STUDENTS' VIEWS OF THEIR ASPIRATIONS IN A FLEXIBLE-RIGID ARCHITECTURE PROGRAMME IN MEXICO CITY: A CASE STUDY

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Abstract

This research is concerned with the aspirations -goals, hopes and desires- of architecture students. The twenty eight students investigated studied in a student-centred, problem solving programme based upon multi-disciplinary work in Mexico City. Most participant students' mid-level education was in teacher-centred pedagogies. Despite the importance of Bourdieu's capital volume concept –reading, museum visits, knowledge of the arts, listening to classical music, educational qualifications, parents' studies and jobs, prestige, as well as social connections- little empirical research has been conducted using this concept in relation to that of educational codes and with that of aspirations, within sociology and much less within architectural research. Educational codes, in Basil Bernstein's theory, are the principles that through the curriculum, pedagogy and evaluation of a degree programme shape a student's views.

The research purpose is to identify what generates some students' dissatisfaction with the flexible or student centred and problem solving pedagogy. The thrust of the thesis is to show how students' previous educational codes, their capital volume along with the blurred expectations the social system offers to them builds their aspirations (subjective experiences) and how these influence the choice of their priorities that in turn define their advancement in a flexible-rigid architecture programme. Each participant was investigated and analysed as case study on three stages of her/his higher studies. Data were collected through a combination of open interviews, sentence completion questionnaires, observations and school records. Students' answers were analysed to find patterns in the interconnection of their personal and contextual factors impinging on their educational trajectory.

Each student's capital volume was defined to locate them in Bourdieu's representation of the social space to gain insight of their nearness and farness to satisfy material and symbolic needs (objective conditions). The students' responses were analysed using Bernstein's constructs of classification (power) and framing (control) to identify their orientations to meaning and learning. Students with higher levels of economic capital have lower levels of cultural capital than students in less favourable objective conditions. The thesis demonstrated that students with higher levels of economic capital, or in favourable objective conditions, but with scarce cultural capital are more oriented to things than to people and delayed his/her educational trajectory more than the students in less favourable objective conditions.

The patterns of interconnections between students' objective conditions, orientations and marks were made explicit introducing a language of description from the sociology of aspirations. A language of description is understood as a language necessary for making the tacitly constructed explicit "in a non-circular way" (Bernstein, 1996: 135-136). Three levels of cultural, educational and professional aspirations drawn from literature in the field were combined to conceive students' aspirations level. The thesis demonstrated that students in higher social positioning have lower aspirations levels and lower performance than those in lower social positioning. In the last type of students excellent or very good performance replicates.

Students whose previous educational codes were less flexible than that of the architecture programme held low aspirations levels and dysfunctional cultural principles (codes). Students who studied high school in a flexible educational process learn to prioritise their goals, becoming more realistic, open to accept ambiguity and diversity. Students identified strategies for improving the teaching-learning process some of which is outside of the design studio. The research contributed in a methodological and conceptual nature by explaining, in a non-circular way, how the interconnection of architectural students' previous pedagogic codes, their objective conditions and subjective experiences influence their learning in a flexible-rigid educational context.

Declaration

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Introduction

In this thesis I investigated empirically twenty eight architecture students' views of their aspirations in three stages of their programme at the Southern campus (UMXS) of the State funded *Universidad de Mexico* (UMX) (a pseudonym) in Mexico City. The aim of the research was to explain the students' dissatisfaction with the pedagogic process of the architecture programme. My overall goal was to show how the relationship of students' previous schools types, with their cultural capital interplay with their aspirations. Further, I sought to ascertain how the students' educational backgrounds in interplay with the expectations the social system offers to them affected their progress in an, ideally, flexible architecture programme. My final goal was to probe the students' views in order to find their cultural principles (codes) for learning.

In 1974 the UMX was created as a contribution to solving what was then perceived as a "crisis of the higher education in Mexico" (Bojalil, 1981: 323; Lopez, 2000: 3-4). This complex moment was attributed to social contradictions brought about by industrial and urban development (Ibid.). The social contradiction manifested itself through students revolt in 1968 and 1970 motivated President Luis Echeverria Alvarez to look for a different kind of university, a "metropolitan, autonomous, and innovative" university (*sic*) (Villareal, 1974: 6). 'Innovative' meant to operate by departments and programmes linking research with teaching within an open curricular structure that could attend the interests of students and Mexico's needs (Villareal, op cit: 6-9; Lopez, op cit: 50).

The degrees to be completed in four years length (five years for medicine) through twelve modules that are three months long, was considered another innovation, as the common length "in all the country's universities was five or six years" (Ibid: 70). It was also said that this organization would make possible a "more democratic university", "academically sound with easy accesses to modern investigation" (*sic*) (Villareal, op cit: 8; Bojalil and Molina, 1985:17). One way of approaching 'democracy' within the university was, and still is, the inclusion of students' representative in the committee of the Departments and Faculties. Another example is the right a student has to request further revision of a failed grading (*Legislacion Universitaria*, 2006, arts. 72, 73, 74: 164). These examples of democracy and other University's characteristics have not been investigated from the perspectives of students.

The contexts

Interaction between students and the educational setting has changed the definition and the way of studying classroom context (Turner and Meyer, 1999: 87). While contexts are viewed as significant in providing the socio-cultural conditions which support individual's participation in interacting systems, defining 'context' is still a complex task that is dependent on the research questions being asked (Greeno, 1998 cited by Volet, 1999: 185; Turner and Meyer, op cit: 87). Empirical research on higher education in Mexico concerned with students' opinions is scarce (Muredu, 2008: 70). One empirical study investigating academics suggested that at the end of the 1970's the Mexican public university was a channel of transmission of "scientific ideology" (Lomnitz and Fortes, 1991: 12).

However, the context of their study was a traditional Mexican university –not the University acting as context of my research. Of this University's four campuses the Southern one (UMXS) was opened months later with a different educational programme from the Northern (UMXN) and South-Western (UMXSW) campuses (Lopez, op cit: 40). A fourth campus was open in 2005. The creators of the UMXS wanted a university more flexible, more active where "teaching would always be close to **reality** (my emphasis)" (Lopez's interview to this University's first rector). In the UMXS discourse reality refers to Bunge's conception of "several levels" or fields with their own laws and properties (Villareal, op cit: 17-18; Beller w/d: 2; Guevara in Martinez, 1992: 37). The levels considered "seem to be the physical, biological, psychological, and socio-cultural" (Villareal, op cit: 18).

In order to understand reality or real problems as a knot of several factors one has to approach its understanding with concepts from and integrated across each of these fields of knowledge. The *documento* (Villareal, 1974) is the seminal book of UMXS itself and its discourse. The *documento* states that contemporary university is concerned with "analysing its interplay with the social structure by means of critical reflection and creative action" (Villareal, op cit: 7). This "alternative" to traditional education proposes the need "to review deeply the relationships between the sciences and its effects" in order to reincorporate research to the university. Its main application in teaching is to shape students as "the craftsman of their own configuration" (Ibid).

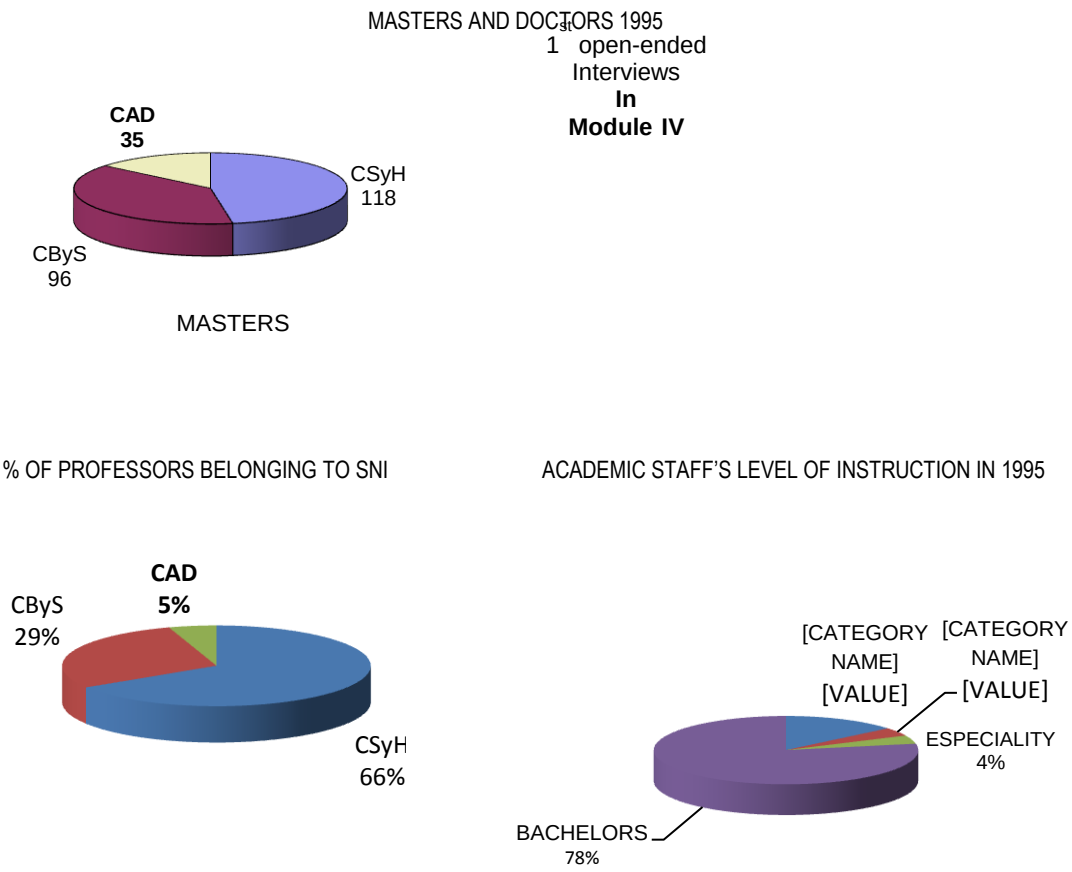
In UMXS the programme for all undergraduate degrees starts with three modules of multidisciplinary teamwork. The first module is the same in all undergraduate programmes. For architecture students the second and third modules deal with industrial, graphic and human settlements design. They are followed by nine modules

in architectural design. The duration of the UMXS architecture programme term is eleven weeks with two additional weeks for evaluation. The eleven-week term length is eight weeks shorter in comparison to most, if not all, public and private schools of architecture in Mexico City. However UMXS's Legislation allows students to complete their degree in ten years through part-time study. This pace of learning can be considered relaxed. The contrasts between the short eleven-week terms and the four-to ten-year duration of undergraduate degrees leads me to call the USMX system flexible-rigid.

As of 1995 staff members of the architecture programme have argued that the Design School (*Ciencias y Artes para el Diseño* (CAD)) has played an important role within the process of innovation at UMXS. However, since the economic and social crisis of 1982 their projects and development had faced larger difficulties than before (Pradilla, 1995: 2).The academics suggested that the quality of teaching in the Design School was "stagnant and weak", and, more widely, that the Southern campus was "in crisis" (Pradilla, op cit: 6; Sirvent, 1994: 4). One of the causes of this situation, besides Mexico's non-fluent economic condition, was the low academic level of staff members which is reflected by their lack of published research out-put. This argument is supported by one academic who maintained that of the three divisions at UMXS, CAD has the least number of teachers with a masters or doctoral degree (Pradilla, op. cit: 2-4). CAD is also recorded as having a low number of published papers and, as a result, the lowest percentage of teachers registered with the National System of Researchers (*Sistema Nacional de Investigadores* (SNI)) (ibid.) as shown in Figure 1.1.

The indicators that one of the academics gave to support this argument was that of the three divisions of UMXS, CAD has the least number of teachers with Masters or Doctoral degrees, it has the less number of scientific or artistic published papers and [as a result] it has the lowest percent of teachers who are a part of the National System of Researchers (*Sistema Nacional de Investigadores* (SNI)) (Pradilla, op cit: 2-4). Figure 1.1 shows this information. The UMXS as context can be ideally characterized similar to pedagogy with weak classification and framing or integrated code as defined by Basil Bernstein (1971a, 1971b, 1975, 1990 and 1997). **Code** is a site of contradiction, challenge and change (Bernstein, 1975: 24). Code is "a regulative principle, tacitly acquired, which selects and integrates relevant meanings, the form of their realization, and evoking contexts" (Bernstein,

Fig. 1.1 UMXS and School of Design academics' data.
After: Pradilla, 1995: 3.



1990:14; 1997: 111). Bernstein's concept of code is useful for examining the Mexican context where verbal communication can be rather spontaneous and a channel to disguise something and a complement to body language[1]. In Bernstein's terms an educational code with weak classification (or C -) and weak framing (or F-) means that students can follow several subjects and set their own pace of learning.

This flexible process works as a hidden pedagogy, a practice where the rules and criteria of learning, as well as the relations between teachers and students, are implicit and not known to the students. This kind of learning process has also been defined as "'progressive" where the emphasis is on students' "ways of knowing" or "self-initiated learning and creative activities" (Bernstein, op. cit; Freeman, Butcher and Christie, 1968: 104). The "invisible pedagogy" identified with flexible learning is distinct from teacher-

[1] Forty years ago Octavio Paz highlighted this characteristic of Mexicans when he analysed the production of the Mexican intellectuals in their struggle to provide conceptual basis for understanding themselves more deeply ([1959] 1990: 143).

directed learning or “visible pedagogy” as Bernstein and other scholars named it (1990: 213; Martin, 1990: 124). In the context of this thesis it is important to consider Bernstein’s suggestion that invisible pedagogy is likely to create a pedagogic code “more difficult, initially at least, for disadvantage social groups” to understand, use and control (1990: 79). Since USMX was created to attend to the educational needs of disadvantaged social groups an investigation of the concept of invisible pedagogy underpins this thesis.

A problem in tertiary education

Within the Mexican context it has been acknowledged that the construction of a solid conceptual structure to differentiate socio-economic groups remains at large. This situation will probably continue so since the social transformations brought about by industrialization and urbanization transform and transport the indicators from a group to another (Gonzalez, 1965, 2001; Boltvinik, 2006). Mexico’s society can be defined in Bernstein’s terms as a system of agents with similar skills performing common tasks (C+) individually (F+)(1975: 182-183). This restricting major context offers students dark expectations as lack of jobs, poor pay without benefits or holidays are combined with long working hours (Muñoz, 2011: 3).

Anecdotal evidence from my experience of more than fifteen years as researcher teacher in UMXS’s architecture programme suggest that students find that ‘the modular system is confusing’. For instance, students worry whether a subject is about construction or a structure’s stability. Students also complain when a teacher’s pedagogy is ‘very open and flexible’, i.e. when he or she follows the pedagogic principle of centring on students work – from compiling information concerning the project to summarizing and presenting it in class. Bernstein’s analysis of educational codes types provides possible explanations for the students’ confusion in the USMX’s architecture programme. One source of student dissatisfaction is a lack “of consensus” (1973: 84) among staff regarding the pedagogic principle of integrating knowledge from diverse disciplines. Another source of student discomfort is a lack of “clear criteria of evaluation” (ibid.).

The architectural students conflicting situation is linked to the fact that most of them studied the basic, secondary and high school (*prepa*) levels in educational codes different from that of USMX. These three learning periods represent twelve years studying in rigid educational contexts where they were given defined subjects, criteria of evaluation and control over the place and time for studying or resting. In these three learning periods principles of classification (**power**) and **control** (framing) are rigid following and producing strongly insulated categories and interactions; a collection code or C+ F+ in Bernstein’s signs. The twelve years architectural students studied in a collection code process before

enrolling at the USMX is necessary to consider as one of the factors impinging upon their performance. This twelve years period is the same that in other geographical contexts has been acknowledged to be “very important” in affecting the real level of education, that is the ”level of knowledge” a student possess (Girod, 1990: 9, 70).

The conflict of the USMX’s architectural students seems to be further complicated by the eleven weeks of the term’s duration. Researchers from the field of architectural design and education have suggested that **time** is a key factor for designing or being creative; to reduce the time needed to acquire knowledge to understand the relationship of all factors related to the design, forces the student away from learning and closer to application (Freeman, Butcher and Christie, 1968: 41; Reinhart Koselleck, 1985 cited by Bassani, 1998; Oliver et al in Jackson, 2006: 51). In other words if a student’s ego is not relaxed it cannot release the preconscious to be **creative** (Kneller, 1965: 29, 33-34). The contrasts between the short term’s duration with the degree’s length of ten years can be represented in Bernstein’s signs as C – F+-; where the sign + of the framing component refers to the terms’ eleven weeks duration whilst the sign – represents the degree programme’s length of ten years.

Theoretical framework and issues

Educational practices are not isolated actions within a society since human beings are part of a particular social system whose institutions seek to educate younger generations’ progressive socialization without losing his or her thought’s characteristics and spontaneous efforts (Durkheim, 1922: 53, 77; Vygotsky, 1962: 84; Piaget, 1969: 30, 99)[2]. This principle for theoretical and empirical approaches posed the need for researching the way students from different social backgrounds and schooling within a dominating economy learn. The process of education at a university level, or “secondary socialization” (Berger & Luckmann 1972: 157) can be understood as a “process whereby the biological is transformed into a specific cultural being” (Bernstein, 1971: 174).

Some scholars agree that social relations generates linguistic forms, or codes that transmit culture. Culture can constrain or enable people’s actions that in turn generate social structures (Bernstein 1971: 122; 1990: 13; 1997: 18; Labov, 1972: 110; Giddens, 1976: 155, 161; Boudon and Bourricaud, 1982: 14; Painter, 1999: 66; Martin, 199: 123). Culture is understood in this thesis as an expression of a particular social heredity

[2] As Russell pointed out “The ideal system of education must be democratic, though the individual should not meantime sacrifice his children upon a dead level of uniformity” (1926: 13-14). “Only men of wide culture are capable of appreciating that individual culture has to contribute to citizenship”. “None of the higher mental processes are required for conservatism” (1932: 14-15).

(Chombart de Lauwe, 1969). Culture is to a society, to a group, or to a person a continuous process of supporting an identity by means of a coherence achieved through a consistent aesthetic point of view, a moral conception of the self and a life style that shows these conceptions in the objects, which adorn our homes and us (Bell, 1976). Culture is the site, *par excellence* at stake in a permanent struggle that brings to individuals and to groups, for whom legitimate culture is important, the capability to distance themselves so as not be affected by societal pressures (Bourdieu, 1974a). Culture is a net of "rules formal and informal, which regulate the choices, we take up in the various" situations we find ourselves in (Bernstein, 1977: 172).

Within the social structure universities are a major transmitter of cultural principles, or codes (Bernstein, 1975: 161-163 cites Floud and Halsey, 1958). While Durkheim and other classic sociologists did not address the question of how linguistic forms transmit the culture, they opened the door to approach the problem of the relationship between biological and socio-cultural factors (Bernstein, 1971: 120; Piaget, 1972: 176). However, most sociologists addressed the relationship between these factors using Freudian concepts but neglected language as the channel and the means of social interactions (Bernstein, 1971: 119). This was not the case with anthropologists like Safir whose research was underpinned by the notion that "language is a guide to social reality" (ibid.). In this regard Chombart de Lauwe's theory of aspirations which includes goals, hopes and desires, claims that humans within institutional and social structures as well as within economic systems have a certain degree of autonomy generated by the divergence between people's physiological and biological exigencies and the needs of society (1969: 260).

These conceptual developments raised awareness that the knowledge transmitted by universities has implications for the way students structure their learning experience[3]. The conceptual developments led Bernstein to suggest that students are socialized into methods rather than encouraged to create new approaches, due to the closed type of learning they experience (1975: 85, 157). Other conceptual developments in education led to criticisms of the university for being a reproducer of society's vertical organization (Bernstein, op. cit: 163) which ignored students' cultural background (Bourdieu, 1994: 102-103). Sociologists were included in the criticism since they avoided investigating social relations, as well as "changes in the structure of cultural transmission" (Bernstein, 1975: 85). In the process of cultural transmission, interaction between students and teachers, their discourses and expressions do not manifest only as

[3] In Husserl's view experiencing is consciousness that intuits something and values it to be concrete.

surface features like the institution's selective principles, but in hidden ways such as the students' orientations and codes towards learning and meaning (Bernstein, op. cit: 160).

Hence the task of a sociologist is to render visible the constraints and possibilities society holds for each one of its students or persons (Bernstein, op. cit: 158-160). However within the fields of sociology and education, with several notable exceptions (for example Veness, 1962; Steedman, 1999, Sullivan, 2001; Dee, 2002 and Man Sin Yung, 2002) little has been done to explore the interconnection of students' codes, orientations to learning and meaning, their socio-cultural background, and the pedagogic codes they have been exposed to. Focusing on students' social backgrounds Sullivan (2003: 273) comments that among rational choice theorists (for instance Boudon, 1974; Murphy, 1981; Breen and Goldthorpe, 1997) there is disagreement concerning an agent's social class" as a factor in conditioning their behaviour in education. Sullivan pointed out that no attempt has been made by these scholars to ground their claims about students' attitudes, beliefs and desires towards learning in empirical evidence (ibid.).

In Bourdieu's view the modern university promotes in students from less-favoured classes, unreachable aspirations because they lack "freely acquired culture" such as knowledge of plays, literature, music and other arts. This type of knowledge, or cultural capital, is not considered by universities as necessary to succeed "in certain disciplines", (Bourdieu, 1964: 30; 1979: 120; 1984b; 1997). Bourdieu contended that if students far away from power see that their "subjective aspirations" are unreachable and devalued, they may accept the taken-for-granted order which is another source of their disadvantaged positioning (1970: 56; 1979: 156). Since the deployment of inequalities and blurring of aspirations in the university is supported by macro-economic, historic and class formations, there are implications in the tertiary education classroom. For the purposes of the current research I had to approach the problem of understanding students' actions in the classroom by linking each student, defined by the composition of their cultural, social and economic capital, to the specific education system interacting with the social structure (Bourdieu, 1970: 90-91, 207).

Bernstein's body of knowledge provides concepts and constructs to define types of pedagogies and their respective influences on shaping students' ways of knowing and interacting in society. In Bernstein's view a flexible pedagogy (or C- F-) promotes diverse knowledge and socialization with the capacity to uncover that which has not been said by making explicit the implicit, such as veiled principles, thus revealing deep social

contradictions[4] (Bernstein, 1996: 73; 1997: 21). Note that Bernstein remark that the hidden pedagogy can disrupt some conventions in society like the roles of parents and teachers as authoritarian agents. Yet, it does not change the crucial relationship between the student and teacher unless governments interfere less in schools curriculums which place emphasis on trainability, that is adapting students capabilities to suit technological and market principles (Bernstein, 1996: 72; 1997: 61, 74).

However the diverse knowledge associated with "invisible pedagogy" accompanied by a flexible pace of learning can lead to a subtle control of the student generating pedagogy with vertical organization. Bernstein suggested that the flexible or hidden pedagogy raises "aspirations of the *many*" (Bernstein, 1996: 99; 1997: 67 original emphasis). Researchers on both sides of the Atlantic have done little to relate the factors mentioned with the students' aspirations' for creative learning. This state of researching is not so in the Francophone and Scandinavian contexts where since the fifties aspirations and expectations were considered as two different concepts (for instance Robaye, 1957; Chombart de Lauwe, 1959, 1965, 1966, 1969, 1975; Thomas, 1970; Tobelem, 1973).

These concepts have been used in different fields of knowledge to bring about individual and collective schemes of perception and motives to act as a result of interacting processes within a variety of social contexts (for instance Poulain, 1998; Karlsson et al, 2002; Boudrenghien et al, 2007; Nakhili, 2007). In the North-American and overseas research contexts importance has been given to the use of the goal concept to understand the subjective experiences of students as factors impinging upon her or his attitudes and learning performance (notably Decy and Ryan, 1980, 1985, 1991, 2000 and McInerney, 1997, 2001, 2003, 2005). The concept of aspiration is specific in Chombart de Lauwe's work.

Aspirations of a person can be manifested on different planes. On a first plane aspirations are desires directed at something to pursue (Chombart de Lauwe 1969: 60) exemplified by the desire for a second car or the pursuit of jewellery. Aspirations can also be manifested as goals and hopes. A goal is anticipation of a change in status for instance by means of entering into a professional career. Hope can manifest itself as positive feelings for and uncertainty or fear or concern about acquiring or losing something that one wants or owns (Chombart de Lauwe, 1969: 60). In Chombart de Lauwe's views a person's ways of knowing, are not solely determined by their cultural

[4] A contradiction is the unity of the opposed where these exist together in a relation of interdependency, where each one is a condition to the existence of the other (Cornforth, 1955: 112).

beliefs, social position and the university educational codes in interaction with macro-economic factors.

