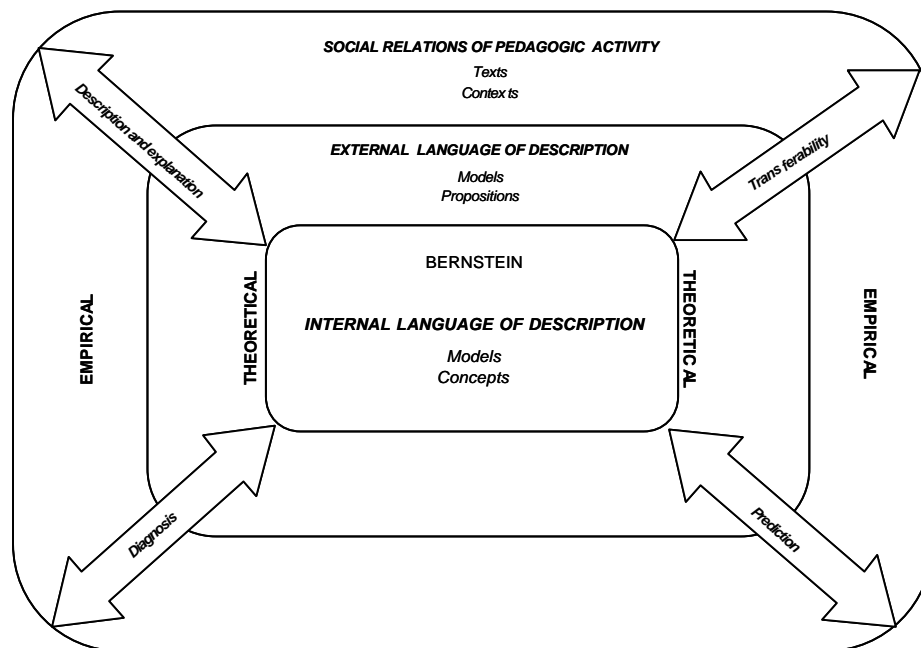


Figure 5 – *Sociological methodology of research (Morais & Neves, 2001).*

The diagram entails the following conditions:

- a) The internal language of description is constituted by a theory or set of theories (e.g. Piaget, Vygotsky, Bernstein) which contain concepts and models of a high level of abstraction.
- b) The external language of description is constituted by propositions and models derived from the internal language of description, now with a higher degree of applicability. It is the external language of description which activates the internal language of description (Bernstein, 2000).
- c) The internal and external languages of description constitute the theoretical level of the research methodology.
- d) The social relations of pedagogic activity refer to pedagogic texts and contexts and constitute the empirical level of the research methodology.

The arrows in the model intend to represent the dialectical relation between the theoretical and the empirical – the internal language of description directs the external language of description and this directs the practical structuring of research and the analysis and interpretation of results. Inversely, the results obtained at the various stages of the empirical

work lead to changes of the external language of description, so that its degree of precision is increased. In turn, the external language of description, encompassing changes originated by the empirical, leads to changes of the internal language of description. In this way, the three levels constitute active, dynamic instruments which undertake changes in a real research process.

Whereas orthodox quantitative research has placed the focus on theory, orthodox qualitative research has placed the focus on practice/the empirical. At their extremes, these two research modes are separated by strong classification: quantitative research attributes higher status to theory and qualitative research attributes higher status to practice/the empirical. The dialectical relation between the theoretical and the empirical intends to weaken this classification, considering theory and practice to be equally important for sound research. However, this dialectical process is only possible when the internal language of description is sufficiently strongly conceptualised to contain the power to diagnose, describe, explain, transfer and predict.

It should be highlighted that the development of this methodology of research is intimately dependent on the potentialities offered by the theory (internal language of description) where it is grounded and that the development of the theory depends on the potentialities offered by the models/propositions (external language of description), constructed on the basis of the dialectics of the theoretical and empirical. Bernstein's theory, possessing a conceptual structure which contains potentialities of diagnosis, prediction, description, explanation and transference, provides a powerful internal language of description. This strong internal language of description contributes to the development of an external language of description which permit to broaden the relations under study and to increase the level of conceptualisation of the analyses to be made.

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