A student's orientations to learning are also influenced by their aspirations, i.e. interest that stems from his or her inherent qualities. In other words education should aim to teach the whole person not just their cognitive development (Burns, 1982: vii). It is important to consider that in "traditional societies' needs and aspirations are not differentiated" (Chombart de Lauwe, 1969: 214). I argue that many inhabitants of urban Mexico do not differentiate between their needs and aspirations. Economically poor people have television sets, mobile phones while they live in houses without showers, water heaters and septic sanitary systems; teenagers get married because they have children; married couples have three or four children following their religious beliefs.

By contrast they cannot make ends meet. Hence, it ought to be considered that human aspirations are modified without being noticed by three processes that are increasingly connected to them: urbanization, industrialization and informatization (ibid). In other words, desires are the biological libido transformed into social libido by the social world (Bourdieu, 1998: 78). Desires are the individual's raw material from which ethics begins (Nigel, 1991: 14 cited by Ball, 2003: 111)[5]. It is also important to acknowledge that student aspirations, actions and the structure of the institution where they study might be in "perennial change" (Chombart de Lauwe, 1965: 51).

Research objectives and working hypothesis

In order to explain a student's actions in the higher education classroom it is necessary to find patterns of relationships between their cultural capital, previous schools' pedagogy, orientations to meaning and learning, educational aspirations and higher education attainment. Thus I considered as my main objectives the detection and description of the students' orientations and their educational aspirations. This entailed finding indicators of the constructs under investigation namely orientations to learning and meaning and aspirations (goals, hopes and desires). The information collected was analysed to render certain findings in relation to specific research questions. To collect information I used multiple data gathering techniques.

Given that a student's aspirations, the structure of their higher education institution, as well as where they live are dynamic social phenomena I interviewed the twenty eight

[5] A desire can become reason through the labour of the third *'Aufhebung'* (Strohmayer, 1997). This follows Hegel's organic logic. A person through the process of reasoning can reflect on a goal (to study for an examination). By differentiating, opposing or relating that action to other choices that had been repressed (to go out with his girlfriend) he or she can change their priorities.

participants at the beginning, middle and end of their tertiary studies. Since the students' actions in the classroom are enmeshed with their meso-context I used case studies as my research strategy. To compare my interpretative analysis of the interconnection of students' objective conditions with their subjective experiences in the classroom I defined their performance by gathering official information such as university records and the number of terms the participants needed to finish the twelve modules.

My goals were the following. First to categorize the students' experiences based upon the interconnection of their orientations to learning and meaning with their cultural capital, desires, goals, hopes and performance. The second goal was to develop a model that explained this situation. The third goal was to propose a model for the improvement of the architecture programme' pedagogy based upon students' views. In order to accomplish the first goal I compared the student's qualities, i.e. the interconnection of their objective conditions with their subjective experiences, in the light of the explicitly defined pedagogic contexts where they had previously studied. The purpose of this comparison was to identify patterns of differences or similarities in the interconnection of their qualities with their performance in relation to their previous schools pedagogic codes.

Consequently it was necessary to analyse the UMXS and the architecture programme's pedagogic discourses to make explicit its pedagogic codes leading to find discrepancies between the two discourses and within them. My last goal was to identify and show in the students' language the hidden principles of communication, or codes, that they used as a result of interacting in the social space of UMXS architecture programme. To guide me in the above described endeavour my working hypothesis were as follows. Given the UMXS architecture programme or C- F-+ context, I hypothesised first that a student's previous educational code which was different to that of UMXS impinges upon their educational trajectory (WH_1). Second, I hypothesised that a student from a low social-economic background would advance in the architecture programme if they had experience of architectural design or/and had worked on site (WH_2).

Research Questions

The research questions that lead me to explain the phenomena under investigation were: Why are students in the USMX's architecture programme dissatisfied with its pedagogic practices? How does a student from a low social background interacting within a given institution acquire, develop and use hidden principles (codes)? How does

a student interacting within an architecture programme in a flexible-rigid education system within a traditional society develop aspirations? In order to address these questions it first was necessary to find responses to the following questions from the students.

> What is the student's cultural capital (competence)?
> What are the orientations to learning and meaning that the students acquire?
> What are the students' desires, goals and hopes (aspirations)?
> What categories of students grasp what codes (cultural principles)?
> What are their grades (performance)?
> What is the relationship between the concepts these questions contain?

Other important areas researched were the impact of the reduced eleven week term and the brevity of time assigned to technology sessions.

Methodological issues

My research approach is explanatory. However, in order to explain a social phenomenon such as student's experiences of learning in the UMXS architecture degree programme, it is necessary first to understand it. To understand the actions of others the researcher must be conscious of the differences which distinguishes his situation from that of the actor observed and "must be able to put himself in the position of the actor" (Boudon and Bourricaud, op cit: 15). I took upon myself this idea as research principle to follow during the empirical and analytical work.

It should be noticed that a student's or a person's frames of meaning "have to be reinterpreted by the sociologist within their own theoretical schemes, mediating spontaneous and technical language" which is a socio-cultural psychological process (Chombart de Lauwe, 1975: 26-27; Hennessey, 2007: 39) or "double hermeneutic" (Giddens, 1976: 163). I performed this task by incorporating into my research's main guiding theory conceptual tools that deal with delimited aspects of social phenomena and, still, can yield predictions which hold for certain groups or nations (Merton, 1967: 39). The sociology of aspirations' concepts acts as the mediator for my interpretations of the participants' responses.

Since within any educational institution there is a struggle between the production, distribution and practice of power and control through the transmission of knowledge it is necessary to understand the society as whole if one wants to realize educational actions (Berger and Luckmann, 1966: 79; Musgrove 1968; Hoyle, 1969; Davies, 1970; Young,

1970; Goldmann, in Piaget, 1972: 80-81; Bernstein 1975: 85; Chombart de Lauwe, 1975: 25). Whilst Bernstein dealt with the problem of how to analyse with the same concepts, the way coding principles are transmitted from macro-institutions to schools and to the "new middle class" family (1975: 136) he recognized that his work lacked a precise location of the middle class in social space. The location of the middle class in social space could be provided by Bourdieu's and his colleagues' work (ibid.). Bernstein's train of thought led me to use Bourdieu's principles and tools of social differentiation to discover the location of the participants in this research in social space.

Formal and informal data collection

To analyse the architecture programme I requested from the Architecture Programme Coordination Office a copy of the curricula that staff followed from the inception of the programme in 1975 to the current curriculum or *Plan de Estudios de la Licenciatura en Arquitectura 1978* (PELIA). The Coordinator (FH/m/40s) provided me with the *Plan de Estudios* 1975 as well as with a copy of the last officially approved version of PELIA. I compared this last document with my copy to corroborate the fidelity of the one given to me. The Coordinator clarified that the *Plan de Estudios 1975* was never officially approved. This document was basically a list of subjects for each trimester. The Coordinator claimed there were no more documents leading up to the PELIA and a similar response was given by two other colleagues who had been Coordinators (JaC/m/60s and ML/m/50s).

To define and analyse the students' recorded educational histories I asked my Head of Department to request from the University Office records the participants' marks from their high schools, their admission examination marks and those they had obtained in the UMXS architecture programme as well as their library loans. I also obtained from the University Office records the telephone number of the participants. Since this office declined to provide me with their addresses, which I used as one indicator of their social status, I asked it the participating students at the end of the topic guide. Other information regarding their social status for example their parents' jobs, studies, birth place and family composition I obtained through interviews. I analysed this student information using Bourdieu's constructs of cultural capital and capital volume.

To define the pedagogic codes of the participants' high schools, I followed a funnel approach (Posner, 2000: [T. v] 12) in the interviews to ask general information regarding their schools ending with the teaching approach they thought their former schools had followed. I asked them to check if they still had their list of subjects but none found any. With the high school's names I found their web pages to download curricula and

regulative discourses. I analysed them through Bernstein's chief constructs. Once I defined the pedagogic codes I compared them with the participants' answers to add to my understanding of their views regarding an educational process and to consider the usefulness of Bernstein's constructs in describing pedagogic discourses. In the main body of this thesis I omitted the high school names because I had not requested official permission to analyse their curricula.

I discovered the students' subjective properties (orientations and aspirations) through the three interviews and open questionnaire. I used mainly their answers to the following questions: *Would you like to tell us about your interests, your tastes and your goals? What do you plan to do once you finish your studies? How do you imagine as an architect?* (orientations) and *How have you liked the architecture programme? What motivated you to study at this university?* and *Where would you like to be when you finish your studies?* (aspirations). I analysed the participants' answers using Bernstein's constructs of classification and framing by applying a network technique. I also plotted a graph suggested by Bernstein to relate the categories I found in the students' responses to the categories the graph represents. I double checked the categorised data that resulted from network analysis of their verbal and written sentences by analysing their grammatical elements with a Word spread sheet.

I followed Bernstein's argument that students who use more adjectives, adverbs and well-constructed sentences have elaborated universalistic meanings that are less bounded by their contexts; this category of elaborated code was represented as C-. By contrast a student who used fewer adjectives and adverbs, with vague or unclear sentences including repetitive conjunctions (so, then, and, because) was considered to have restricted meanings being more bound to their contexts; these were assigned C+. To double check my categorizations of students' responses I followed Bernstein's suggestion that Halliday's categories of language which function as instrumental, regulatory, personal, interactional, heuristic, imaginative and informative can be more useful than grammatical elements (Bernstein, 1974: 360).

I applied these language functions to the participants' written sentences whereby language which was instrumental, regulatory and personal scored C+ while that which was interactional, heuristic, imaginative and informative was afforded C-. I elaborate on the difficulties of operationalizing Bernstein's constructs and the analytical procedures in Chapter three as well as in the analytical chapters. To discover the participants' aspirations in their responses I used Chombart de Lauwe's concept of aspirations namely goals, hopes and desires as previously defined.

Research boundaries

The educational conflict that architecture students of UMXS manifest is difficult to investigate due to the diverse practices, invisible norms and rules (cultural codes) that the students are compelled to follow. I decided neither to interview professors nor lecturers after the pilot work since at that time three of the four colleagues I interviewed directed the talk to blame other academic departments or to talk about political economy in a colloquial manner. I thought that staff members might not answer truthfully and that they would try to divert the discussion to delay my research due to the possibility that its outcomes might affect them. Due to lack of research in Mexico regarding architecture students' views of a modular pedagogic process, I did not use statistics, or a quantitative approach. This absence was also motivated by my interest to understand the students' views and attitudes.

In order to understand the students' views it was necessary to investigate them in-depth, a task that can only be approached with a small population. I did not use group discussions as a technique to gather information due to difficulties on articulating the participants' available time. I decided not to compare UMXS students with students at the northern campus due to time and organizational constraints. However I decided to investigate both UMXS male and female students. By investigating both genders I avoided potential accusations of behaviour which might be considered suspicious in the Mexican context due to my bachelor status. I also assumed that investigating both genders would reduce female participants' worries of my talking to them alone

While emotions bear on conditioning a student's attitudes towards learning it was a peripheral issue in this thesis research. However, it should be noted that teachers' attitudes, particularly those that oppose the institution's pedagogic principle of student-centred work with a multidisciplinary pedagogic approach to understanding social needs, might affect the students' self-esteem (Kempf and Hill, 1964: 8) or their academic self-concept (Marsh, 1990, 1996; 82). In this type of university context the contradictions architecture students are exposed to generate tensions in their life. The tensions produce emotions that impair their consciousness of their educational conduct.

In other words, when this university architecture students see every day a difference between the opaque principles of social interaction of this university with those they were given in the family and in their "primary socialization" (Berger & Luckmann, 1972: 35; Bourdieu, 1964, 1965), they might live in what can be called a "kind of shock" (ibid). My focus is on students' orientations to learning and meaning as revealed by their verbal

communication and codes learnt in a flexible-rigid educational context within a restricting social system. Importantly, this focus acknowledges their previous educational codes and their position in the social space. My specific focus however was to discover their educational and professional aspirations as mediators of their own actions in the classroom.

Contribution to knowledge

While an earlier study investigated the architecture programme at USMX by focusing in the curriculum's effectiveness (Velasquez et al., 2001) it was neither examined from a theoretical perspective nor from the students' point of view in connection with their previous educational contexts. The study also did not observe the effects of the **pedagogic practices** i.e. the relationship between professor and students in terms of the production and reproduction of culture (Bernstein, 1996: 17). My research makes significant methodological and conceptual contributions to the understanding of students' views of one educational institution's pedagogic principles and pedagogic practices. The research makes these contributions by integrating concepts from the sociology of aspirations and theory of the transmission of educational codes with social contextualization.

This multi-faceted approach made it possible to explain, in a non-circular way, how the relationship between students' previous pedagogic codes, their objective conditions of living and subjective experiences influence their learning in the flexible-rigid educational context of the architecture programme as UMXS. The research demonstrated that previous schools' educational codes of students are factors that shape later their educational and professional aspirations. The research uncovered that with their exposure to the socialisation processes of UMXS their aspirations levels decreased, leading them to become realistic. The research demonstrated that students identified strategies for improving the teaching-learning process some of which are outside the design studio. I present this thesis structure next.

Chapter organization

In Chapter two I examine the theories I used in this research as a framework for analysing the empirical information. In Chapter three I present the methodology to investigate the participants in terms of multiple case studies and discuss the techniques applied in the investigation. In Chapter four I describe the organizational structure of the UMXS architecture programme. It also contains analyses of UMXS and the architecture programme's discourses based on the theory of educational codes. Chapters five and six contain my analyses and interpretation of the data generated by

the empirical work. The former chapter concerns my interpretive analysis of the students' views about their objective conditions of living (social positioning) and their subjective experiences (aspirations) in the architecture programme. The latter chapter shows five participants as case studies. From this process I derived a number of the participants' codes for learning. At the end of this chapter six I present the student categories based upon their views. In Chapter seven I discuss the findings in relation to the theories I used, as well as to research on students' goals in education. I also establish the limitations of my research, discuss the findings in relation to the data gathering techniques I used and suggest lines of future research and practice.

Chapter two

Architectural education: cultural capital, educational codes and aspirations

Introduction

In this chapter I present the theoretical framework of this empirical investigation. I start with a discussion of different approaches to architectural education as developed by those who bear responsibility for the training of architects and/or have been doing research in that area. An intention of discussion is to show how these approaches are related to theoretical concerns with architecture as abstract representation rather than with its social function of serving people. The examination shows repercussions of applying them to professional practice. The beginning of it points out that educators and researchers who attempt to explain the process and requirements of architectural education get side-tracked into endless talks on teaching techniques forgetting that a future architect should also be educated to respect others, to be just, and "honest" (Morgan, 1914).

In the main body of this chapter I analyse theories derived from other fields than architecture which might help to describe and to explain the problem highlighted in the previous chapter: the interconnectedness of students' confusion due to the conflict between their prior educational knowledge with that inculcated at the university UMXS and their **aspirations** (goals, hopes, desires) that digress to those raised by the social system at the level of university (expectations). These interconnected factors have to be investigated because it governs the ways students learn. These particular theories are concerned with social practice (Pierre Bourdieu), the educational codes (Basil Bernstein) and the sociology of aspirations (Paul-Henry Chombart de Lauwe). Through these perspectives I will examine the factors or areas not fully considered, or investigated separately, by educators and researchers working in the area of architectural education:

a) The ways of knowing that architecture students acquire through their previous educational experience (past history or socialization),

b) The educational characteristics of the body of knowledge (curriculum), the processes of the transmission of that knowledge (pedagogy) and the forms of its realization (evaluation) during their experiences at the UMXS (space),

c) The pacing of the architectural students' learning experience (time),

d) The students' views concerning the process of education in which they are participating.

In the previous chapter I put forward the idea that the tension architecture students at UMXS suffer may be stressed by the eleven weeks terms which are shorter than that of any of their previous schooling contexts. This learning situation the students face is accentuated by this university's pedagogic principle of learning by the 'interaction between theory and practice' that was not used in their previous schools. This pedagogic principle is not accepted by groups of architecture programme academic staff who prefer to practice the teacher-centered pedagogy. I highlighted that this situation might stifle students' aspirations of a new or flexible educational process that, in turn, hinder their performance and learning. Thus my goal of this chapter is to frame this study within the idea of education as a site for the production and reproduction of culture.

This goal conveys the task of discussing the two main theories' conceptualizations of aspirations. My specific aim is to integrate the sociology of aspirations' concepts to the main theories to enable me to identify, understand and to explain from the students' own views, their actions and motivations for learning. This task involves describing and justifying the way the three particular theories' concepts and constructs are going to be used in this research. In the following section I present the discussion related to the lack of research on the education of architects. This debate underpins the theoretical framework I use here. Afterwards I analyse and interpret my conceptual framework. At the chapter end I present a model based upon an integration of the three theories' concepts to be used for the analysis and interpretation of empirical information. The model that I mainly used for the interpretive analysis appears in the next chapter.

Previous research on architectural education

Little research has been conducted regarding the education of architecture students (Teymur, 1992; Dunin-Woysethg and Noschis, 1997) and much less concerned with their aspirations and their professional fate. There is also a lack of research on education and in architecture in the Mexican context (Pradilla, 1995: 2; Muredu, 2008: 70). Research and texts about architectural education have suggested that the main challenge is helping students to make a meaningful link between theory and practice, between ideas and their concrete representation, then facilitating the students subsequent move from the "unreal" world of the academy to the "reality" of practice (Lewis, 1985; Gutman, 1988;Denés, 1997; Lundequist, 1998;Louw, 1999; Boudon, 1998; Gelernter, 1999; Mitgang, 1999; Stevens, 2002).

Yet, these academics missed or did not attempt to explain what they meant by “real” and “unreal”. At least they should have suggested understanding the “real” as represented in the *documento*. They ought to consider that within the context of education ‘reality’ is a complex interconnection of drives, resources and opportunities to learn that are not equally distributed among the different social groups (Girod, 1990: 35-36). As a historian professor of architecture put it while comparing the state of architecture with the “crisis of modern science”: “the illusion remains that practice” or ‘reality’ “can be reduced to a system of prescriptive rules. This is particular evident in architectural education” (Perez Gomez, 1986: 8). The last criticism may be illustrated by the space syntax theory (Hillier and Hanson, 1984) that little concern with architectural students’ understanding of it shows; nevertheless it has captured the attention of many practitioners all over the world.

Perez-Gomez points out that due to its emphasis on “mathematical certainty” that tries to derive its meaning from “formal games of combinations, the coherence or rationality of style understood as ornamental language, or the use of typologies as a generative structure”, architectural theory has created a conflict with practice (ibid: 4-9). Perez-Gomez holds that in architectural education technology has become architectural theory’s chief concerns, manifesting itself in the form of conceptual or material efficiency (ibid). This simplistic criterion hinders our understanding of the relation between theory and practice as “continuity between thought and action, between mind and body” (ibid: 9). In my view, researchers and educators of architects who have followed the strategy of fostering skills should consider that the “skills gap” is a fabrication (Hyslop-Margison& Welsh, 2003: 5).

The notion of a graduate’s low skill has been generated by the dominant economy that tends to distract public attention to cyclical crisis that even industrialized countries face and manifest as unemployment (ibid: 14). I suggest here that scholars that follow the notion of improving students’ skills educate them in terms of how to reproduce approaches “rather than to encourage to create news” (Bernstein, 1975: 157). To put it in other terms the reproduced approaches position students as “passive consumers” (Carroll, 2002: 69). Such a strategy might lead to prepare students to be a part of a social division of labour constructed by groups dominating the distribution of material and symbolic resources at the cost of preserving inequalities in society (Bourdieu,1974b; 135).

From a perspective concerning production Lewis acknowledged that lack of jobs in “both local and national economic conditions” and “inadequate compensation” makes the architectural profession unappealing and vulnerable (Lewis, op cit: 18-36). Yet

contradicting himself he suggested that most of the actions taken to educate architects should look for a skills-development strategy (ibid). A more recent teaching approach "'from within'" (Nalbantoglu & Altinyildiz, 2002: 146-147) decided neither to relate to the user nor the site of design, with the objective of motivating "seeing, thinking and 'speaking' architecture" (ibid: 146). It is intriguing that most architectural scholars' researches, in Mexico and in the international arena, neither have considered nor have suggested to understand the students' and the teachers' views regarding the difficulties of the teaching-learning of architecture.

Approaches have suggested teaching techniques (Louw, op cit) although ambiguously interpreted theories of design and architecture based on Bachelard's idea of the in-side and out-side dialectic as that which exists in the interior also exists in the exterior (Denés, op cit)[6]. At the end of the eighties sociologist Gutman argued that schools of architecture were "confusing" students as they can qualify with "only five years of higher education", it seems to offer opportunities for "self-expression and individual creativity" whilst students might not be "aware of how poorly paid architects are" (Gutman, 1988: 27 cites Cullen). Nowadays Gutman maintains that architects are bewildered "about their future" due to the variety of duties they are engaged in from "supervising the construction process", to urban planning, landscape architecture, interior designs and cost estimates (2000: 232-234). Gutman's findings indicated that American architecture schools have accomplished strategies that enable them "to specialize in teaching specific approaches to architecture" (ibid: 234).

Of the educational approaches Gutman referred those worth mentioning are the "so-called 'charettes', in which the students' teams meet at the project site", to talk with "community leaders, developers and prospective building users" (ibid: 234). Another researchers of architectural education pointed out that practitioners who adopts false models "have betrayed the idea of architecture as multidisciplinary, and a multi-skilled practice; they have changed architecture as a social practice based on the human condition to a profession that serves society in terms of power" (Teymur, 1992; Dutton, 1996a; Sara, 2000). This idea of architecture as a social practice that serves communities

[6] This incomplete suggestion is not to deny the importance of dialectic reasoning, understood as the development of thoughts by finding the contrary contained in the things themselves following a question and answer procedure(Bloch, 1983: 110-117 cites Hegel, 1817 § 261; Lacey, 1986: 57). Since dialectic reason essentially proposes the interplay of opinions in co-operative enquiry, it can be useful for a theory of architectural design and for the education of future architects. This is so because the architect should involve the future users, as well as the owners of the building in the definition of the list of rooms with their dimensions, shape, colours, furniture and the location within the site. This basic step of the process would not be fruitful if there is not clear communication and willingness to accept each other's views.

coincides with that of USMX's pedagogic principles. Yet an important question to be researched is What do students think about it?

It should not be forgotten that architecture is a social practice which embodies the art of organizing groups of craftsmen (Scott, 1914). Dutton suggests that architecture making and use, frames the world, structures experience, shapes consciousness and identity, and reinforces assumptions about culture and politics (1996b). In accordance with this, Gelernter's approach (1999) is comprehensive. Following the principle of solving problems as a way to acquire knowledge Gelernter suggests letting the students to approach a practical design problem "with their existing concepts", asking them reasons for their proposals and looking for contradictions in them. During this process there has to be "balance between familiar knowledge and novelty knowledge" that is between what students learned in previous studies and what is expected of them to be learned.

Then, teachers have to help students "to see the probable inadequacies of their" design solutions "to evolve their existing ideas into new ones" by "working back and forth between the general and the specific" (ibid: 167-169). This is what Gelernter suggests as "to model the educational process after the natural rhythms of learning" (ibid). This idea of teaching architecture is similar to that of UMXS that students should create new ideas by transforming themselves (Villareal, 1974: 7).However, as I suggested in Chapter one the matter is that students seem to reject the openness and flexibility of this student-centered learning. Approaches like the 'charettes' or Gelernter's resemble to that of the "design as narrative" suggested by researchers in related design disciplines (e. g. Dillon &Howe, 2003: 289-296; Esser-Hallet al., 2004: 136-147).

The narrative approach proposes using the learner's narration of his or her experiences with a community and the teachers feedback, in the design process studio to create the possibility of a "meta-narrative" with shared meanings (Esser-Hall et al., op cit: 136-137). The interesting point this approach makes is that in the process of constructing the narrative, the students', the community's and the teachers' voices transmit collective ideas with their own "frames of reference" (Dillon & Howe, op cit: 289). It is claimed that in this approach each of the participant subjects' "frames of reference" are built through "personal, socio-cultural and physical contexts of learning and interactions" (ibid: 291).

I suggest here that researchers in architecture can learn a great deal by relating concepts from socio-cultural studies to investigate the students' actions in the classroom, within the university community, in relation to the future objective opportunities the social system offers to them. However, if one wants to understand students' actions in the classroom

one needs to find each student's social position to relate it with their past learned experience and with their orientations towards learning and meaning (Goldmann in Piaget, 1972: 80; Boudon, 1986: 94, 112; Bourdieu, 1997: 29). To accomplish this goal it is necessary to find the students' basic needs degree of satisfaction, as well, as their symbolic means in order to understand their views towards the learning process. This endeavour can lead to discover the students' principles for action while interacting in a pedagogic context with any type of pedagogic approach.

This is why that in the next section I introduce Pierre Bourdieu's concepts of social practice. This task entails the use of a theory that makes specific the channels of communication that shape students' orientations to learning and meaning and, at the same time, enables one to articulate these phenomena with an account of the macro structure within which is inserted the institution where the participants study. I will examine Basil Bernstein's theory of educational codes to argue for the efficacy of his theory's concepts to define students' past schools' pedagogic codes, as the channels that shape their orientation to learning and meaning. Afterwards I will elaborate on the sociology of aspirations. The use of this theory's concepts will serve as an "external language of description" of Bernstein's theory for making the tacitly constructed with his theory explicit "in a non-circular way" (Bernstein, 1996: 135-136).

Towards a definition of architectural students' social positioning

Pierre Bourdieu's theory of practice key concepts for my thesis is **capital volume** and **cultural capital**. Bourdieu argued that the social agents' different forms of capital: **cultural**, **economic**, **social** and **symbolic** build up their capital volume that is their means to position themselves socially (1997a).A student's cultural capital includes the educational or courses attended, grades attained and diplomas awarded. The cultural goods and practices are books, pictures, dictionaries, instruments, machines, readings, museum visits, cinema and theatre going among others which are evidences of theoretical interests (1984a: 168; 1997: 47). This is the "freely acquired culture" that students of working classes, due to their origin from the provinces lack (1964: 30; 1984b: 282; 1997). The students' parents' studies are another source of cultural capital for students.

The **economic capital** refers to the student's financial resources indicated by a student's parents' jobs which can determine students' indispensable possessions to study, as well as their domestic sources of support and assistance to study. The **social** capital refers to social connections, geographical origins and original religion. Bourdieu's concept of "symbolic capital" is understood as "the personal cultural quality:

the ironic casualness, the precious elegance or the hierarchical assurance" (1984a: 24; 1984b: 97). I considered this concept as a factor that impinges upon the students' actions at the architecture programme since it is a social space with similar power struggles to the macro space where these properties impinge upon the students' position as social agents (Bourdieu, 1984a: 24; 1984b: 97). I also included Bourdieu's view that students' pronunciation is a cultural property which may be crucial for her/his advancement in the university since it can suggests to the teacher an agent with "stigmatized or prestigious origin" (1971: 572).

Bourdieu's idea that freely acquired culture is an "implicit condition to success in certain university disciplines" and "is distributed very unevenly among the students from different places" (1964: 30; 1984b: 282; 1997) led me to used it in this research. I wanted to see the degree of this quality influence on students' educational trajectory. A students' trajectory is understood in this thesis as the sequence of positions held by that student through his/her higher studies in a specific field. Bourdieu considered that the cultural capital in its "embodied state" is acquired by people using personal **time** or dispositions like "that socially constituted form of libido, *libido sciendi"* (1997a: 48). That is the biological libido as one's force of life and sexual urge, is transformed into social libido, which are **desires**(1998: 78). Bourdieu did not relate desires with conceptualisations of aspirations, for example, considering the former as the negation contained in the latter[7].

Yet, Bourdieu argued that less socially well placed students drop out university studies due to their financial restrictions, their non-satisfaction with the pedagogic practices of the "scholastic market" in addition to the labour market which deflates their aspirations of obtaining what earlier generations reached, because time after time they are less accessible to the holders of diplomas (1984a: 23). This problem is necessary to stress as it points to my thesis' object of study. In Boudieu's view when students far away from power see that their "subjective aspirations" are unreachable, they may hold to the taken for granted order which is another source of their social positioning (1970: 56; 1979: 156). The agents' actions in a specific field link to the social world that conduce the agent to do something he/she has not posed "explicitly as a goal" "is knowledge with "*orthé doxa*" (ibid).

That is the "*doxicsubmission*" is adjusted to the interests of those who dominated it (1974a; 1994: 55). A "field" is the system of objective relations produced by social

[7] Desires can be understood as "the real dialectic spur, something never surfeit provokes the contradiction" (Bloch,1951: 131).

practices related to a trade or an area of production (1992a). The specific field also occupies a position in the social space i.e. “in the structure of the distribution of the different types of capital” (1997).Whilst the self-evident or taken for granted order goes unquestioned by agents of the middle and working classes, it is not the case for those agents closest to powers who find that their subjective experiences are in affinity to the objective structures of the social world. Such people’s choices of cultural forms in engagement with macro, meso and micro contexts are often a result of their tendency to accept social classifications that constitute their idea of reality.

Those classifications of the agents socially and economically dominant in the field act as social filters. Conversely those classifications that the social filter do not accept cannot penetrate into people’s consciousness therefore they can neither be understood, nor intuit and practice by people[8]. Bourdieu, unlike Bernstein, did not point out the specific channels through which institutions or an educational system shapes people and students’ frames of meaning and tendency to act. Bourdieu’s view of society’s educational systems’ purpose can be synthesized by a social function which legitimize and perpetuate the differences of class, and a technical function which tries to produce and reproduce qualifications that constitute the social order (1974: 164; 1977: 158; 1997a: 55; 1997b: 68, 108).

This is the « *violence symbolique* » or the violence not perceived as such by students, based on “collective expectations” (1994: 102-103). Bourdieu held that academic discourse is a medium of communication that expresses and reproduces an uneven relationship where power is exercised by teachers and by those who are in the highest positions of the Institutions (1977: 148).For Bourdieu the disciplines or subjects ranged from the “most abstract (mathematics, literature and philosophy)” to the “most concrete (natural science, geography)” (1977: 158) without pointing out what forms of learning and social principles instil in the students.

Bourdieu found that university students aspire to the same level of life, to independence and to a new pedagogic relationship (Bourdieu and Passeron, 1964: 77).In the actual or new schooling system’s organization, courses taught and qualifications it awards, are unclear and vague (Bourdieu, 1979: 154). Elsewhere Bourdieu described students’ aspirations as ideology i.e. “an illusion consistent with

[8]A succinct description of these processes was given by Marx: “The ideas of the dominant class are the dominant ideas of each time. The class which has the means of material production at its disposal, has control at the same time over the means of mental production, so that thereby, generally speaking, the ideas of those who lack the means of mental production are subject to it” (1845: 48).

interest" stemming from "parental motivation" (1974a: 74; 1990: 102). Bourdieu and Passeron argued that sociologists tend to set aside "students' 'hopes', 'aspirations', 'motivations', 'will power'- from their social conditions of production" that determine the students' aspirations and the degree to which they can be satisfied (1970: 207; 1979: 53-54).

From an analytical point of view it is important Bourdieu's contention that researchers tend to separate students' dispositions from their social conditions of production. Bourdieu's empirical work with rigorous analyses on the different fractions of French society use of art and culture enabled him to develop a graph that represents the space of social positions. The social space comprises the amount of capital volume (+ or -) as well as the amount of the two basic forms of capital that agents can own: cultural and economic (+ or -). In the symbolic social space different social fractions and professions are positioned based upon the way they use their amount and forms of capital (Bourdieu, 1979: 128, 129; 1997: 30). I used this graph as a tool to plot students' position once I assembled their educational, economic and personal information.

Once I positioned the students in the social space I gained insight of their nearness and farness from material and symbolic means. Afterwards I searched for any linkage between students' social positioning (cultural capital-economic capital = capital volume) with their overall trajectory defined by their marks (performance), as well as the years they needed to finish the degree programme. The purpose of this task was: a) to answer a basic research question and b) to group the students in terms of their similar linked qualities. Note that I did not use Bourdieu's concept of habitus (perception, appreciation and action) (1974: 101) because I found Bernstein's concept of code (tacit cultural principles) more amenable for the contexts of this thesis research where interactions between agents develop with ambiguous and hidden rules. In the next section I introduce the main concepts of Basil Bernstein's theory that I used to integrate my theoretical framework by describing the channels through which any educational systems shape students' views.

Educational codes shape students' views

Bernstein's concepts that I mostly used in this thesis research are those of **classification** (power) and **framing** (control). Classification (C) points to the degree of insulation, or separation, that can be more (+) or less (-) between agents and discourses, as well as of the distribution of material wealth (1975: 25, 169; 1996: 25-26). Whether the degree of separation is repeated or not depend upon the strength (+ or -) of the "frame" (1975: 169)

and on the interests of those involved in the process of reproducing and transmitting the code (1996: 26). Classification points to **space** in more abstract terms. Where framing is weak (-) the classification might not be repeated, the rule is “things must be brought together” (Ibid.). However, where framing is weak the students’ control over the process of communication is “apparent” (Bernstein, 1996: 27).

Where framing is strong (+) the transmitter has “explicit control over” the social base communication, it will tend to reproduce a discourse which keeps issues and/or agents separated. Framing(F) points the principles that control the “generation, distribution, reproduction and legitimization of dominating and dominated” communication (1996: 18). Framing indicates the control on the selection, sequence, pacing and criteria of communication as well as over the social base interacting (1996: 27). Framing points to **time** in more abstract terms. The classification and framing constructs are important to analyse the UMXS pedagogy. First because UMXSwas founded with the purpose of giving the students more access, or space (C-), in the decision-making process (see chapter 1: 13).

Second because the degree’s length of ten years (time) set it as flexible (or F-) but the terms’ duration of eleven weeks is rigid (F+). The contrasting times within which the architectural students interact are a reason as to why I use Bernstein’s concepts of classification and framing tospecify the UMXS architecture programme’s educational codes. In this analysis I aim to find tensions between the principles of the architecture programme curriculum and those of the UMXS. I chapters five and six I compare the results against the participants’ opinions of this flexible-rigid process influence on their educational aspirations. In order to accomplish this I used Bernstein’s constructs classification and framingto identify the participants’ orientations to learning and meaning. In particular to discover if the participant students develop different “interests, social relations and orientations” (consciousness) (Bernstein, 1990: 141) from the specific type of instruction they receive.

This is important to remark since one of my goals is to make specific the students’ previous schools pedagogic codes to find interconnection with their orientations to meaning and learning, as well as with the dark expectations Mexico’s restrictive social system offers to them. Note that in order to make specific any educational code it is necessary to point the basic principles that form the texts’ contents (curriculum), the ways of transmitting the contents (pedagogy) and the forms of accepting the acquisition of the contents (evaluation) (Bernstein, 1975: 85).This Bernstein’s triad reflects the distribution of

power and forms of control from major institutions and, hence it is a part of a broader question concerning the structure and distribution of symbolic power.

This is why Bernstein pointed out the need of précising the location in the social space of the fraction of the middle classes who controlled “dominant and dominating forms of communication” (1975: 17). He pointed out that the principles for analyzing that location could be provided by the “theoretical and empirical work of Bourdieu and his colleagues” (Ibid.). Bernstein was mainly concerned with the possible mismatch between the process of transmission of educational knowledge and that inculcated in the family and so shape consciousness differentially (1975: 15, 23; 1996: 18). Bernstein argued that the educational codes and those of the family reflect the principles of distribution of power and control transmitted from the major social structure (1975: 112).

In Bernstein’s socio-linguistic theory an architectural discourse is called region. A region is “the interface between the field of the production of knowledge and any field of practice” (1996: 99).A region is the result of a “change in the classification of knowledge” (ibid) into a weakening or an expansion of the discourses’ boundaries. The expansion of the UMXS discourse is exemplified by the intention of working with communities, using other disciplines' perspective. However, this pedagogic principle is what creates conflicts within the USMX’s architecture programme staff. I will describe this conflict in chapter four, with its implicit involvement of students.Bernstein proposed that two different forms of socialization tend to create two different school pedagogies: “visible and invisible” (1975: 125; 1996: 18; 1997: 62). In general where the pace of learning is strong (F+) there will be an observable pedagogic practice and where the pace is weak (F-) quite often there will be a hidden pedagogic practice (1996: 28).

In the former the rules of both discourses “are explicit”; and in the latter the rules “are implicit and largely unknown to the acquirer” (Ibid.). The visible pedagogy is “closed” in its discourses boundaries, as well as in the social interactions in and out of the classroom. The invisible pedagogic process lends itself to openness, to work with “problem setting or creating” pedagogy (1975: 17). In terms of this Bernstein’s framework the UMXS educational code can be characterized as similar to a pedagogic discourse with weak classification and framing or integrated code (C- F-). I will explicitly define this context in chapter four where I analyse in detail both the UMXS and the architecture programme’s discourses.

Bernstein suggested that in an open, flexible educational process students from less favoured social background find difficulties to understand its hidden pedagogy because

they have limited grammar elements (1975: 23; 1996:18). A most interesting suggestion of Bernstein is that an educational process of the open type raise "Aspirations of the *many*" while the type closed develops "Aspirations of the *few*" (italics of the original) (1975: 53; 1996: 99; 1997: 67). If this Bernstein's assertion is the case I should find, after the interpretative analysis, that most of the participant students hold high aspirations. Bernstein conceived two basic types of speech codes: elaborated and restricted. The two codes establish different degrees of control upon the social agents (1977: 81). **Codes** are dominant normative **cultural principles** "tacitly acquired, which selects and integrates relevant meanings, the form of their realization" and remind circumstances; code is a site of contradiction, challenge and change (Bernstein, 1975: 24; 1990:14; 1997: 111).

The restricted code exerts more control over the speaker's vocabulary, which will be regulated across a narrower range than the elaborated code (1977: 77). In the former its principles and operations are linguistically **implicit** and in the latter the principles and operations are relatively linguistically **explicit** (ibid: 175; 1971: 14). An example of the former language use can be 'You can be the master of your destiny' while of the latter can be 'You should study attentively in order to reach your goal of finishing your studies'. Where codes are elaborated, the person has more opportunities to negotiate the grounds of her/his own socialization that is they are less tied to their contexts. In this situation students can enter into a reflexive relationship to the social order that has taken over; their meanings tend to be framed by more general and abstract principles, more **universalistic** (Bernstein, 1971: 14).

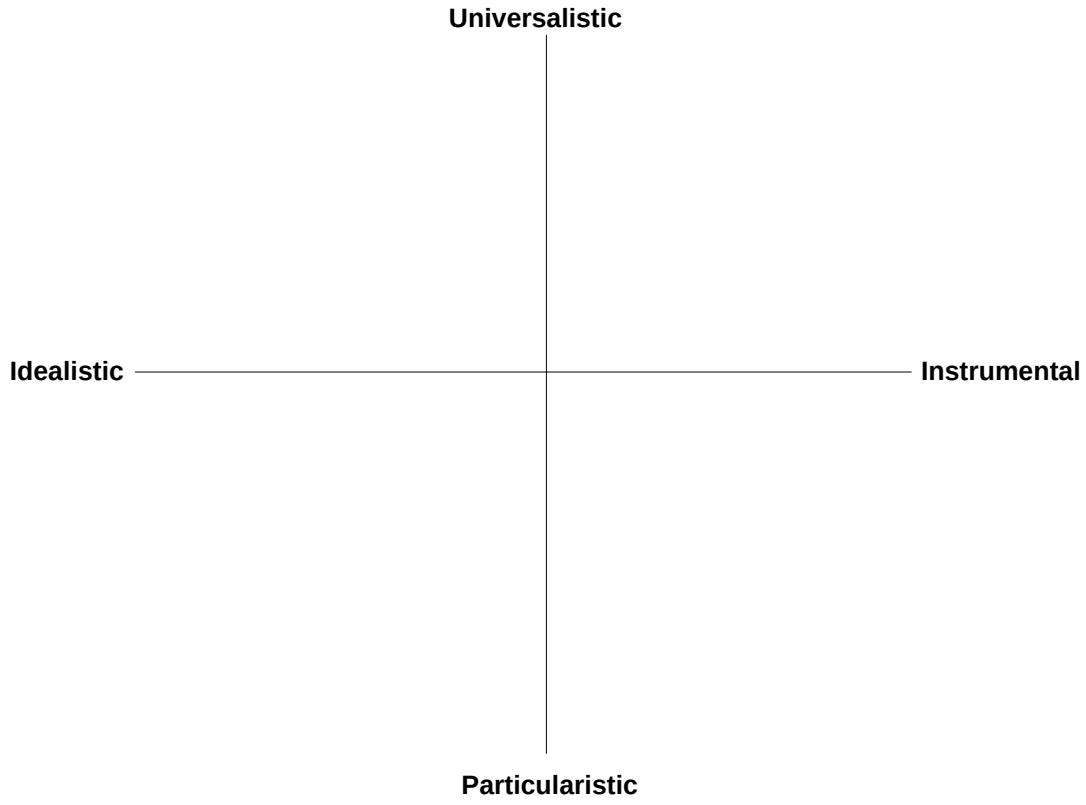
By contrast a student in restricted codes contexts have less access to negotiate their socialization, being more oriented to his/her immediate context; thus reflexiveness may be limited in range and their meanings tend to be **particularistic** (ibid). The codes, or the culture and sub-culture transmitted, have implications on the way students learn. In terms of learning, students who are more interested and oriented on and towards inter-personal and intra-personal processes with a range of possibilities for solving problems would be regarded as **idealistic**. Students more interested and oriented towards object processes involving instruments, skills, sharp subjects boundaries, regulations, and authority would be regarded as **instrumental** (Bernstein 1971: 164-166; 1975: 53; 1996: 99).

These types of learning are independent of the **meanings** or principles of social interaction student possess. That is, a student with universalistic meanings can be oriented to idealistic or instrumental learning and vice versa. The interconnection of the

students' types of learning and meaning can be defined from the analysis of their responses in relation to the elements the graph in figure 2.1 shows. The analysis of students' language also led me to describe the form of the pedagogic practices in the architecture programme -from the perspective of the students. I present a more detailed description of the analytic step in chapters three and five.Bernstein emphasized that the fact a code is restricted does not mean that the speakers at some time will not use elaborated speech variants; only that the use of such variants will be infrequent in the socialization of the student in his family (ibid: 183).

In brief, in Basil Bernstein's theory every educational experience implies a de-contextualization and a re-contextualization. Therefore students are frequently constrained to fully understand the information transmitted as well as every-day experience. This process in the mechanisms of formal education develops itself through cultural principles or **codes**. When the educational codes oppose or are different from those inculcated in the family they can disrupt the education that students receive in that setting being, at the same time, more difficult for them to grasp the meaning of the codes. During the process of education (**pedagogic practice)** the schooling system (**pedagogic device**) symbolically controls and regulates the reproduction of culture and its change.

Figure 2.1 A graph to relate meanings and learning.
After Bernstein, 1971: 248.



Bernstein acknowledged his hypothetical constructs were inadequate "to describe and interpret" the process of internalization of desires into the participants of a research and therefore his theory "was unable to show how girls" "construct their own representation of the feminine" (1996: 122)[9]. In my view Bernstein was saying that besides understanding the channels of communication the students are exposed to during their training and socialization at the university, along with the way they position themselves and are positioned in the social space, every research should include one more element that impinge upon the students' actions: the dialectics of each student's reasoning. During the process of reasoning students' aspirations are involved. Since aspirations contain desires and a desire can become reason, a student can change her/his highest priorities such as studying.

In methodological terms the concepts that of aspirations entails can be considered part of the "external language of description" Bernstein's theory needs "to describe something other than itself" (Bernstein, 1996: 135). Bernstein said that sociological internal languages of description are the condition for constructing the tacit, while external languages of description are the channels of making the tacitly constructed explicit "in a non-circular way" (1996: 136). This implies that the external language of description must be derived from the internal language; otherwise the internal language would only describe "anything except itself" (1996: 138). Yet the problem is that researchers "must struggle to keep the external language as free as possible" from the other language for practical and ethical reasons (Ibid.).

It is practical because unless there is some freedom, the internal language will never change. "It is ethical, for without some freedom the researched can never re-describe the descriptions made of them" (Ibid.). Hence researchers should be sensitive to the subjective experiences of the researched, "to their particular motivations, intentions, aspirations" (Bernstein, 1996: 139).[10]Interestingly Bernstein did not mention what he understood by aspirations. Bernstein did not also say what the implications of the types and number of aspirations would be for the student and for the social group. By including the sociology of aspirations as an auxiliary theory I will make Bernstein's constructs less abstract to identify, describe and explain the participants' orientations to learning and meaning, as replications given by their goals, hopes and desires.

[9] It should be remembered Hegel's idea that every notion is mediated by others, therefore we cannot find the true reason of a thing's being but having all the reasons and reflexions of the thing with the others as **mediated activity** (Larroyo, 1997: 72 in Hegel, 1817: 72).

[10] That is if one sticks to the theses' point of view one's thoughts will remain abstract and dogmatic; if one sticks to the antitheses, skepticism shall arise. Yet once skepticism is objectified it becomes absolute that in Hegel's view is exactly the same as dogmatism if it closes against the third point of view, or the synthesis. This third view entails "naturally, its own contradiction" (Bloch, 1951: 117).

In the literature on “goals and aspirations”, “self-acceptance” and “affiliation” are considered as “intrinsic aspirations” (Kasser and Ryan, 1993 cited by Gountas and Gountas, 2007: 3). These have suggested to research “the effects of extrinsic and intrinsic aspirations” accomplishments in “personality orientations” (Gountas and Gountas, op cit: 6). For researchers of extrinsic aspirations it can be financial success (wealth), social recognition (fame) and an appealing appearance while intrinsic aspirations are signaled by affiliation (relatedness) and self-acceptance (growth) (Ibid.). They consider that intrinsic aspirations are congruent with self-fulfillment whilst focusing on external goals may interfere “to personal growth and development” (Ibid.).

To some extent I follow this line of investigation, although I use the concept aspirations to point to a student’s actions in the classroom. A student’s actions ought to be interpreted in the light of the educational context they study, either close, open or a mixture of both, and in relation to their social positioning as given by their use and composition of their material and symbolic capacities. In my view the concepts that of aspirations entails, serve as mediators of the internalization process of cultural codes an agent develops from the net of their everyday life experiences within diverse contexts of the social structure. Hence it is important to examine the concepts and principles of the sociology of aspirations that enabled me to understand and explain the way students internalise their experiences in an educational context within a restricting social context. This task follows.

Aspirations and needs

Paul-Henry Chombart de Lauwe suggested the concept of aspirations to understand the changes of persons’ **aspirations** to **needs** in relation to those of the social groups they are attached to (1969). Peoples’ aspirations are linked to their needs by drives coming from the individual themselves, from their physical being and from their “unconsciousness”, as well as, from pressure that stems from society (1969: 15). Aspirations can manifest on different planes. On a first plane aspirations are ***desires*** directed to, or against a thing as **actions** to follow. The desire for a second car, jewellery, preference for certain food is examples of them. Aspirations can also manifest as **goals** and **hopes.** The former is the anticipation of a change in status for instance by means of a career. The latter manifests itself as a fear or worry of losing something that one wants or owns.

A hope is a global attitude of the whole being, who, beyond deceptions and failed goals, keeps a reason to live (Ibid: 39). It is important to note that people’s needs and aspirations are not separated; they are linked in different degrees (Chombart de

Lauwe, 1969: 23, 38). For instance a person's **desire**, linked to "the most intimate part of a person", gets its source from the events of the subject's life which are marked by the social group within which the individual has lived (ibid: 28). These linkages determine that, with the passing of time, some **aspirations-needs** («besoins-aspirations») become **obligation-needs** («besoins-obligations») which are going to become **new-aspirations**(«nouvelles-aspirations») that in turn are going to form other needs –and so on (ibid: 28). While the aspirations multiply as a function of the number and intensity of the **interests** that generate them (Chombart de Lauwe, 1969: 11) the "aspirations' genesis" is influenced by the social structures' transformations (ibid: 23).

This is why some groups, or classes have new, more numerous and higher aspirations (ibid).However, Chombart de Lauwe suggested that in the modern era the societies, rich or poor, are marked by a disharmony between the evolution of needs and the evolution of techniques (1969: 11). For instance people still need affection from others but many of them only get it using a mobile telephone or through internet. In some poor societies millions of people do not have basic education whilst they use mobile phones and their governments produce nuclear weapons. As Chombart de Lauwe pointed out humans' aspirations are modified by the demographic growth linked to the processes of urbanization, industrialization, informatization, as well as by culture, beliefs and myths (1969: 18-20).

Chombart de Lauwe discussed that despite possessing more effective means of transforming raw materials and life, human beings "more and more are prisoners of their own frames of existence and of fixed thinking" (Ibid). This disharmony partly explains the contradiction between the scientific progress and the disappointment and anxiety of populations –particularly the youth (ibid; Tobelem, 1973: 5). This contradiction raised the question of what are the needs of people, groups, societies, and how the needs appear and modify themselves within the technical, economic and social upheaval. Hence, it is necessary to include the aspirations' role in these transformations. Yet when in the conditions of life the elemental material needsare dominant, the freedom to choose becomes impossible (Chombart de Lauwe, 1969: 22).

Then two kinds of behaviours manifest themselves: behaviour of worry and behaviour of free interest (ibid). When the aspirations develop faster than the means to reach them, the threshold of life's level beneath which the behaviours of worry reside expand quickly and is therefore never reached by the majority of people (ibid). Notice that the aspirations cannot bear and above all manifest but in a favourable cultural, social and economic context, that facilitates to people being conscious by means of objective

information and “not directed to facilitate governments’ actions” through advertising (Chombart de Lauwe, 1970: 28).This Chombart de Lauwe’s point is important for the context of this thesis research since this type of government action is common in Mexico.

What is more, the sociology of aspirations concepts is important for the Mexican context where needs and aspirations are not differentiated. In short the social structure should enable people to pass from a state of not fully developed aspiration («aspiration latente») to a state of conscious aspiration («aspiration consciente») found in language (Chombart de Lauwe, 1969: 23, 38; Thomas, 1970: 57). A problem in using the aspirations concepts is that is not easy to measure them. Following researchers on this field I propose levels of aspirations to overcome its drawback. I elaborate on this issue below. In psychology needs and aspirations are mentioned frequently like motivations of behaviour, (Ibid, Boudrenghien et al., 2007) and “levels of aspirations” have had a great “effect since 1930” (Chombart de Lauwe, 1969: 41).

It was F. Robaye who pointed out the difference between levels of aspirations, i.e. degree of fulfilment that a subject reaches, and level of expectation, i.e. degree of success a person waits for (1957: 53; Bergeret et al., 1997: 5). Robaye’s arguments lead Chombart de Lauwe to return to F. Hoppe’s conceptions and classifications where fulfilment plays a “primordial role” (Chombart de Lauwe, 1969: 43). To put it in other words the mental processes that leads one to conceive an expectation are different to “hopes or fears” and “a range of other future-oriented feelings such as believing, knowing and prophesying” (LePan, 1989: 73). Another conceptualization of expectations is that they are the society’s “analytical frameworks” or codes (Posner, 2001:34). It is clear that the concept of aspirations points to different phenomena than that of expectations.

To be more precise the concepts level of aspiration is what I want, which is different from the level of expectation i.e. that which is the most likely outcome or what I can obtain and differentiate from the level of realization: that what I actually accomplish (Chombart de Lauwe, 1969: 60-61). A divergent issue among researchers of aspirations is the level and the type to which this construct can be assigned. A practical yet inclusive one was set by Wrochno (1973) following Chombart de Lauwe as the next table shows. Table 2.1 includes social, professional and personal aspirations which embrace three levels. The type of aspiration that contains most items is the personal, followed by the social and the professional. It can be argued the location of specific types of aspirations like “To haveprestige”, “to be famous”, as well as the level these were assigned, since these can be located in the low or middle levels (Ryan, 1993).

Table 2.1 Level and type of aspirations

Wrochno, K. 1973: 95.

TYPE OF ASPIRATIONS	LEVEL OF ASPIRATIONS			
	HIGH	MIDDLE	LOW	
			Family	Consumption
SOCIAL	To have friends To have prestige	To gain acceptance		To obtain a high living standard
PROFESSIONAL	To work on sciences	To finish studies To be satisfied with job		
PERSONAL	To be famous To be someone To love and to be loved	To have self-confidence To have will	To succeed in life	To get a flat To travel

Similarly it is doubtful that “to travel” can be low aspiration. Noticeable is the ambiguousness of the aspiration “to succeed in life”, as well as, that of “to be someone”. In contrast with Ryan, the research of Boudrenghien et al. only investigated three types of aspirations: to leave school, to start a course and to change options or schools, these are much less ambiguous and were related to a number of « caracteristiques individuelles » and « contextuelles » (2007: 3, 11). I included these aspirations in the list I used to locate those I found in the participants, as the relational approach the researchers followed is similar to my method. Calman and Mason et al. (1976) set the hypothesis that the greater the gap between the actual situation and the « aspirations/expectations » of people, the more it alters the quality of life they will have.

With regard to transformations of aspirations the longitudinal investigation of Poulain investigated Frenchs’ aspirations of nutrition, of which I present in table 2.2 the hierarchy that the research drew. In this table one can see that after thirty years French people between 50 and 60 years old chose nutrition again as their fourth priority. Other French people’s basic aspirations like home and entertainment moved slightly on the hierarchy with the passing of time. A big change was in clothing which in 1998 was set at the bottom of the hierarchy along with health –which did not appear at all in 1966.The table also shows that new aspirations like “to help children”, “culture” and “health” have emerged. To help children was the third priority in their hierarchy of aspirations.

Some aspirations have been expanded or integrated, like entertainment to include tourism and vacations which are the top priority for French people of the age investigated. Notice that the hierarchy of aspirations list is mostly explicit and only to help children can have

several meanings. Hence most of the list can be used by researchers.Following the above literature and research in the field of aspirations I set three types of aspirations: cultural, educational and professional. These types were divided into three levels low, medium and high The main criteria to define these levels of aspirations were that high aspirations point a tendency to actions that enhance one self's life, as well as to cooperative work with other people, not only with relatives. The opposite applies to low aspirations such as having two cars or driving for five minutes to get to the school.

Table 2.2 Frenchs 50-60 yrs. old evolution of aspirations' hierarchy (by frequency of response). Poulain, 1998: 29.

1966	**1998**
1 Home	1 Entertainment, tourism and vacations
2 Entertainment	2 Home
3 Clothing	3 To help children
4 Nutrition	4 Nutrition, repairmen
5 Car	5 Savings, investment
6 Books	6 Car
7 Savings, investment	7 Culture, books, CD, museums, theatre
	8 Clothing
	9 Health

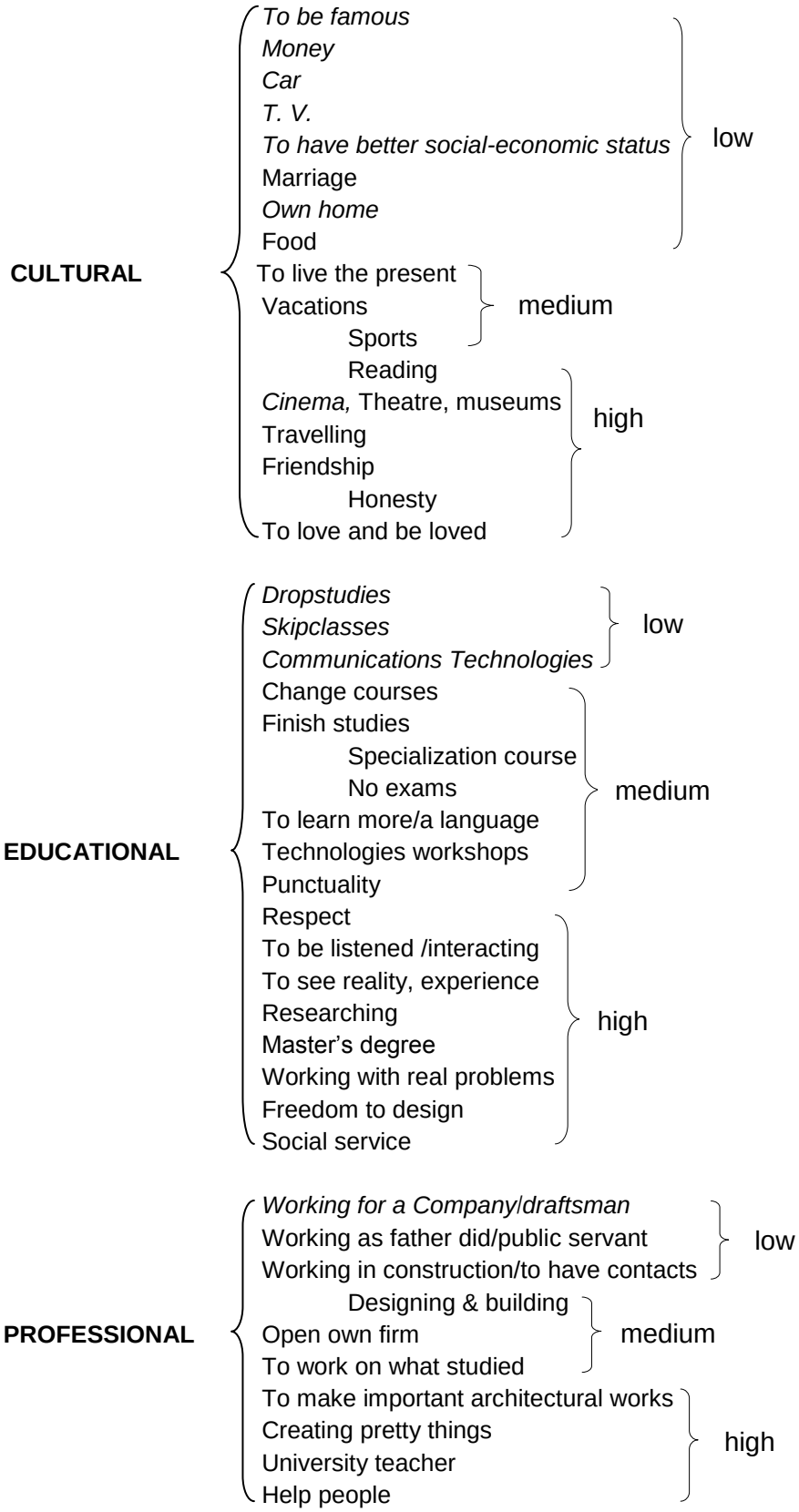
Low aspirations also point to an intention of dropping tasks or goals. I also considered that low aspirations were actions directed to things as distinct to help people or to cooperative work. Figure 2.2 shows the types and level of aspirations; words in cursive are considered desires. I used these types and levels to identify and compare those of at the middle and when they finished their studies. Once I found students' aspirations I was able to relate these categories of students' subjective experiences with their cultural capital volume as well as to their orientations to learning and meaning. The aim was to find patterns of interconnection of these qualities in the students' responses in relation to their acceptance or rejection of the architecture programme's pedagogic practices. I also compared each student's aspirations level with their grades.

These processes lead me to explain how the combined action of these factors influences the participants' performance. The comparison led me to modify the theoretical categories. I also explored through time possible changes within the students' aspirations. I did this in order to prove or disprove Bernstein's idea that a flexible pedagogic process raises aspirations of the many. To discover if a student become idealistic or realistic due to their exposure to the UMXS architecture programme's flexible-rigid pedagogy I compared their aspirations level found when they were near to finish their studies with those they had at the beginning. The latter level was considered that they acquired in high school and through their schooling. The former level was that they reach by experiencing the architecture programme instruction. Through this process I pursued their cultural principles for learning.

To sum it up Bourdieu described the exclusion of students that the old educational system reproduces by systems of classification stemming from power. This process imposes in them symbols of classification, rules, what is permissible and not permissible in act and thought along with manipulation of their aspirations (1964: 28; 1984: 165; 1997: 51).Thus the interaction between the objective structure of society and the students' perceptions of it, is a dominant tendency to structure in them views that take for granted the established order. This hidden process in turn devalues social agents' aspirations in accordance with their distance to power, i. e. to the means to reach material and symbolic wealth. Those closer to power will find that their subjective experiences are feasible to be fulfilled while to those far from power the opposite holds true.

Yet Bourdieu's work did not make explicit schools' curriculums types as channels of communication and tacit principles that can shape students orientations and realizations towards learning. Of Bourdieu's body of knowledge I used his concepts of capital volume and cultural capital as dynamic a process that contributes to students' trajectory andconstructs their aspirations. Regarding B. Bernstein theory in relation to the students' inherent qualities he followed the issue of the conscious acquisition of meanings that guide a person to act using the concepts interests, orientations and realizations. When Bernstein suggested that educational codes inserted in the regulative discourse can shape students' consciousness he described a specific channel of communication through which they are moulded.

Figure 2.2 Types and level of aspirations used in this thesis.



Bernstein's idea that pedagogic discourses are generated by principles of power and control that stem from interests at the macro level that control the production, distribution

and acquisition of material and symbolic goods clearly reflected to me the UMXS architecture programme context. Bernstein's constructs of codes, classification, framing, consciousness i.e. interests, social relations and orientations, provided me tools to investigate the problem of describing and explaining the results of student's struggles to accomplish their goals of becoming an architect. Bernstein's intention of linking the macro with the micro, the collective and the individual, to widen the paths to research the visible and hidden communication between people guided me to include the characteristics of the macro-context, as represented by Bourdieu's space of social positions. Bernstein's work encouraged me to investigate the students' desires that can mediate the students' decisions to learning. Students' desires ought to be found using a language of description external to that of Bernstein's.I used the concepts of the sociology of aspirations as the external language to that of Bernstein to explain the architecture students' actions while interacting in the classroom.

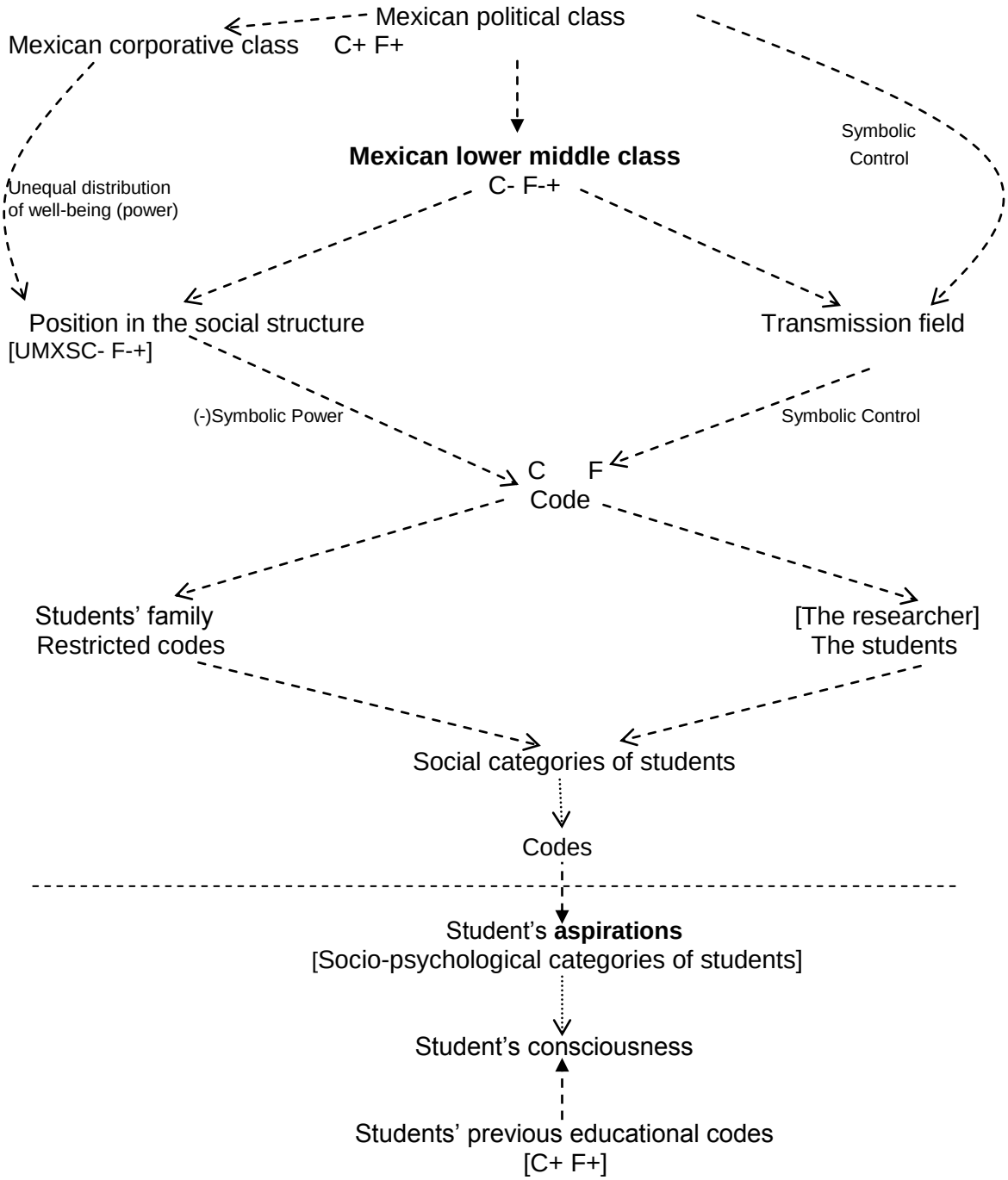
Integrated conceptual and theoretical framework

All the above mentioned issues led me to pose the following theoretical proposition [TP] regarding architectural students within a programme of a C- F-+ type:

1. The difference between the architecture programme flexible pedagogic practices with the students' strict previous school pedagogic practices disorient them regardless of their social positioning.

The interconnections of contexts and issues can be represented as figure 2.3 shows. The chart suggests that the Mexican political class is a closed group with views directed to restrict (C+ F+) the forms of distribution of material and symbolic resources. This political class provides capital in the form of funds and properties to the Mexican corporative class which distribute it unequally to people in lower social positioning. Among the lower positioned groups is a part of the middle class that has broader views (C- F-+) than the Mexican political class concerning the production and distribution of goods, as well as of cultural practices. The chart suggests that the middle class is a receptor of the political class distribution of symbolic means of control through the educational institutions or the field of transmission of culture.

Figure 2.3 Model representing the process of interrupting and transmitting cultural principles to students within a State higher educational programme in the Mexican contemporary society. Adapted from: Bernstein, 1975: 178.



The codes transmitted to families of the lower classes are internalized in a restricted form although not by the students, who through the instruction they receive in the schools complement those they receive in the family setting. The students assimilate and realise the codes transmitted in different forms. Thus they can be group in terms of the similarities and differences of their realizations. The students' differential

assimilation of cultural codes depends on their inherent properties or aspirations. This is represented by the dotted horizontal line. The vertical arrows that link the students' codes with their aspirations represent the last stage of the process that shapes students' consciousness. Yet this process is confronted by the students themselves by their previous instruction that built within them codes different to those they acquired in their tertiary education. This is represented by the vertical arrow pointing upward at theend of the graph.

Summarising the graph suggests that the Mexican context is a "divisive act" of a system of "related agents within a category" or C+ F+ (Bernstein, 1975: 183). The research process within the Mexican and the architecture programme context that I represent in figure 2.3 can also be described as follows:

$$\frac{[C.\ C.]\ [As] \leftarrow C-\ F-+}{C+\ F+} \approx \text{Trajectory} \rightarrow \text{Social Positioning}$$

Where: C.C. = E.C. (educational capital) + C.C. (cultural capital) + S.C. (social capital) + Ec.C. (economic capital),
As = aspirations,
C- F-+ = flexible learning but not flexible evaluation,
← = controlling; → leading to
—— = restricting
C+ F+ = disruptive social division of labour.

In the next chapter I present the research design I used in the empirical work that search for students' orientations to learning and meaning and their aspirations within a social system that offers dark expectations to them. In chapter four I analyse the pedagogic discourse of the architecture programme to define its educational codes.

Chapter three

Description of the field-research

Introduction

In this chapter I describe the methodology I used to understand, describe and explain students' confusion in a flexible-rigid learning process in architecture bound by a restricting macro context. This task includes a discussion of the data gathering techniques that lead to discover the students' aspirations and codes. My overall goal was to identify for students' differences and similarities in their schooling pedagogic codes, their social background, their cultural, educational and professional aspirations, as well as in their orientations to learning and meaning. By so doing I was able to understand the participants' discomfort with the architecture programme's flexible pedagogic practices. In order to explain the students' disorientation in the architecture programme it was necessary to discover their contradictions or codes (interpretative frameworks), since these are the tools by which the students analyse the complex educational process they experienced due to its flexible and tacit nature.

I suggested in Chapter Two that to understand and to explain the possible devaluation of the university architectural students' aspirations with the implicit dropping out studies it was necessary to take into account the dark expectations the social system offers to them. I put forward that to explain a student conflict in the classroom is necessary to define the participants' social positioning, discover their orientations towards learning and meaning and search for their educational, cultural and professional aspirations. I also suggested that their aspirations are the results of the internalization of their socialization process and previous educational codes. Therefore it was necessary to explicitly define their schooling codes types since they were their previous shapers during an interval of 12 years. Bernstein's chief constructs of classification and framing enabled me to define the participants' schooling educational codes.

These Bernstein's constructs also enabled me to investigate the pacing of the architectural students' learning experience set at the university –a factor that I suggested in chapter one as impinging on students' orientations towards the learning process. This specific task appears in chapter five. I interpreted the students' situation in the architecture programme as a "contemporary event" "within its real-life context", the "boundaries of which are not clearly evident" (Yin, 1989: 3, 13). This idea led me to use case studies as the empirical strategy. As Bourdieu's and Bernstein's theories

share similarities and I wanted to reach a "high degree of certainty" (Yin, op cit: 50) in my results I decided to use multiple case studies.

The next section describes the methodology I used. After the methodology I present the research object and the rationale for the participant selection. Then I set out the research design. Afterwards I describe the pilot study I conducted to test the main technique chosen to address the research problem. Subsequently I discuss the data gathering techniques and highlight the criteria to overcome students' possible difficulties with recalling. The chapter ends with an outline of the instruments of analysis. I include two examples of the process to apply Bernstein's constructs and charts to classify students' responses into orientations to meaning and learning.

Methodology

In order to account for the problem of understanding deeply multi-faceted people like university students, one should search for their views and opinions in relation to their social positioning within a specific educational context bound by a major social context. My earliest idea[11-12] to approach this problem was a series of in-depth interviews and open questionnaires. As Bourdieu (1979: 70, 72, 95, 506) and Bernstein (1997: 73) implicitly suggest, through interviews and open questionnaires one may find the participants in the research interpretive frameworks (cultural codes), as well as their cultural capital (competence). These properties act as experience filters and as such may form the students' aspirations. If this were the case one would say that the students' responses would enable one to have a deeper understanding of their priorities, how they affect the choice of goals and how these relate to their ability to reproduce learned knowledge within the context of social constraints set upon the definition of their goals.

In addition, since language is only the surface manifestation of the acquired cultural code that may control other forms of meaningful objects such as clothing, body adornment, group's peers, etc., I conducted a set of observational techniques. The observations enabled me to identify student's actions such as degree of participation, compliance with tasks and interaction in the design studio, as well as the objects they used in everyday life. I compared this information with my analysis of the students'

[11] I use the word "**idea**" in Hegel's sense: the bondage of the subject-object. This is to say a process that contains the notions, as "the earlier categories of thought merged in it", and the object, that what it is and is not given to us by the senses ([1817] 1997: 107 § 213, 108 § 214, 109 § 215). With this respect Hegel complements Kant's conception of idea as a concept formed by a group of notions or "a concept of reason" i.e. a "concept that serves to conceive" (1781-1787: L II: 176-172).

[2] I use philosophers' concepts following Wittgenstein's proposition that philosophy can logically clarify and delimit our thoughts (1922: 65), which my experience holds true.

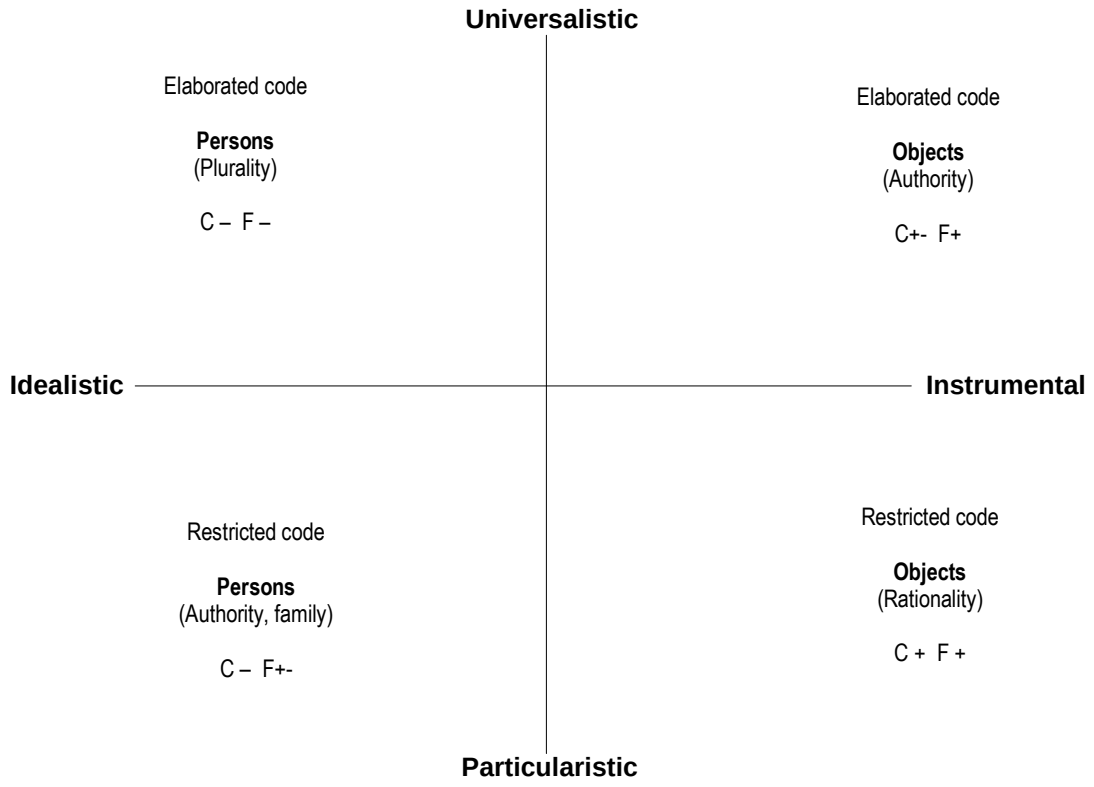
verbal and written responses leading to discover and to understand the students' orientations, aspirations and codes. Once I found the student's orientations from their responses I plotted them in a Cartesian graph that represents the opposing meanings particularistic-universalistic and idealistic-instrumental.

Figure 3.1 shows one of the Cartesian graphs. This graph's four quadrants facilitate to locate four different types of students defined by interconnecting their orientations to meaning and learning. A student with explicit meanings uses more adjectives well elaborated sentences that are informative, imaginative or heuristic; he/she was located in the left-up quadrant. An opposite type of student talked vaguely, with few words, with tendency to look for ends and means. This type was positioned in the right-low quadrant. I used two basic categories: people and objects to define those of plurality, authority and family as well as authority, identity and rationality as complementary referents for the four quadrants.

I used Bourdieu's graph of the social space with his concept of cultural capital and volume to define these qualities in each student; then I was able to locate them in this graph that represents the social structure. These tools and process enabled me to distinguish the participants' nearness or farness to reach material and symbolic resources, or their degree to satisfy basic needs. Then it was possible to relate the students' position in the social space with their orientations to meanings and learning to find interconnection of these qualities leading to start to discover plausible explanations of their views towards the educational process and their performance. Although Bernstein's theory language enables one to construct the tacit, it needed an external language of description as a channel of making the tacitly constructed explicit "in a non-circular way" (Bernstein, 1996: 135-136).

Hence I included the level of students' aspirations as another research construct. I also chose the sociology of aspirations concepts as the external language of description following Bernstein's suggestion that pedagogies of the open kind, like that of the university acting as context of this research, raise "aspirations of the *many*" (1996: 138). Another Bernstein's idea that led me to include the sociology of aspirations' concepts was that researchers should be sensitive to the subjective experiences of the researched, "to their particular motivations, intentions, aspirations" (Bernstein, 1996: 139). A persons' motivations along with their position in the social space, that is their nearness or farness to acquiring material and symbolic means (power), can affect their aspirations (Chombart de Lauwe, 1969) creating an uneven development

Figure 3.1 Cartesian graph for the interpretative analysis of a student's orientations to meanings.



between their objective possibilities and their subjective experiences.

Thus the chief issue of my research was to find interconnections in the students' schooling types, with their orientations to meaning and learning, with their cultural capital (competence) and with their aspirations. The patterns found in each participant's answers defined a type or category. The types of students' responses were also defined in relation to their acceptance or rejection of the interdisciplinary approach of the university. I compared the categories of students resulting of the interpretive analysis with their grades (performance) and trajectory, or "variables of answer" (Güell, 1965: 57 in Boudon and Lazarfeld, 1965)[13] to give validity to it. This comparison enabled me to see what of the constructs under investigation coincided more with each participant's advancement or delay in the architecture programme.

The variables of answer are the concrete behaviour of individuals or groups, which can be measured more easily than the previous variables (Ibid.). To support the plausibility

[13] As Bourdieu (1979:18, 22) I prefer to address the meaning brought about by relationships or interaction of factors than to use the concept variables, dependent, independent, illustrative and intervenient, which may lead one to think about causality. A relation of cause and effect is an issue considered lying in the boundaries of the social sciences and philosophy (Güell, 1965: 53). Notice that Wittgenstein considered as "superstition" to believe in "causal nexus" if one deals with different affairs of state of internal relations, which renders unlikely to infer future events from present actions (1922: 99).

of my interpretations of students' responses I gave the participants a summary of the transcript for them to comment upon how it does or does corroborate their accounts – as a number of scholars have suggested (Norris, 1980: 345; Ball, 1983: 98; Kyale, 1996: 231 cites Kyale, 1992 and Rosenau, 1992; Robson, 1993: 404; Yin, 1994: 145). I used the students' reviews of my summaries as further data to relate to the interpretive analysis results. I present the results of this task in chapter six.

The unit of analysis of the research was the relationship between the students, the teachers and the context where they interact focusing on the students -as Bernstein suggested (1975: 148-149; 1999: 74). That is the students' aspirations are not "*forces"* independent of the relationship within which they 'act' (Bourdieu, 1979: 22), but appear by the relationships that happen between and within the students interacting with their teachers in a flexible-rigid pedagogic context (Martinez, 1991: 35). The analysis has to be related to a defined pedagogic context because the meaning students give to their experiences at the architecture programme (C- F-+) can be conditioned by their previous educational experiences (mainly C+ F+), as well as, the meso-context where they interact (C- F-) insert in the macro-context of Mexico (C+ F+).

These contexts are a structure resulting of perceptions i.e. they are more than physical entities a net of perceived relations, perhaps unaware to the participants' own although certainly lived (Merlau-Ponty, 1976: 204). The idea of "morphological essences" acts as a vigil of this research to construct the categories of students' subjective experiences (aspirations) I intend to link with their social and educational background (objective conditions) and performance (concrete properties). The categories constitute the unity of the perceived subjects and gives meanings to the empirical data. However this development is not an intellectual synthesis, it is a "horizon synthesis" i.e. the invisible side of the subjects is given to the researcher as "visible from another standpoint" at once given but only immanently (Husserl, 1962: 61-62). This is important because if one is to understand the students' views one has to be open to many points of view.

In other words the real student shall be given to me as the infinite sum of an indefinite series of perspective views in each of which the subject-object is given but not exhaustively. In this investigation I search for what G. F. W. Hegel called the "essential relationship" (1812-1831: 457). Hegel's maxim motivated me to search for the "degree", or the quantitative properties of the qualitative properties of the relationship being investigated. This relationship or a social process of producing knowledge (or institutions) is a "moment"[14] of "externalization" of the persons or agents (Berger &

[4] In Hegel´s conceptions "moment" refers to the fluidity of our thoughts which become "pure essentialities

Luckmann, 1972: 78). The relationship of three moments points to three elements of this thesis' process: the pedagogic and hidden discourse the university's architecture programme transmits (objectivation), its social interactions (externalization), as well as, the student's views of their educational experience as socialization process (internalization or subjective experiences) (Ibid.).

These dynamics of the process of education under investigation have to be constantly remembered to avoid any distortion in the analysis. Writings of Kuiken and Miall (2001: 2), Kelle (2001:1[15]) and further readings reminded me that the information obtained from interviewing a student (micro level) would need to be accompanied with "knowledge on the meso and macro" context in order to formulate valid sociological explanations (Kelle, op cit: [25]; Preston and Feinstein, 2004: 1). An effort was made to gather as much information as possible, from different sources, concerning the students' situation and point of views, to explain the influence of their schooling educational codes and past experiences on their aspirations and of these in the way they learn in a flexible-rigid educational process. Next I outline the object of this research.

The object of research

To relate the students' social positioning and their past educational codes, to their orientations to meaning and learning with their aspirations levels while interacting in the flexible-rigid educational process they were experiencing, it is necessary to understand their views about the module's contents, about the techniques and pace of learning the subjects, as well as, the process of evaluation (pedagogic discourse). It is also necessary to understand the interconnection of the social structure with that of the social space within which this relationship takes place. The specific structure is that of the different hierarchies and channels of communications that exist within the architecture programme (pedagogic device). Since I approached this relationship through the students' verbal and written responses, it was necessary to include their works' assessment, as well as, their trajectories, or their accomplishments over time. A key moment during the process was finding their contradictions.

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that constitute the nature of science" when we leave aside our fixed pre-conceptions through the movement of our thoughts as opposed to the "differentiated content", becoming, thus, concepts ([1807] 2000: 25).

[15] (2001, February *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research [On-line Journal], 2 (1)[17]. Available at: http://qualitative-research.net/fqs/fqs-eng.htm* [Accessed on June 10th, 2005])

On reflexivity

My approach to understand social phenomena, either the lack of affordable homes or the learning-teaching process, has always been multidisciplinary. This method could have influenced my interpretative analysis of the participants' responses that indicated she/he did not accept the university's principle of students work based upon this perspective. I notice this for two main reasons: a) to comply with the research ethics principle of making explicit a possible "conflict of interest" that can be scrutinised (BERA, 2011: 9[16]; ESRC, 2009: 3[17]) in the forthcoming chapters; b) to stress that students who accepted the pedagogic principle of working with community's problems might had faced difficulties in their courses when they had as a teacher someone who did not accept that principle. This issue is also important to note since the multidisciplinary approach to understand the design process as social phenomena is at stake in the architecture programme due to the staff's antagonist groups.

I did not make explicit to the participants that one of the purposes of this research was their assessment of the university's pedagogic principle usefulness. I decided this for two main reasons. Firstly, if a colleague approached one of the interviewees to ask them what we were talking about and he/she revealed this issue to the teacher, it will put the student at risk of being under pressure by their teachers. Secondly, to let them knowing that this issue was a purpose of the research would oppose the projective techniques process of letting the participants to freely express their inner thoughts. I hoped that through three interview rounds the participants would understand their role to give validity to that pedagogic principle even if they found it different to that one they studied before. Thus my decision was in accordance with an expected ethical conduct (BERA, 2011: 6).

To inform or not to inform the participants of the possible risk of being considered part of 'a threat' to teachers who do not accept multidisciplinary teaching and research as important tasks was a dilemma during this research. Since this source of antagonism between academic staff groups is not openly addressed in the architecture programme setting, I decided not to tell the participants about it. I also thought that my worries that students are involved in this controversy were groundless since I have never heard any of my colleagues to mention that a colleague had implicated a student in any academic discussion. I thought that if some students were not aware of this disagreement, to tell them about it might confuse them. This would inhibit their participation in the research

[16] Ethical Guidelines for Educational Research. [accessed 27-05-13].
[17] http://egb.edubility.net/ [accessed on 21-04-2010].

as well as to confuse them while interacting in the classroom. Then to avoid that teachers see me interviewing a student was a major concern of mine during the field work.

To avoid my colleagues to see me interviewing students, I suggested the participants to conduct it in an empty classroom of another degree programme's building close to CAD's building. A number of students preferred to be interviewed in the open spaces of the architecture programme's building. When this was the case I accepted it to avoid coercion and to comply with another research ethics principle (ESRC, 2009: 3). During the interviews I look for teachers staring at or seeing us. To reduce the possibilities that the interviewee were considered a part of the group to which I was supposed to be attached, I latter approached the colleagues that saw me with a student talking to find out if they were concerned with it. Only one professor asked me 'what that was about'. I said to him that it was work for my PhD research in education concerned with the students' aspirations and opinions about their experiences in their high school studies.

Once the first interview finished I said to the interviewee that I would like to interview him/her again and to provide them with a questionnaire. Most students seemed to agree with it. MM/f/20's was a student who asked me immediately after the first interview if there was going to be one more. MM, as well as a number of the participants, also asked me what the purpose of the interviews was. I answered to them the same as I did for my colleagues. I hoped that the interviews as purposeful conversations along with writing up the questionnaire would lead the participants to reflect on the number of factors their answers to my questions entailed as their qualities. This stance should guide them to relate it in their interactions in the classroom and with their teachers leading to understand the hidden pedagogy with power relations it conveys. The in-depth interviews as an embodied experience set me in a reflective stance to appreciate and consider in my teaching practice the variety of students' attitudes towards learning the university's pedagogic principle with its flexible-rigid architecture programme teaching approach.

Certainly my stance would have not been possible if I had not had teaching experiences and learning about it. In line with Bernstein's argument that a person's –or a researcher- socialisation and educational background influences his/her orientations to learning and meaning in an educational process it is worth mentioning my own trajectory. This description may enable the reader to understand more my interpretations of the students' responses. In the last term of my bachelor's degree

programme I chose to analyse the housing problem in Mexico City. I used as framework the sociology of housing to study empirically a slum located in the outskirts of Mexico City. This final project was considered out of the ordinary by my teachers. The National Polytechnic Institute of Mexico City followed a traditional pedagogy or C+ F+ closed pedagogic code. This coincides with my teachers' perceptions that were of that kind. Years later I attended a course in Urban and Regional planning that encouraged me to pursue a Master's degree in housing. At that time, when I was in my mid-twenties, the opportunity of teaching at a State university outside Mexico City stimulated me to research the teaching, learning and education of architects.

Since that time, the late seventies, my concern of how students' 'social class' affects their behaviour, performance and learning appeared. In terms of architectural design the question that arose then was 'How is it going to be possible for a student that has not ever seen a space like those of a museum, a hospital or a theatre, to design it?' By this I do not mean that I considered socially disadvantaged students non capable of designing. Since my own social background stems from a middle-low status, it was more likely that I was biased in favour of that type of students. Since the late seventies I held the idea that my role as a teacher was to guide students to develop naturally their insights and cognitive skills. While I was teaching I worked for a construction firm in Mexico City coordinating the construction of low-cost housing.

I practised architecture until the late eighties when I applied for the Masters of architecture degree. I was accepted to McGill University Architecture School to pursue a Masters focused on housing. It was of significance to see the importance McGill School of Architecture gives to concrete issues, to History, to research, and to philosophy. In the mid-nineties I started teaching in the university acting as context of this research as a lecturer-researcher. I realised soon its pedagogic idea of guiding students to research community problems to build knowledge from the concrete to the theoretical with a multidisciplinary approach. This pedagogic principle reaffirmed my insight of using multiple perspectives to guide architectural students to work with it. It released a little my preoccupations of helping socially disadvantaged students to use the knowledge being transmitted. In other words, my earlier assumption of using sociological theories in addition to architectural theories to understand the queries and performance of socially disadvantaged students was re-affirmed.

I also started to perceive in this university's architectural students a feeling of confusion, suspicion and passive resistance to develop tasks. I perceived that not only

students with limited material resources were worried about the flexibility of this university's rules as well as with the overlapping of subjects. Since students' delight of their educational experience has always been my main motivation I considered that the students' discomfort with the architectural programme pedagogic practices was an issue necessary to investigate. I decided to develop my Ph. D. research proposal within a multidisciplinary approach that included philosophers' concepts as complement of those of the main theories I used. A significant moment in this intellectual development of mine occurred while reading Basil Bernstein's work Pedagogy, Symbolic Control and Identity: Theory, Research, Critique (1996). This book opening a new field to me: socio-linguistics.

At that moment, with Bernstein's concepts of classification (power) and framing (control) that point out concrete and abstract relationships I made sense of a number of issues that I have perceived in the architecture programme's social space. Bernstein's perspective also led me to ponder the influence that the architecture programme's curriculum would cast in the students' identity. With these interconnected elements in mind I started this thesis investigation. Hegel's "essential relationship" (1812-1831: 457) led me to search for the interconnection of the student's qualities that build up specific attitudes towards the university's pedagogic principles in connection with the architecture programme's rules and hidden messages, as well as with the social system's messages where the institution is inserted.

During the process Hegel's maxim was supported by researchers' suggestion that qualitative techniques provide inherently quantitative properties of the phenomenon under investigation (Kuiken and Miall, 2001: 2). Qualitative methods' strength have been acknowledged to "enable the discovery and analytic articulation of previously unobserved phenomena" or "to lift the veil on social micro processes" (Kuiken and Miall, 2001: 2; Kelle, 2001 February)[18].These suggestions encouraged me to focus on qualitative approaches because they meant the possibility of finding the students' codes (expectations or cultural codes). The representation of these interconnected factors as it manifested to me from the students' narratives was a problem I addressed by requesting the participants' corroboration of my analysis.

A most important Hegel's principle I followed throughout the research process was to keep a receptive behaviour i.e. "not to alter at all the knowledge as it manifests" ([1807]

[18] http://qualitative-research.net/fqs/fqs-eng.htm [accessed on 10/06/2005].

2000: 63) to me. This Hegel's maxim enabled me to follow the ESRC's sixth principle of research ethics: "The independence of research must be clear" (op cit: 3). To implement this principle I transcribed the participants' responses in detail to report them exactly as they talked or wrote. During this process I kept in mind Hegel's conception of science: it is a circle which begins by overcoming one's –the researcher- fixed and determined thoughts and recognizing two **moments**: that of the knowledge and that of the **objective negation** related to the knowledge which turns itself over its beginning transforming its concepts only at the end of the circle (1807: 24-25). I interpreted the objective negation as the students' testimonies concerning the learning process. The next section describes the way I selected the participants on this research.

Students of architecture as participants in the research

The initial participants in the research were twenty eight students of architecture who began their tertiary studies in 2003. I considered that this number of twenty eight students, being similar to the average number of students per classroom in the different levels or twenty five, would provide me enough information. My idea for using this relatively high number of students was supplied by readings on longitudinal studies that pointed out the potential problem of attrition, i.e. the loss of participants in the research (Bergman and Magnunson, 1987: 12). I thought that twenty eight participants from different groups of module I shall resemble the complex communications in the classroom due to the heterogeneous students' composition.

This type of cohort is similar to the approach that selects the participants on decisions made "as part of the on-going field-work process" (Schatzman and Strauss, 1973 cited by Rose, 1982: 120). To form the cohort I approached the students in the classrooms of module I. I requested them to be interviewed 'when and wherever' they were available. I was aware that whilst their location in different groups implied their exposure to different pedagogic practices that would increase the complexity of the analysis, at the same time it would give me greater "scope or range of data" (Robson, 1993: 61). Indeed richness of information was accomplished by interviewing the participants on three different occasions. Twenty-eight students, one of which was inaudible, were interviewed for the first time over the period May-July, 2003.

The initial criteria for selecting students stem only from the main theory that states that students' exposure to certain educational codes shape them, because it was not possible to use other constructs for example their cultural capital, their lexis and grammar use, since there was not empirical research available on these subjects. Other criterion to select the participants, for instance students who need to work to

support their studies and students who did not work, or any other criteria would lead to discriminate others, particularly when choosing from a supposed class. The analysis of the interconnection of students' cultural capital, orientations, aspirations and marks (performance) provided me with data to select five students. I introduce these students with their initial letters in bold: **RB**/m/20's, **IN**/f/20's, **VL**/20's, **SM**/20's and **DT**/f/20's and throughout the document to remark that they refer to persons.

For the same purpose I show their testimonies with lighter font colour. I selected four of these five students considering that they accepted to be interviewed three times and responded the questionnaire. The selection of **IN** and **DT** comply with the criterion of extreme or 'dichotomous cases' as the former spoke lengthy and fluently whilst the latter talked briefly. In terms of social positioning they were also far away from each other; IN was in much higher social positioning than DT. **RB** and **SM** represent similar selection criterion in regard to social positioning although RB's language was less rich and more ambiguous than SM's. I also included **VL** since she had obtained the highest marks in the seven modules she attended. VL's average mark in high school was two of the highest along with DT's.

The analysis of VL's language orientations suggested she would accomplish very god educational trajectory. However, her disrupting behaviour in the classroom that coincided with the fact that she dropped her studies out indicated that she was a kind of 'black swan'. By including VL's experiences in the main body of this report I avoid falling in the epistemological mistake of the third excluded. The results that I present in chapter five focuses on these five students. The selection of five students enabled me to present one from each previous educational context. I classified the high schools based upon their pedagogic codes. This classification result in five middle level schools, four of which were State fund and one private. I changed the names of the high schools since I did not request permission to analyse their pedagogic discourses. The names given are the following with the correspondent participants' initials:

1. *College* (**SM**)
2. *Prepa* (**VL**)
3. CENTRE (**DT**)
4. CERVES (**RB**)
5. Private (**IN**).

The *College* is not linked to any higher education university or technology institution; the analysis of their educational codes result in C-+ F-+ (see chapter five). *Prepas* are attached to a major university of Mexico; their educational codes were defined as C+

F+. CENTRE or Vocational schools are attached to another large institution of México; their educational codes were found as C-+ F+. The CERVES were funded by the Ministry of Education and controlled by its Sub-secretary of middle education; their educational codes result in C++ F+. This strong classification was due mainly to limited subjects to study concerned only with technical matters, as well as a strong separation between personnel, teachers and students. In these high schools students are systematically inspected.

Private schools are either run by religious organizations like Marists (La Salle) or by professionals turn entrepreneurs with teaching as its object of commercialization (for instance UNITEC). To determine the schools' educational codes I downloaded from the internet their programmes and applied to it the theory of transmission's criteria of degree of separation between subjects, students with teachers, as well as, learning pace, sequence, compliance with time schedules and places of learning. I also followed students' report as either 'traditional system' or 'conventional' ('*escolarizado*') to point to the closed type (C+ F+). In the third stage of the interpretative analysis I related the students' previous schools pedagogic codes to the factors being scrutinised. The next section describes the research stages and techniques I applied to investigate empirically the object of study.

Research design and techniques

I adopted an interpretative, multiple case study approach to the research design. The theories being used along with complementary readings suggested that an empirical investigation in-depth and in-breadth may enable me to understand the students' sense of confusion at the university's architecture programme, since I could interact with them in their own concepts and in their own space. This approach would lead me to get "immersed" in their lives (Giddens, 1976: 156,160). To approach this, I decided to follow the students' views over time as a process to discover their motivations in relation to classroom learning as long-term results "of being in specific contexts" (Turner and Meyer, 1999: 87-89). To accomplish this process I interviewed the students at the beginning of their studies, at the middle and when they were completing their degree programme.

The main reasons to use case studies as the research strategy were 1) its suitability to investigate "real-life context", as it is the students' sense of confusion within the architecture programme and 2) that the phenomenon and context were entangled (Labuschagne, 2003: 1; Yin, 1992: 13). In addition, a case study strategy is amenable for "generalising the theoretical propositions" including expanding theories (Yin, op cit: 10, 27)

that I wanted to guide my research. Before the field-work I conducted a pilot work by interviewing three groups of four students, which included graduates who are now lecturers at the architecture programme. The outcomes of analysing the pilot work information led me to follow in the topic guide the issue of evaluating clearly the students. It also provided me a well ground start to the empirical work.

The three face-to-face interviews were audio recorded and two of them transcribed fully while the third was brief with key notes following the previous transcriptions' thematic framework. After the second round of interviews I handed questionnaires in to the main group of interviewees. Once all participant students were interviewed I carried out a preliminary analysis to apply "on going analysis" (Denzin, 1994). This research design is similar to the "multi-cohort-multi-occasion (MCMO) design" by Marsh et al. (1998) that has been proven "to allow for longitudinal analysis from multiple cohorts to maximize sample size" (Bodkin-Andrews, et al., 2004: 2). Figure 3.2 represents the stages of the empirical work.

The literature review led me to apply the criteria of "triangulation" i.e. of data sources, places, theories (methods) and possibly "evaluators" as an approach to give rigor, breadth and depth to the investigation (Bulmer, 1977: 30; Flick, 1992: 194; Yin, 1992: 93; Denzin and Lincoln, 2005: 2; Kelle, 2001: 1-7[19]). To triangulate the information the participants provided I compared the first with the second interview responses as well as with their written responses. That is I compared each student's responses before being in module V against their responses when they had already experienced the instruction of the architecture programme. The comparison of the three interviews answers provided me insight on the participants' contradictions by finding opposing answers.

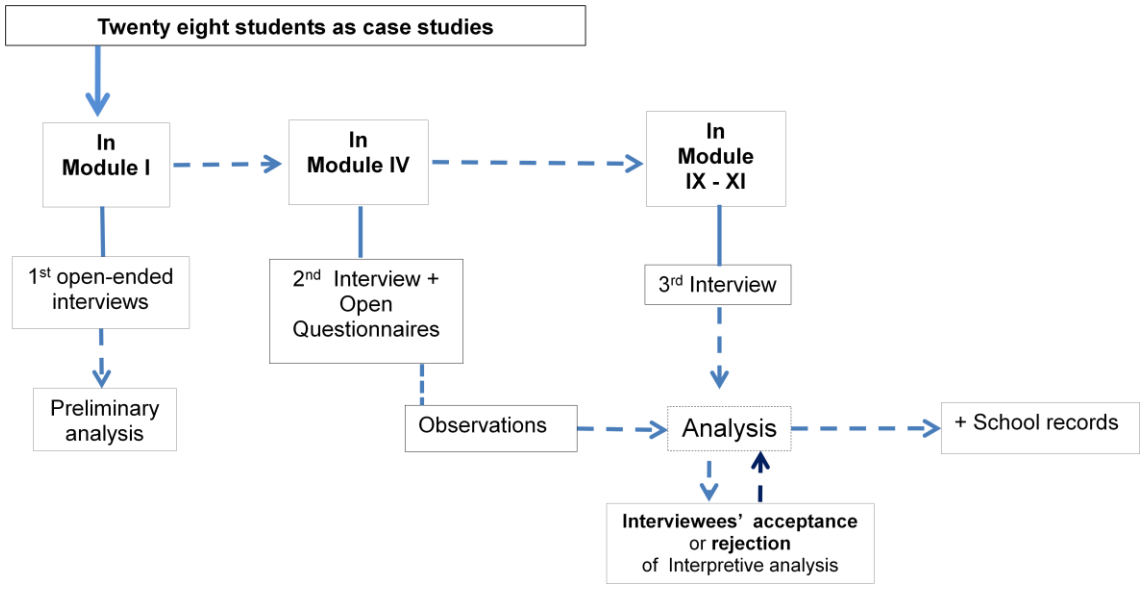
This comparison enabled me to analyse the interconnection of the architecture students' perceptions of the first module or 'common trunk' multidisciplinary student centred approach and the pedagogic practices in the architecture programme. Then I related these students' views with their orientations to meaning and learning, as well as to their aspirations of designing, as interdependent factors with the expectations that the social structure present to them. Since an expert in case studies has established that what matters regarding the information and findings from the case studies is its construct, internal-external validity as well as its usefulness to find replication in theories (Yin, 1994: 33), I included the sociology of aspirations concepts. I go over these two issues next.

[19] [http://qualitative-research.net/fqs/fqs-eng.htm. Accessed 06-10-2005].

Validity and Reliability

To reach construct validity (Yin, op cit: 33, 34) in addition to the face-to-face interviews, open questionnaires and observational techniques, I also requested to the university's Records Office the students' average marks from high school, the entrance exams score and the marks of the twelve modules. This enabled me to form "chain of evidence" (Ibid) of students' qualities from an official view. To increase the possibility of reaching validity

Figure 3.2 Research design.



I considered the participants in the research as "key informants to review", accept, reject or correct my summary of the case study report (Yin, op cit: 34). This technique is also called respondent validation or "communicative validation" (Flick, 1997: 22).

To reach internal validity, i.e. establishing causal relationships, I collected the data at three distinct time periods. Then I searched for patterns (Yin, op cit: 33, 34; Labuschagne, 2003: 4) within and among the students' answers that should be generated by relating the auxiliary theories of cultural capital and aspirations concepts with the students' orientations and their codes. The fact that Bernstein, Bourdieu and researchers use the concept of aspirations suggested that it has the quality of "systematic import" that sociological concepts ought to have (Rose, 1982: 40). The aspirations concept clarity is another desirable attribute a sociological concept ought to have leading to form a chain of lower level concepts (Ibid.).

To put it in other words I used in this research the aspirations concepts as indicators with a "high degree of validity" (Blalock, 1968: 23) of Bernstein's constructs. I used the

concepts of aspirations not only because language use is difficult to measure, or because Bernstein did not measure his constructs well, but also bearing in mind that I might have asked "the wrong sort of question" (Ibid.) when I interviewed the participants. This process enabled me to explain the students' confusion in the architecture programme as reflected in their acceptance or rejection of the university's pedagogic principle of student centred work with multi-disciplinary approach in relation to their performance.

To reach reliability I followed two basic steps: first, careful transcription of the interviews' responses; second to analyse in detail the first interview (Flick, op cit: 22). That is I kept in mind to be truthful to the participants' responses. During the process I documented the official information obtained regarding students' marks and their previous educational context curriculums as "data base" (Yin, 1994: 33). I also made the contexts as specific as possible and provide thorough description of them. In addition I tried to make as many steps of the research process as "operational as possible" with the "documentation in detail" to allow the reader to follow –from her/his own interpretative frameworks- my endeavour as I conducted (Geertz, 1973: 21; Yin, op cit: 35; Dee, 2002: 79).

In order to reach external validity I generalized the results to the theories being used, by analysing across the cases to find replications –if any. In the interpretive step I had to follow a question-answer procedure that bracketed my inferences until I found that the evidence was convergent (Yin, op cit: 35). That is one has to try to exhaust the "rival explanations" each time a plausible explanation is found (Ibid.)[20]. To perform this technique I asked to myself, for example, 'Why did she say the opposite in the second interview?' A key action was to search for the students' contradictions and in the educational setting where they live. The contradictions may be the result of non-satisfied **needs** –which are the real force of a qualitative change (Bloch, 1947: 131; Cornforth, 1955: 110-113).

Ethical considerations in the research design

My main concerns regarding research ethics were confidentiality and data collection. I addressed the right to students' confidentiality on the field by avoiding, as much as possible, that teachers see us conducting an interview. Since in the architecture programme students are considered a part of the staff confronting groups, a teacher who sees a student with the researcher may assume the student is participating with the researcher's group; thus a teacher may put pressure later on a participant student by simply asking 'Why were you talking with that teacher with a tape recording?' To avoid

[20] The matter is to set in suspense our own prejudices. "The essence of the questions is to open and to keep open possibilities" (Gadamer, 1993: 369).

this situation I suggested to every interviewee to conduct the interview in an empty classroom. This site proved to be quite suitable for this purpose.

I start every interview ensuring students that all they wanted to say was confidential, that they could talk about everything. I told students that if they did not want me to record the interview I could do that. I also wrote similar comments in the questionnaires' headings. However I sensed that the interviews become noticeable as I conducted a number of them in open spaces of the faculty's building. In addition, the communication that the flexible pedagogic process facilitates might have allowed other students to ask my interviewees what were we talking about and comment with other fellow students and teachers. This "compromising" process has been reported by longitudinal studies in other geographical contexts (Dee, 2002: 82). To decrease the potential uncomfortable situation for my interviewees, when I saw that a teacher had spotted us, I later approached the teacher to let him/her know, that we were trying to understand the student's point of views, or any other ambiguous comments which I hoped was enough to divert their attention from the students.

I also addressed the issue of confidentiality by omitting student's name in the analysis chapters reporting the findings. However, I left students' name's initials to avoid presenting the data without the human sense that an interpretative research conveys. A major problem with the field work was that different operationalizing questions addressed to the participants seemed to mean the same for them. I addressed this issue or the "mediation of frames of meanings", in the interpretive phase to "respect the authenticity" of that frames of meaning while I recognised the "beliefs within a particular meaning frame" (Giddens, 1976: 152). After the network analysis and interpretative stage this issue was better understood. I elaborate on these issues of the participants' interpretative frameworks in chapter five, six and seven where I discuss the usefulness of the data gathering techniques I used.

In regard to access I requested the participant in advance to be interviewed. If a student asked me: '*When?*' I answered 'whenever you like, right now we can do it' to transmit a sense of commitment. However, I did conduct the interview only if the student accepted it. If he/she did not agree with my response to conduct the interview at that time, I did not insist at all requesting him/her a meeting date. I also respected their choice of an interview location. Whilst I thought their home would be an ideal one for the participant to feel confident, none of them accepted it or suggested it. Considering the issue of intrusion (and that commuting in Mexico City is a matter of hours and exposure to unexpected climatic or urban events) I did not insist at all on conducting the interview in their home.

Yet intrusion is difficult to avoid in a study that tries to delve into a student past, present, future private life and experiences. I started to develop their assurance of my researcher's ethic by neither imposing my research interests nor criticizing their comments during the interview, but rather by following their concerns. I also presented to the interviewees the questions dealing with private matters at the very end of the interview. In addition I asked permission for those questions in a form that can be considered, within the Mexican context, very polite: 'Would you mind letting us to ask you a number of personal and family related questions? However, at least for students VH and JO, dealing with their family's matters must have been an intrusion since they passively refused to be interviewed again even when I ran into them chatting out of the classrooms.

To respect a participant's wish to withdraw this research I did not insist more than twice to comply with the appointment. I took similar stance in regard to returning the questionnaire as well as their corroboration of my analysis. I thought that my goal of following students' educational and professional aspirations through time was not in jeopardy since I had enough number of participants. At this moment it is clear that my view concerning students' corroboration was not correct since most students did not send me their validation to my interpretation of their responses. This lack of response might be due to forgetting the research they got involved with or due to their new responsibilities and less time available to participate in a task that is not their duty. Yet student **IN**, who did send her validation back, told me she '*would like to see the final version of it*' that is, my interpretations of her responses.

I e-mail IN a copy of chapter six section that presents students' views concerning the evaluation, since her experiences about it in the last three modules were rather unpleasant than informative. Armed with the principles and techniques above presented I conducted a pilot work to explore the usefulness of the open-ended interviews, the topic guide developed, as well as, the ethical conditions that may be brought about by the research process within the architecture programme setting. The next section describes the pilot work with its main outcomes. A section after I present the techniques I used in the empirical work with the reasons that led me to using them.

Pilot study

A general purpose of the pilot study was to see if students would feel free to express themselves, and to gain ground about their opinions and views regarding the process of learning architectural design. Another purpose of the pilot study was to test the open-ended questions with the funnel approach. Prior to carrying it out I developed a "topic guide" (Seale, 1998: 206) to help me ask the questions in the same way and to prompt

while I was tape-recording the interview. This in turn would help me to listen to the interviewees carefully –a basic rule of interviewing. The guide enabled me to follow the main issues of concern: students' aspirations in the light of their interactions in the pedagogy practised in the flexible-rigid architecture programme. This topic guide appears in the next page.

In the interviews I, the interviewer, started suggesting to the interviewee to comment about themselves; if the interviewee responded '*like what?'* I prompted 'About yourself, your interests, and your tastes'. An intention of following this open technique was to not direct them to the main issues of the research but rather to let them interpret the question. Then I followed the theme they brought about or continued asking broad questions and gradually moved onto the specific questions –trying to follow the "funnel approach" (Posner, 2000: [T. v] 12). In overall the pilot work proved that the topic guide was useful since it encouraged them to talk, or to raise questions, as well as, to try to remember their experiences in their previous school or at the university. Other outcome was the need to cover the issue of ambiguous evaluation; this matter was pointed out by a one of the lecturers I interviewed (see appendices: 265). The next section describes the open-ended interviews technique with reasons to use it in this research.

Open-ended interviews

I decided to use open-ended interviews taking into account that students are not "objects", but "persons" in a "sociological multidimensionality", the hand-in of a questionnaire to ask about them would have been "insensitive" (Bernstein, 1997: 73; Morin, 1970: 252). Authoritative sources of information concerning the gathering of information point out that some questions should be open and projective (Oppenheim, op cit: 52, 210-214). These kinds of questions could let students' "stereotypes, self-images and norm-precepts" as well as some of their emotions like fears and happiness to arise almost without the interviewer's intervention and without inhibition (Adorno et al., 1959: 546; Oppenheim, op cit: 74, 210).

Figure 3.3 Open ended interview schedule.

Thank you very much for your participation and your time in answering these questions. All information you provide will be treated as confidential. It will be an important part of my research about Education in Architecture. If you have any queries please ring me at: (771) 71-333-86 or at 71-842-25 (fax) or send me an e-mail hugo2ster@gmail.com

1. Would you like to tell us about your interests, your tastes and your goals?

2. What motivated you to study architecture?
   + It is a course that can be completed in a relatively short time___
   + It gives “good opportunities for self-expression”___
   + There are “chances for creativity”___
   + It might offer “relative job security”___

3. Why did you choose to study at this university? How did you like the acceptance exam?

4. When you finished high school (preparatoria) what image did you have of architects and their practice? What image do you have now?

5. What image have of yourself as an architect?

6. When you finished high school (preparatoria) what did you imagine the programme of architecture at this university would like to be?
   + The lectures, their contents, the relationship between them, the evaluations and the time devoted to the sessions
   + The professors and the relationships with and between them (the Antagonistic groups)

7. What did you think would be like?
   + Your fellows’ students,
   + The administrative personnel,
   + The academic and administrative procedures, rules, norms,
   + The classrooms and buildings.

8. What differences and similarities did you find between the teachings at high school and the teaching at this university?

9. What experiences did you have when you were a student of architecture at this university?
   + What was your experience of assessment?
   + Were you happy with the assessment of your work?
   + Could you remember how much work you did?
   + Was the time scheduled enough to develop the projects?
   + Was the time designated enough?

10. Are there any emotions or feelings when remembering the lectures (supports) and studio sessions at this university?
   + Helped____

+ Without social and economic force____
    + Well_____
    + Satisfied____?

11. What works of architecture and which architects did you like then, and which do you like now?

12. Could you please tell us some experiences or anecdotes from your professional life after finishing your bachelor's degree?

13. In terms of professional practice what did you do once you finished your studies at This university?

14. What was your position and what were your duties in your first job?

15. How did you learn the knowledge and skills that you needed in your first job?

16. How did you feel in that job?
    + Helped____
    + Isolated____
    + Without social and economic force____
    + Well_____
    + Satisfied____?

17. What is your present job and what are your duties?

18. How did you learn the knowledge and skills that you use?

19. How do you feel in this job?
    + Helped____
    + Isolated____
    + Without social and economic force____
    + Well_____
    + Satisfied____?

20. How would you assess your performance as an architect? How do you feel about your performance?

21. Have you followed graduate studies? If so where?

22. Could you please tell us why you chose that institutions?

23. What arts do you enjoy most?
    + Painting
    + Sculpture
    + Ballet
    + Opera
    + Literature

24. Who is your favourite painter, singer, writer, sculptor, etc?

25. Do you have time to read? What do you prefer to read?

26. Do you belong to any other institution or professional association?

27. Do you belong to any club or social organization?

28. I f you have free time what do you prefer to do?

29. Before finishing this interview would you like to comment or make any suggestions with regard to:
    + The lectures, their contents and the relationship between them,
    + The techniques of teaching, the evaluations and the time devoted to the sessions
    + The professors and the relationships with and between them (the antagonistic groups)
    + Your fellows' students,
    + The administrative personal,
    + The academic and administrative procedures, rules, norms,
    + The classrooms and buildings.

PERSONAL INFORMATION
+ Birth place and date:
+ Names of the secondary and high school you studied?
+ Are they private or public?
+ Religion? Do you practice it?
+ Status:
+ No. of children?
+ Would you mind telling me your wife (husband)'s profession?
+ Would you mind telling me your parents' educational history?
+ Do they work? What is their job?
+ Your parents' birth place and date of birth?
+ Would you mind telling me their status?

A projective technique also present to respondents with ambiguous stimulus that they have to interpret. In so doing, the respondents reveal something of their perceptual world such as their interpretative frameworks or codes. In-depth interviews, as "purposeful conversations" (Robson, 1993: 238) led my interviewees to express their opinions and beliefs. This was clear when I compared the second and third interview responses and found drastic changes in their personal information. For example MP[m/20] and EC [m/21] changed their answers concerning their parents' studies. Using open-ended interviews I gained insight about how the students see themselves, how they organize previous experiences and their present reactions.

For interviewing I used behavioural or factual questions, and psychological or attitudinal questions. With the former I obtain things the students did, or things that happened to them; these events might be verifiable by an external observer (Sudman and Norman, 1982: 17). It included questions concerning their educational background, their cultural capital, as well as, their every day and architectural preferences. I also used "looser questions" for factual information (Sudman and Bradburn, 1982: 21) as

one goal of this research is to group respondents based upon their objective conditions of living. With regard to the psychological questions I remembered that they are not verifiable in principle since states or attitudes exist only in the mind of the individuals (Sudman and Norman, 1982: 17).

With these types of questions I found the participants' subjective experiences applying the funnel approach. I applied as much as possible the funnel approach to help interviewees to contextualize their thoughts and to express their deeper ones (Oppenheim, op cit: 110). This technique is exemplified in the sequence of questions Would you like to tell us about yourself? Would you like to tell us about your interests, your tastes and your goals? Why did you choose to study at this university? How did you like the acceptance exam? Later in the interview I asked When you finished high school (*prepa*) what did you imagine the architecture programme at this university would be? Following the funnel approach I provided time to the interviewees to release their most inner interests including those that might be repressed.

Social psychologists acknowledge that when certain experiences cause feelings of unhappiness and guilt they might be "blocked out of awareness" (Kempf and Useem, 1964: 35) or that she/he has **repressed** himself or herself. The mechanism of repression might cause inner conflicts to people (ibid). When a person is frequently repressed they might think that they do not want to do something, for instance, complying with certain tasks and assignments, although their behaviour seems to indicate they do want to do it -for instance regular attendance of classes. The phenomenon of repression is worth considering within the Mexican context as, being a traditionalist society; many young adults dependent on their parents have to obey them in regard to the professional degree to pursue as well as the university to attend.

To avoid that repressed thoughts and feelings interfere in the interview I planned to enable students to feel relaxed during the interview. Thus, I accepted the participants' suggestions for the interview site, for example the gardens of the university campus. I also bore in mind that the students were socially positioned differentially to me -a relationship that might influenced their responses if I did not raise or support their confidence. To decrease the participants' tension by the interview process and from myself I dressed up informally, let the participants to talk as much as they wanted and was calm during the interviews to try to create a relaxing ambience. A challenge to these data gathering techniques was the way students framed or understood the questions I asked to them.

This issue was particularly true with those that could be considered the 'operationalization' of the main constructs under investigation: orientations to meaning and learning and aspirations. For most of the participants, if not all, the questions Where do you think you will be when you finish your studies? (orientations) and Where would you like to be when you finish your studies? (aspirations) evoked the same situation. They answered telling '*as I said before* […]' or repeating the question as if they could not believe I was asking it again. Foreseeing this problem for the second and third interview I rephrased the former question as What do you plan to do once you finish your studies? (orientations). For this construct I also asked them the question How do you imagine as an architect? These questions proved to be clearer to the students allowing them to speak freely.

Regarding their educational aspirations I also asked them the question How have you like the architecture programme? The last two questions were useful in that students responded easily, without the need of prompting, or hesitating. Responses to the question What do you plan to do once you finish your studies? brought about words like '*to tackle real problems*' [RC/m/30] or '*Building modern, affordable homes*' [JmO/m/22] and colloquialism like '*I don't futures myself* [AV/f/35]'. In a final stage of the analysis I used the verbal responses of students' subjective experiences and objective conditions to see whether or not the operationalizing questions were useful to obtain information to answer the research questions leading to classify the participants. I aimed to find differences and similarities between the participants' qualities to find what constructs under investigation produced more replications.

Another step in the interviewing process was to find an ambience without distractions and noise. While the best interview setting could have been students' home, the fluidity of the pilot work suggested interviewing them in the classrooms or in the green areas. The participants agreed to this. The students' time concerns led me to conduct some interviews in the open areas of the university campus when there was not any empty classroom nearby. My intention was the interview place should be a corner or isolated spot in order to avoid interruptions and distractions. I planned to conduct the second round of interviews in a different place than the classroom or the gardens to validate the identification of possible changes in their responses. However, none of the participants accepted to go to the canteen campus or a cafeteria near to it.

I also decided to interview the students in the presence of neither their designs nor any other work. Recent research in the area of arts and design education argued that to interview students in the presence of their work would be a misleading way of assembling evidence about their views of the learning process (Jones, 2003: 115). The

reason given is that in this type of setting most students will use a vocabulary reflecting their ‘specific role’ and the imposed tasks (ibid). I also considered that a written statement of their experiences might be suitable to uncover their perceptions. Thus, after the second round of interviews I handed to the participants a set of open questionnaires. A questionnaire would give them the opportunity to think carefully about their answers. I describe this technique next presenting the questionnaire format used.

Open questionnaires

The chief purpose of the open questionnaires was to allow the students to release their deepest thoughts, that is their interpretive framework (codes) or to see them behind their “social façade” (Oppenheim, op cit: 52, 210, 214; Bernstein, 1975: 147-148). One of these questionnaires was in sentence completion form. This type of questionnaire as a projective technique may enable one to overcome barriers that stem from society taboos, as well as from the respondents prejudices or suppressed information (ibid: 211; Douglas, 1975: 3). These barriers take the forms of “irrationality”, “inadmissibility”, “self-incrimination”, “politeness” or as a “back-grounding” process that pushes “information out of sight” (Oppenheim, op cit: 211-212; Douglas, op cit). Another rationale for choosing open questionnaires was the possibility of contrasting the questionnaires’ information with their responses from the interviews.

One more purpose of the open questionnaires was to obtain quantitative estimates of the students use and frequency of finite verbs, egocentric sequences, subordinate clauses, nouns (“you”, “I”), uncommon conjunctions, adjectives and adverbs. I did this following Bernstein’s idea that in these elements one can find the participants’ orientations to learning and meaning, as well as their codes. To count the frequency students used these grammatical elements I used graphs in Word. These gave bars the length of which was in accordance to the use frequency of grammar elements, which enabled me to define the participants’ use of each type of words. Thus I was able to count them to transform the qualitative into quantitative. To include the importance a student gave to the issue the question addressed I included a five point Likert scale. To construct the questionnaire I used sentences to be completed by the student with any word the open sentence brought to her/him, for example “Sometimes I wish the module coordinator _____”.

The questionnaire’s questions one to forty-seven focused on bringing about the students’ opinions regarding the education process, the techniques of teaching and the evaluation.

A number of these encouraged the students to tell about their feelings arising from the interaction in the classroom. The next questions until number fifty-eight intended to let the student recalling his or her architectural knowledge by using specific terms pointing to architectural tendencies (which some people call styles and others call them 'theories'). Question fifty-nine dealt with the issue of what can be considered a good architect; this issue was directly asked in the second and third interview. I considered their answers to this question as indicators of their aspirations.

Questions sixty to sixty five tried again to bring the students' goals and hopes about, letting the last question for their desires -or codes depending on how they framed the question itself. Between these questions I asked again their fondness for reading and the use of their free time. I used their fondness for reading as an indicator to assess their cultural capital while I used their free time use as another indicator of their orientations. Next I describe a part of observations technique. Afterwards I present the sentence completion questionnaire.

Observation techniques

In applying observational techniques I used direct observations in the construction procedures and materials sessions, while in the design sessions followed the role of the "marginal participant" (Robson, 1993: 197). I used the former because I was conducting alone the class to the students. I chose the latter technique to lessen the potential reaction of students to adapt their behaviour to the 'new situation' of being observed as participants in a research. The marginal participant technique was possible to follow since I worked with the group coordinator as his assistant, which sets me with secondary responsibilities and duties. This role was conditioned by the group's coordinator who followed the architecture programme's veiled rule that the coordinators have to be always in the classroom leading the session.

An overall purpose of using these techniques was to contrast the students' actions in the classroom against the information they provided in the interviews, to reinforce the data leading to discover their orientations and aspirations. Another intention in the use of this technique was to help me judge my interpretations of students' responses in order to identify prejudices and to compensate for them. This action should lead me to be as

QUESTIONNAIRE OF THE SECOND INTERVIEW

Thank you for answering the following questions. The main purpose of this is to provide me more data for my study concerning education. Any information that you provide is confidential. There are no correct or incorrect answers; what it matters is your opinion and memories. Please try to fill every sentence with any idea that the introductory sentence recall you in. Set only one number at the end of each response in accordance with the scale presented at the beginning of the questionnaire. If you have any queries you might reach me at 54 83 71 56 or at (01771) 71 842 25, (01 771) 71 333 86 (collect call if you like).

Interviewee's name:

Module and group:

Date:

[Not at all] 1 2 3 4 5 [Very much]

In the architecture programme:

1 It is important that the teachers of "technologies":

2 It is important that the teachers of theory and history:

3 It is important that the group's coordinator:

4 Without the teachers of "technologies":

5 Without the teachers of theory and history:

6 Without the group's coordinator the modules:

7 The teachers of "technologies" make me feel:

8 The teachers of theory and history make me feel:

9 The group's coordinator makes me feel:

10 The administrative staff makes me feel:

11 The educational contents of Design could be:

12 The educational contents of "technologies" could be:

13 The educational contents of theory and history could be:

14 The evaluations of the Design works could be:

[Not at all] 1 2 3 4 5 [Very much]

In the architecture programme:

15 The evaluations of the "technologies" could be:

16 The evaluations of the theory and history could be:

17 I like to question the group's coordinator:

18 I like to question the teachers of "technologies":

19 I like to question the teachers of theory and history:

20 Without the teamwork:

21 In the teamwork:

22 The group's Coordinator does NOT like:

23 The teachers of "technologies" do NOT like:

24 The teachers of theory and history do NOT like:

25 Sometimes I wish that the time devoted to Design classes:

26 Sometimes I wish that the time devoted to "technologies" classes:

27 Sometimes I wish that the time devoted to theory and history classes:

28 Sometimes I wish that the time devoted to module (I, II or any you wish):

29 The words that the coordinators use:

39 The words that the teachers of "technologies" use:

40 The words that the teachers of theory and history use:

41 Sometimes I wish that the Principal:

42 Sometimes I wish that the programme Coordinator:

43 Sometimes I wish that the classroom:

44 Grading is obtained:

45 Learning is accomplished:

46 Grading is:

47 Teaching in general is:

48 During Design sessions I feel:

49 During "Technologies" sessions I feel:

50 During Theory and History sessions I feel:

[Not at all] 1 2 3 4 5 [Very much]

With regard to architecture:

51 My favourite work(s) is (are):

52 The "functionalist" movement:

53 The "organic" movement:

54 The "post-modernist" movement:

55 The phrase "less is more":

56 The "de-constructivist" movement:

57 "Sustainable architecture":

58 The process of designing or projecting:

59 An architect:

60 Sometimes I wish I could be:

61 Sometimes I wish I had:

62 Sometimes I wish I talked:

63 When I am alone:

64 I do not trust:

65 My free time:

66 Last month I read:

67 When I finish my studies at the architecture programme:

Comments:

aware as possible and in the final analysis I would be de-centred from the object of study (Boudon, op cit: 49-62). One more purpose of the observations was to identify students' characteristics such as clothing, body adornment, group's peers and roles in the group, ability to speak coherently, speaking with an accent and degree of participation and interaction in the design studio.

The first three characteristics gave me more data regarding the participants' social background. I also used those characteristics as a sign of the acquired cultural code. This technique –derived from "persistent observation" and "prolonged involvement" (Robson, op cit), which themselves lead to credibility, intends to grasp the "significant detail" and to develop "encyclopaedic description" (Morin, op cit: 253). When I started to observe the students I told them that I was researching the teaching of architecture for the purpose of obtaining the Ph. D. in Education. I decided to let them know about it as a matter of research's ethics. In the Theory sessions I followed the same kind of observational techniques. For instance whilst interacting and discussions were my main pedagogic approach I did not attempt to insist on it in the classroom. During these sessions I made only the necessary notes regarding the students in order to let them to relax.

Immediately after the sessions I wrote down in my field notebook who answered questions, which questions were raised, who was or seemed to be attentive and who was sleeping. I also wrote notes down concerning the students' emotions that I perceived or they expressed. The characteristics of the classroom and the furniture were another data I recorded. I present these "dimensions of descriptive observations"

(Robson, 1993: 209) in the analysis chapter's appendix. Bearing in mind that students could adapt their actions in the classroom as a result of knowing that I was going to observe them I frequently dressed up informally or in a juvenile manner. Certainly the fact that I worked with the students four days a week, one of which was for six hours, could lead to "habituation" (Ibid.), thus reducing further the effect of my presence as an observer and as a teacher.

Throughout the observational process I described with the main concepts of the theories I used, i.e. orientations, aspirations and codes the situations I observed and the students prompted. I also tried to "devise ways in which" I could "measure them" (Robson, op cit: 207). This task of linking theoretical concepts with empirical indicators (Blalock, 1968: 6) posed problems of reliability of the measurement conducted. I approached this problem using the sociology of aspirations concepts as an auxiliary theory that provided me with "variables as *indicators*" of the main theoretical concepts or those with a higher level of abstraction (Blalock, op cit: 7, 14, and 17). With this approach I developed a causal model in which I made explicit my assumptions by linking measured (Bourdieu's) and unmeasured (Bernstein's) concepts with indicator variables (Chombart de Lauwe as the auxiliary theory) as experts on methods suggest –for instance Blalock (op cit: 6 and 23). I presented a first theoretical model in Chapter Two (p. 52). The following section presents Bourdieu's principles and tool upon which I based the analysis of the students' cultural capital.

The students as social agents

In order to understand the interaction of students' previous educational codes, their orientations to meaning, aspirations level and cultural capital that result in certain performance one has to construct each student as a concrete person or as a social agent with specific "powers that are different in their strength", ability to use it and the effects they conceal (Bourdieu, 1974: 106; 1997: 29-34)[21]. Only then one would be able to locate the person in the social space that represents a social system that offers them blurred expectations. In other words, to construct a concrete individual one has to include the historical determinants of his or her cultural capital's with its development, that is their trajectory within the social space, to approach what Bourdieu called "the epistemic individual" (1984: 23).

One also has to bear in mind the principle that the educational act occurs in close relationship with the larger context, or a nation, which in this thesis is Mexico. Following

[21]However to construct or to represent a concrete person is a complex task since "the concrete is concrete because is the synthesis of multiple determinations, therefore unity of the diverse" (Marx, 1857: 13).

Mexican researchers Gonzalez (1965) and Boltvinik (2006) I can say that in terms of social structure and social distinction the students participating in this research belong to the working class (peasants, unskilled and semi-skilled workers, commercial employees and office workers), the low-middle class (small shop keepers, technicians, primary teachers, social and medical services) and less the middle stratum (secondary teachers, engineers, university teachers, public sector executives and lawyers, psychoanalysts, doctors, business administrators and accountants) of Mexico City and its Metropolitan area.

For the above reasons, I had to define the students "capital volume" (Bourdieu, 1974: 24). I followed Bourdieu's principle that cultural capital and economic capital are interdependent factors of social agents' material conditions of existence that provide their "capital volume" as more, fair or minus (+ ± -) and "change in these two properties over time" (1974: 114; 1997: 29-31).[22] To define their cultural capital conveys to assess their educational capital. The latter indicator variable can be measured in a relatively direct way. For example their educational capital was assessed by the number of years of studies giving a point to each year of studies. To this condition it was added a point if he/she received a Diploma.

To construct the students' cultural capital in addition to the 'personal information' they provided I also used their answers to the questions: Do you like the arts? Do you have any favourite painter, singer, writer, sculptor, etc? Do you have time to read? What do you prefer to read? What do you do in your free time? Do you belong to any other institution or club? These were posed in the main body of the interviews. To add rigour to the analysis I included their symbolic capital that I understood as the "casual assurance" (Bourdieu, 1984: 96) a student can show. A physical indicator of this quality was the participants' voice; it can denote timid or assertive communication. To the participants' voice's intonation I added their image, humble or privileged, to complement the data to define their social-economic capital.

The last comment stems from hearing in the classroom students talking with the accent of the affluent class whilst their humble cloths and physical appearance denoted unprivileged origins. To define the students' parents' jobs prestige I used my experience of teaching in different tertiary educational contexts and working in site construction several years. This experience provided me with many persons' views

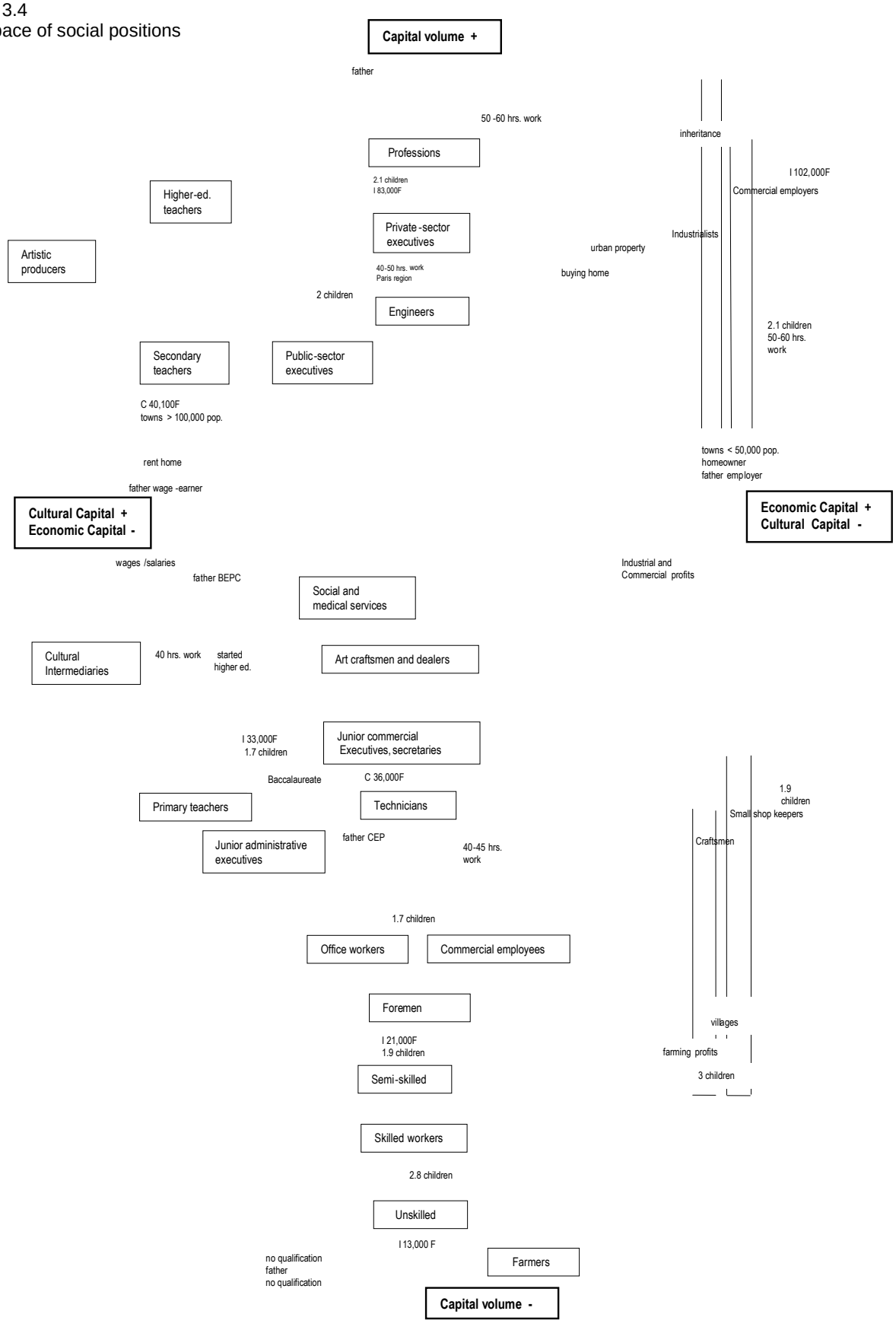
[22] As Bourdieu pointed out this kind of analysis does not rule out the use of indices to summarise the information provided by each student but it tries, most of all, to avoid to hide the whole network of relations that constitute each factor objectified in economic or cultural goods "on the basis of which the social agents divide and come together in reality in their ordinary practices" (1974: 106,113).

from different social and educational backgrounds, about the reputation of the jobs and professions most common in Mexico City. I followed this procedure because when I tried to apply the available findings on occupational prestige in New Zealand (Congalton, 1953, cited in Rose, op cit: 208) the findings did not match exactly with the Mexicans' views about them. The details and processes of measuring these Bourdieu's concepts or indictors as factors of a student's objective condition can be seen in the appendix (273 to 277).

The analyses of students' cultural capital generated first their cultural and socio-economic capital and second their capital volume by the composition of their forms of capital. Based upon this analysis I located students' initials in the graph developed by Bourdieu that represents the social space (1979: 128-129; 1997: 31). This graph appears in figure 3.4 in a simplified representation for the purpose of brevity. It only shows the space of social positions without the space of life-styles. The graph represents in the vertical direction the agents' capital volume, being more at the top while less in the bottom. In the horizontal direction one finds the two main forms of capital: cultural and economic. In the left side are the professions that have more cultural capital (+) with less economic capital (-). The opposite applies for the right side.

The graph's four quadrants are determined by the social agents' capital volume in relation to their amount of cultural and economic capital. In the graph the data out of the boxes describing family composition are complementary indicators that I included to relate students' and parents' properties to construct the participants' capital volume. Let me present an example of the data I used to construct students' socio-cultural differentiation. It does not show the description of their physical characteristics, clothing, voice's intonation, that I included before I calculated a value to their cultural, social, economic and capital volume as plus, fair or minus (+ ± -). In the process, I bear in mind, that within the field of architecture, the "type of capital needed to play for it" may be the cultural capital. I also remembered that "what is at stake" in the field (Bourdieu, 1979: 113) is to serve people regardless of class.

Figure 3.4
The space of social positions



R: Would you let me ask you about your personal life and your relatives? *Sí, adelante* [Birth place and date?]

ML/f: *"Nací aquí en el Distrito Federal el 19 de marzo de 1984. Ehmm preparatoria bueno en el Colegio de Bachilleres 3, Iztacalco, Secundariaa escuela Secundaria Diurna No. 292 que pertenece a Iztapalapa.* [Traditional system?] Sí. [State schools?] Sí. [Any religion that you practice?] *Estee practico la Católica*. [Status?] *Soltera*. [Studies of your parents?] *Mi mamáa bachilleratoo y mi papáa pues llegó hasta ell se conside..bueno bachillerato y llegó hasta el 6º semestre de economía en la UNAM.* [Do they both work?] *Ehh mi papa sí y mi mamáaa es comerciantee.. este en realidad vendee banderillas por pedido { } si es comida salchicha conn... algo aparte { } no caliente es salchicha cubierta de pan envuelta en como..un día le traigo una.* [Where does she sell them?] *En una primaria* [ML elaborated extensively on how at the primary school where her mother sells food the administrators ask a part of her earnings. After ML had finished elaborating on this, the question asked to her was: Where were your parents born?] *Mi papa es de Hidalgo mi mama es de aquí del Distrito Federal* [Are they married?] *Casados*. [Well I think this is all for the questions, would you like to add anything else or ask any question?] *No creo que ya dije todo creo que hablé de más* [laugh]".

Once I located the participants in the graph of the social space -that constrains and enables those agents to satisfy basic needs– (Giddens, 1976: 169) I was able to distinguish them in terms of their nearness or farness to reach symbolic and material resources. That is their objective conditions of existence were revealed. The students' accent simulating that of the well to do groups prompted these questions: If these students belong to the lower classes have they acquired the elaborated code as well? Were they trying to impersonate the affluent people that appear in TV shows and magazines? Could one agree with Chombart de Lauwe's argument that the images displayed by the processes of urbanization and informatization captures students' attention that through internalization become their interpretive frameworks compelling them to act? I aim to uncover this process of internalization in the analysis of the students' verbal and written responses to discover their orientations to learning and meaning, their goals, hopes and desires (aspirations) along with their codes (frames of meaning). That is their subjective experiences will be revealed in chapters five and six. This is why I outline the instrument of analysis next.

Framework for the analysis of interviewees' verbal and written responses

Scholars from humanistic fields of knowledge agree, following Weber, that the explanation of any social phenomenon has to start with the individual behaviour pattern (for instance Boudon, 1986: 5). I followed this idea although not as an observable phenomenon but as learning interactions between and among students as manifested by their 'voices' both spoken and written. Thus the unit of analysis in the research was the individual action in relation to the tacit principles (codes) underlying the interactions in the university's classroom. With Bourdieu's concept of cultural capital, capital volume and his social

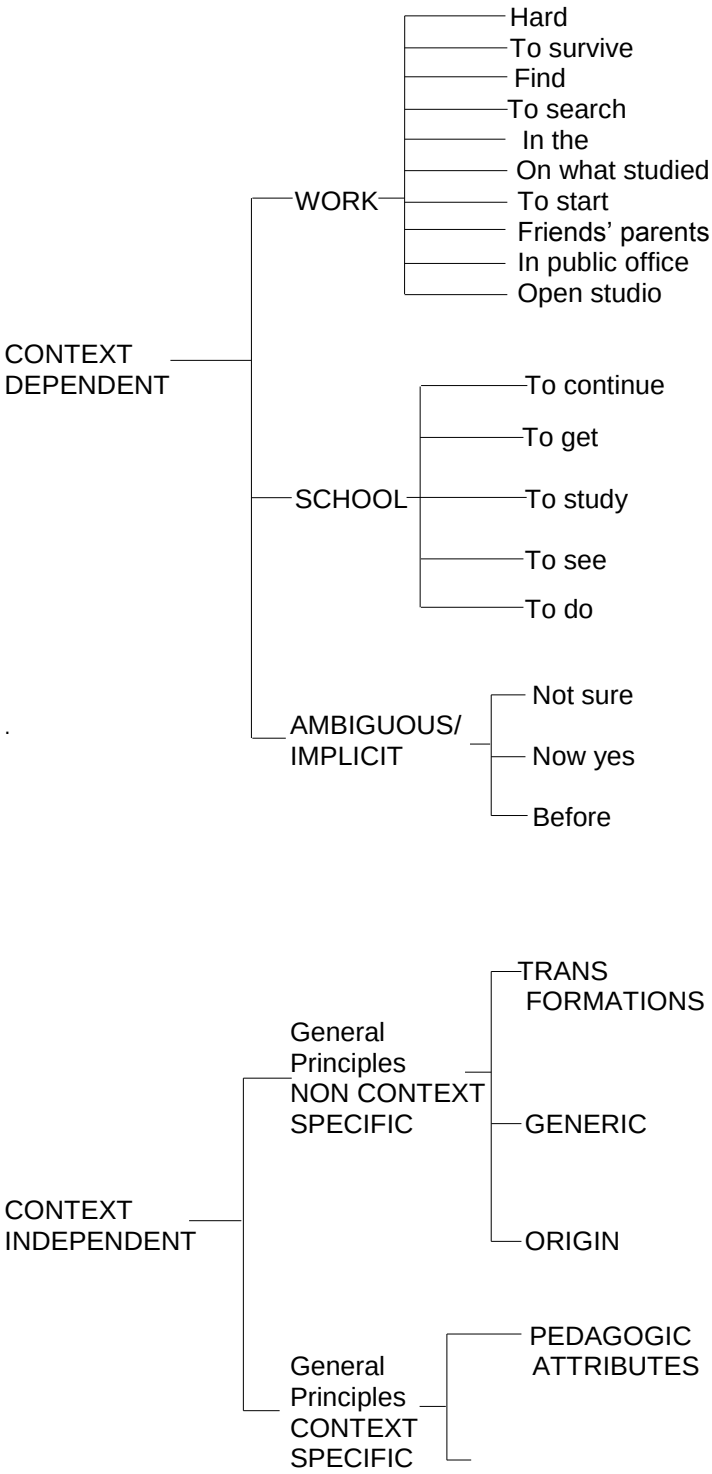
space graph as a tool to perceive an agent nearness or farness to reach material and symbolic means I differentiated the participants. At this moment I was able to answer the research question: What is the students' cultural capital (competence)? Then I moved to find their orientations towards the education process (subjective experiences). The purpose of obtaining this information was to enable me to relate their social position (objective conditions of existence) to their orientations to meanings and learning leading to search for their aspirations (subjective experiences).

I mainly used as framework for analysing the students' speech forms Basil Bernstein's social theory of codes transmission. I used Bernstein's categories context dependent or linguistically implicit with particularistic meanings (C+) and context independent or linguistically explicit with universalistic meanings (C-) to locate students' words in a "strategy network" (Bliss, op cit: 36). Figure 3.5 shows the strategy network developed by Bernstein (Holland, 1994: 44 in Bliss et al, 1994 cites Bernstein) with a number of the participants' words already connected to sub-categories. I followed the notion that network technique can "do justice" to data that is rich, diverse and complex by showing its "scope, while simultaneously distinguishing the essence from the fine detail" (Orgee, 1994: 56). Using networks I separated the participants' words to depict the students' responses in its "complexity, subtlety and detail" (Bliss and Ogborn, 1994: 3).

The use of a strategy network enabled me to capture each student's words in relation to Bernstein's categories first from their answers to the question 'Would you like to tell us about your interests, your tastes and your goals? Then I chose their words from their answers to the question 'What do you plan to do when you finish your architectural studies?' I followed the same procedure for the second and third interview marking with screen colours in the same network the student's responses for the three interviews. I considered that in this stage I was finding each student's orientations to meanings. The procedure was the following. First I bolded the words of the first interview which subsequently I marked them with blue if her/his answers to the above questions were the same. Then I marked with yellow those of the second and with green screen the words of the third interview.

Once I finished this process of choosing the student's words, or indicators, to locate them in the network I was able to group the answers in terms of the similarity of their meaning. I grouped the meanings in ten sub-groups from **a** to **j** in accordance with the categories of the final networks. I set the meanings from **a** to **g** as more context bound while meanings in the **h** to **j** sub-groups as less context bound. In using Bernstein's

Figure 3.5 Strategy network. Adapted from Holland, 1994: 47.



constructs of classification and framing I also applied his technique based upon Professor Halliday's language functions as instrumental, regulatory, personal, interactional, heuristic, imaginative and informative (Bernstein, 1974: 360). I considered that the functions

instrumental, regulatory and personal referred to a context bound response whilst the constructs of classification and framing I also applied his technique based upon Professor Halliday's language functions as instrumental, regulatory, personal, interactional, heuristic, imaginative and informative (Bernstein, 1974: 360). I considered that the functions instrumental, regulatory and personal referred to a context bound response whilst the functions interactional, heuristic, imaginative and informative referred to a less context bound meaning.

These language functions were particularly useful for me to set students' language in a category when I analysed their sentences. In order to define each student's orientations to meaning and learning, I integrated Bernstein's graphs that relate people's orientations to meanings with the social controls in regard to a correspondent verbal code (fig. 3.1 p. 57).

Then I related the graphs' concepts with my developed networks data to define students' verbal meanings as elaborated or restricted with its realizations as less context bound with universalistic meaning; or the opposite: more context bound with particularistic meanings in connection with its social controls (1971: 149, 164 and 182). I interpreted this Bernstein's proposition of social control as the learning students acquire in the university. I assigned the categories idealistic and instrumental to the students learning depending on their orientations to persons or to object correspondingly. A universalistic meaning oriented to objects points to a rational or instrumental student who may be oriented to order, hierarchy and "*knowledge as money*" (italics of the original) (Bernstein, 1971: 164; 1999: 250.

By contrast a universalistic and idealistic person seems less concerned with authority, being "pluralistic showing a range of possibilities" whereby the lexicon is rich, specific and diverse, talking about experiences and oriented to co-operate (Bernstein, 1971: 166; 1999: 250, 251). Students with particularistic meanings oriented to objects, or an instrumental person may look for authority and their speech looked strongly bounded. For students with particularistic meanings focused on persons, or a particularistic-idealistic person, the basic organizing concepts were authority and identity looking forward to contemporary change with a focus on their career (dispositions and economic performance) (Ibid). To define the participants' orientations I found the relative frequencies of appearance of their types of answers as Bliss and Ogborn suggested (1994: 21). This task entailed to maximize similarities, minimize differences within groups of responses to classify each student's responses as orientations to learning and meaning. To count the patterns of answers I used a contingency table (table 5.1 p. 132).

Since network technique enabled me to analyse the students' responses from the second and third interviews I followed similar procedure to analyse students' written responses by sentences. I also analysed the participants' written responses by the frequency of finite verbs, egocentric sequences ('*I see myself surrounded by people, being a famous architect, very practical*'), 'you', 'I', adjectives, adverbs and nouns since the latter have proven to be useful in research being less ambiguous than other terms which conform language (Diaz, 1996: 128). A student who uses more adjectives, adverbs and well-constructed sentences was assigned an elaborated code (C-) that is, with less context bound meanings. A student who uses fewer adjectives, adverbs, with vague or unclear sentences including repetitive conjunctions (so, then, and, because) was assigned a restricted code (C+). I considered this type of speech with more context bound meanings.

I compared the participants' verbal responses with their written responses to define rigorously their orientations. Afterwards I compared each student's patterns of answer with my notes from the observational techniques to compensate for any misjudgment I had incurred in the previous analysis stage. This comparison result in a 1st level of classification. I represent in figure 3.6 this process of research and interpretive analysis. In this model horizontal dotted lines represent stages of students' educational career that act like filters of experiences. That is, students' previous educational contexts to that of the architecture programme construct their cultural capital as well as their expectations that in turn build their aspirations, depending on the type of educational code they were exposed to.

The double arrows dotted lines indicate that the students' cultural capital and expectations are also an outcome of the interplay of students' experiences in other contexts for example the family, peers group and primary educational studies with their actual experiences. The horizontal dotted arrow lines represent the double output the basic research questions will generate: a student's cultural capital and their orientations to meaning and learning of educational experiences in the University acting as context of this research. The vertical arrows lines points the unit of analysis and the analytical rules I used in order to discover similarities and differences in the students' answers. From the patterns found in their answers I formulated categories of students' orientations to learning and meaning, as well as in relation to their social positioning derived from the measurement of their cultural capital.

The horizontal arrows indicate that the categories of students found in terms of their cultural capital and orientations were compared to find similarities and differences between and among them in relation to the interconnection of these two initial qualities. The process

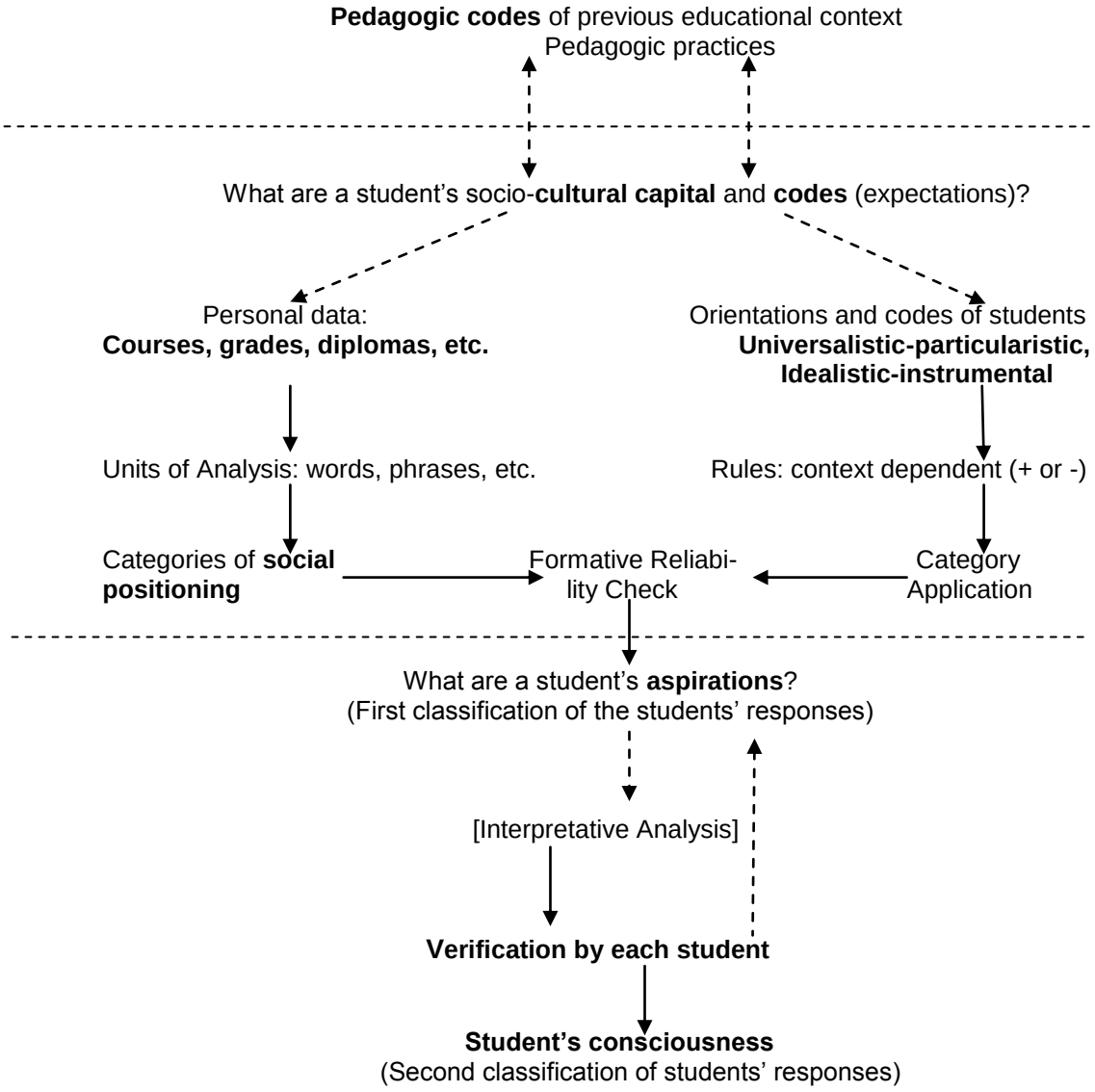
above described enabled me to find students' aspirations. That is a student's socio-cultural capital and orientations to learning and meaning act as filters of experience, constructing their aspirations. Once I found a student's aspirations I sent her/him a summary of their responses with my interpretations for their review. When a student did not accept the brief of the interpretive analysis I analysed it again. This step also served to see what of the theories the participants chose to identify and explained better their interests and goals.

Students' validation process is represented in figure 3.6 by the vertical arrow line in opposing direction. This final step of the empirical work should be a meaningful experience for the students' participants since they will see themselves with the aid of more concepts to those they had. To follow the process above expressed, I included measured (cultural capital) and 'unmeasured' variables (orientations, codes and aspirations) to be able to understand, describe and explain "individual indicators linked to specific underlying variables" (Blalock, 1968: 23) in the analytical chapters. Next I present the process of assigning a student's answer a category and subcategory of classification. I use **VL's** (f/20) and **DT's** (f/20) answers as examples that entailed their orientations.

Worked examples of network analysis

In this section I describe the process of analysing and categorising the participants' responses. I located **VL's** and **DT's** words in two networks categories and subcategories with more (+) or less (-) degree of context bound or dependence. Based upon the identified students' context bound categories, I shall plot them in a Cartesian Graph to specify their orientations to learning and meaning. Figures 3.7 and 3.8 show VL's and DT's responses for the operationalizing questions: Would you like to tell us about your interests, your tastes and your goals? as well as What do you plan to do once you finish your studies? In these figures I mark the words that correspond to the former question with blue screen colour; words with grey screen colour correspond to the latter. The thicker arrows and lines aid the reader to connect the words. Readers should notice that these networks are different in regards to amount of words and elements.

Figure 3.6 Model for interpreting the ways contexts transmit a student's codes and aspirations during their educational trajectory.
Adapted from B. Bernstein, P. Myring, op cit. and Boudrenghien et al 2007.



The analysis of the first interview responses led me to conceive that the subcategories 'AMBIGUOUS/IMPLICIT' should be interpreted as more 'CONTEXT DEPENDENT' than the subcategories 'WORK' and 'SCHOOL'. This is so because ambiguous language sets more unclear, confusing messages than those pointing to or meaning to work or school that is context bound meanings. Thus the subcategory 'AMBIGUOUS/IMPLICIT' should be represented at the top of the graph which suggests it is far from the less context dependent subcategories. I represent this re-contextualisation in figure 3.8 that shows DT's responses. This network also contains brackets on the right side of the graph. The brackets group the responses by similarity of meaning or degree of context bound.

I set those brackets after I finished locating all answers a participant spoke. This step of grouping the responses enabled me to set them in a contingency to be able to count the responses in terms of the students' meanings degree of context bound. This step of counting the 'qualitative' is necessary since the 'quantitative found in the qualitative' enabled me to differentiate the participants. Now I proceed to exemplify the first two analytical steps above highlighted. **VL's** answer for the first question was: '*Here mainly what I want is to finish my degree*'. I set this answer in the subcategory 'SCHOOL' considering that the words 'here' and 'degree' pointed out a context bound meaning. VL also said: '*What I like to do is going out with my friends and my boyfriend*'. I also set this part of her answer in the same subcategory of context dependence.

For the second question **VL** answered: '*Well I'd like*', that I considered ambiguous due to the verb tense. VL continued: '*to have something certain before finishing and not to wait until end then'* that I set in the subcategory 'WORK' as the words 'have something certain' in Mexico's everyday talks refers to have a job with certain payment. Notice that this part of VL's answer could also belong to the subcategory 'IMPLICIT' since VL could have been thinking on getting married as a mean to have lasting and steady income. Then VL said '*to continue*' that I located in the subcategory 'SCHOOL'; and '*to practice my profession*' that I set in 'GENERIC' as 'to practice', a not commonly used word, suggests independent practice rather than to work for other than herself. VL's last words for this second question were: '*and to follow my personal plans*' that I located as 'AMBIGUOUS' since she did not elaborated on her plans.

From this analytical step I counted **VL's** subcategories that result in more context bound responses that suggest particularistic orientations to meanings. Then I related this VL's quality in the basic Cartesian chart of meanings and learning that corresponds to the right-low and left-low quadrant. Of these positions the low-right relate the particularistic meaning with instrumental orientations to learning. Bernstein's chart that relates language codes to different forms of meanings and social control points that the low-right quadrant refers to a person oriented to objects concerned with rationality.

Figure 3.7 **VL's** orientations.

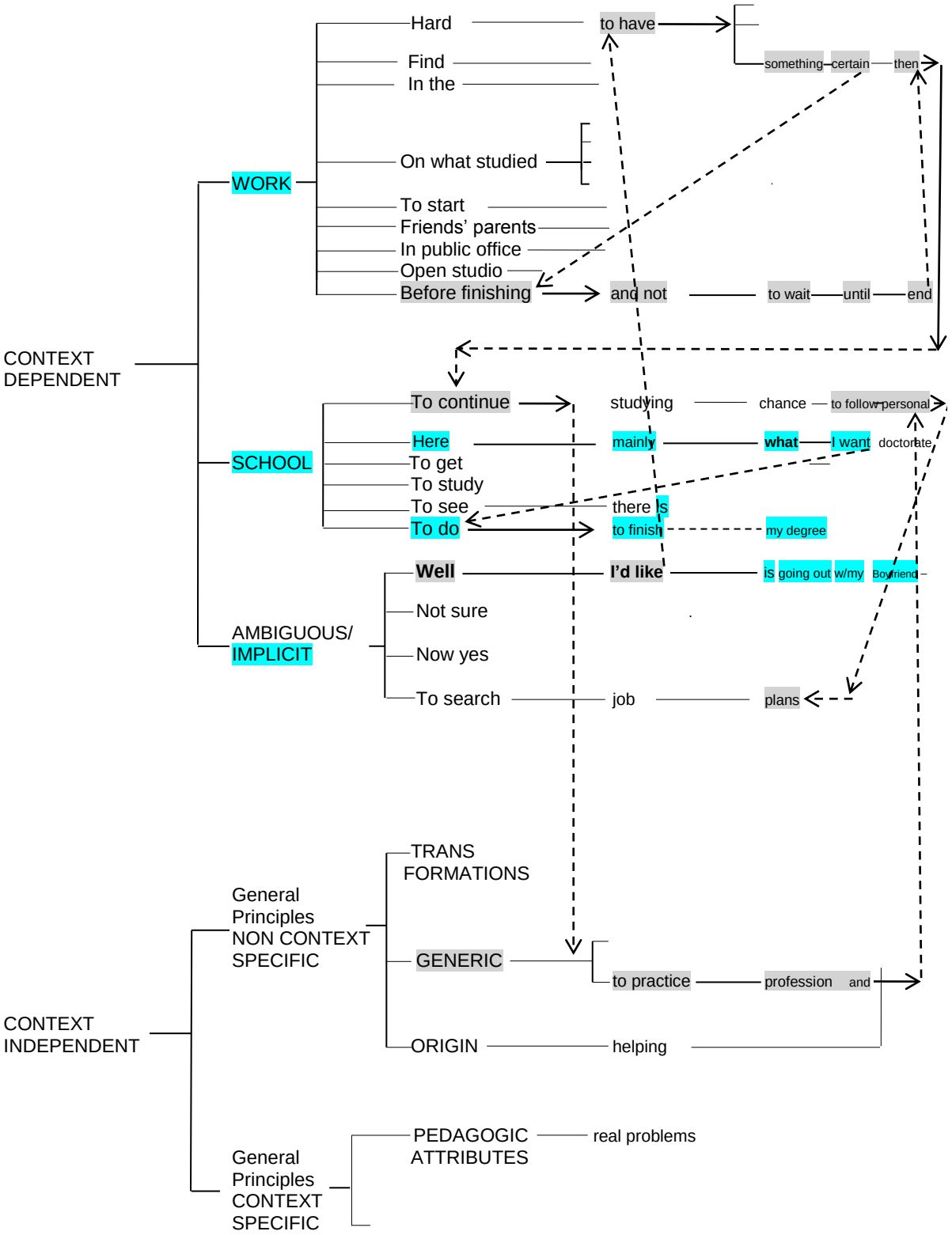
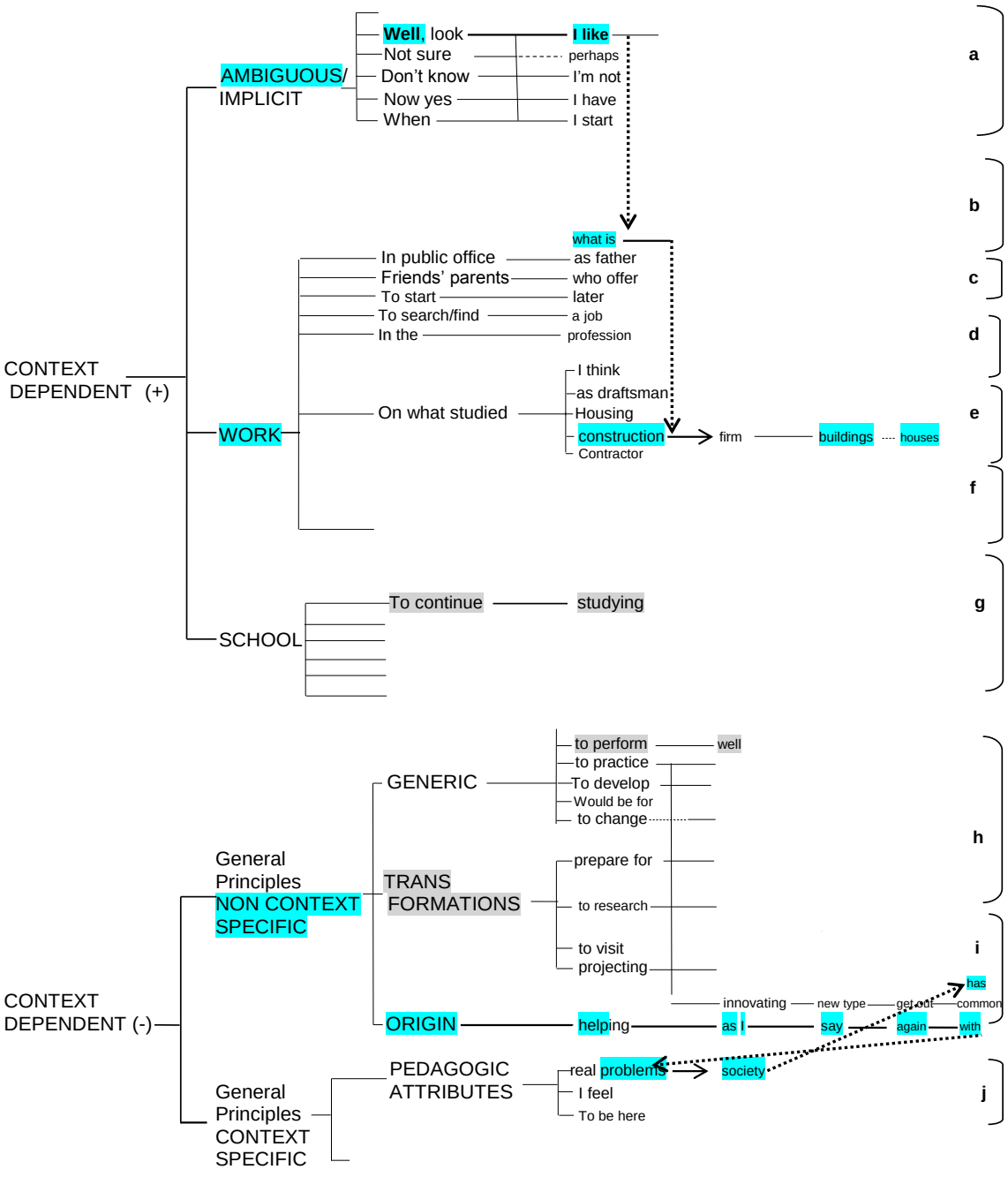
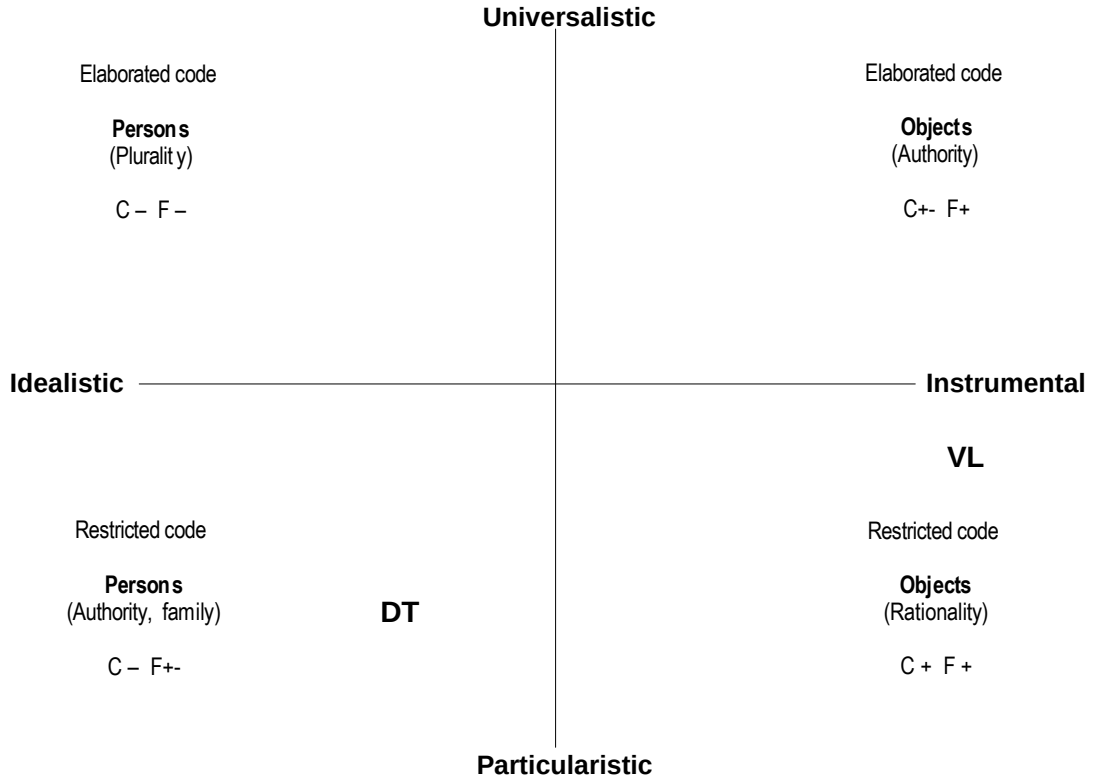


Fig. 3.8 **DT's** orientations.



These types of orientations were akin to what I detected from VL's language. Thus I set VL in the right-low quadrant that is orientations as particularistic-instrumental (see figure 3.9). Next I describe the above procedure with **DT's** responses.

Figure 3.9 Students **VL's** and **DT's** orientations to meanings and learning



For the first operationalizing question **DT** said: '*Well I like what is*' that I considered 'AMBIGUOUS' since 'what is' are unnecessary words to express the intended message of '*construction of buildings, houses'*. I set these DT's last words in the subcategory 'WORK' since they do not convey a reference to school. The lack of a verb before (for instance to design, to build, to see) these last DT's spoken words lead me not to locate them in a less context dependent category, for instance 'GENERIC'. These DT's last words I actually interpreted also as ambiguous although it appears in the network in the subcategory 'WORK'. I did so to use these words that I have already set in this latter category as well as to reduce the amount of words in the network. This classification of DT's language set her in the right-lower quadrant of Bernstein's charts that define her orientations as particularistic-instrumental, oriented to objects.

However, **DT's** answer to the second operationalizing question was of a different nature. DT said: '*To perform well*' that I interpreted as a less context bound response in the subcategory 'TRANSFORMATIONS'. This part of DT's answer was explicit as well as out of the common intentions of the meso and macro context she was living in. DT also said '*and to help as I say again*'. I set this part of DT's answer as a much less context bound response in the subcategory 'ORIGIN'. DT finished saying '*with the problems society has*'

that I located in the subcategory 'PEDAGOGIC ATTRIBUTES' that is a much less context-bound response while it points to the university chief pedagogic principle. Drawing from this classification of DT's language I locate her in the left-low quadrant of Bernstein's chart to define her orientations as particularistic-idealistic. In terms of meanings and social controls DT's language defines her as a person concerned with people and authority (see figure 3.9).

Notice that when **DT** said '*as I say again*' was motivated by her understanding that the question Where would you like to be when you finish your studies? which I asked her previously during the interview referred to the same issue as the one she was responding. This DT's comment could also be interpreted as an implicit criticism to the interviewer's, apparently, repetitive questioning process. Since this occurrence repeated with several students it was clear that the initial operationalizing questions were difficult for the participants to grasp my intended message. Thus I had to include more questions to be able to operationalize Bernstein's constructs. These can be seen in the Topic Guide interview on pages 73 to 75 that shows those I used to identify students' views regarding the use of time in the course.

I used the category framing to define students' views regarding the distribution and use of time for the courses and in the classroom. A student who advocates more time for the courses that last less hours in the term was assigned F – and vice versa. At this moment I was able to answer the research question: What are the orientations to learning and meaning that the students acquire? The use of network technique also put me in the position to find ambiguous, specific and implicit or hidden messages that, after all the analysis process led me to discover some of the students' codes (interpretative frameworks). I used mainly their implicit answers to find their codes or contradictions. The networks analysis of acquirers RB's, SM's and IN's language appear in the appendices (pp. 278-279).

Since Bernstein pointed out the need of a language of description external to his theory to translate one's interpretations of students' orientations to meanings and learning to explaining "something other than itself" (1997: 135-136) I applied the concepts of the sociology of aspirations as goals, hopes and desires to find them in the participants' language. In so doing I tried to avoid the vicious circle of dealing with multiple meanings as "self-contained" or "unmediated" –as other scholar have also suggested (Giddens, 1993: 23, 46, 157; Vygotsky, 1925 cited by Kozulim, 1985: Ivi). That is I translated Bernstein's concepts into a language with words more akin to those of the participants'.

Drawing from Chombart de Lauwe's aspirations concepts in relation to their material conditions with the "transformations which progressively operates" at the same time (1965, 1969) I discovered those of the students within the contrasting contexts of this research. I followed the students' answers to the question Where would you like to be when you finish your studies? to locate them in the bracket with the aspirations levels to start to discover their cultural, educational and professional aspirations levels.

In the second and third interview I used the question How have you like the architecture programme so far? to identify their educational aspirations. This step enabled me to compare their answers with those of the first interview. At this point I had transformed the information the students provided into data to relate to the other qualities of students or their objective conditions and orientations. In another moment the participants corroborated my categorization of their responses. This resulted in a 2nd level of classification of students' actions. I was looking again at relations, negative evidence and contradictions. At this moment I was able to answer the research questions: What are the students' aspirations (desires, goals and hopes)? Why students' are uncomfortable in the flexible-rigid architecture programme?

Subsequently I related each student's aspirations with their social positioning and orientations to find patterns of interconnections between these three qualities. At this moment I used school records to answer the research question: What are the students' performances (grades)? I used Bourdieu's idea of trajectory to depict the students' overall performance (marks-number of terms needed to finish) through time. This provided a sound idea of each student's advancement or delay in the architecture programme. The product was a third level of classification. Then, I compared the participants by schooling educational codes to find literal and theoretical replications across them. This was the reliability test moment when I compared the theoretical categories of the 1st and 2nd level of classification against the integrated categories.

The purpose was to furnish the students types based upon the constructs that replicate more. At the very end of the analytical process I put forward the students' participants' codes. That is I endeavoured to comprehend the individual from the whole and the whole from the individual, trying to make explicit the tacit or the invisible. At the end of this moment I was able to answer the research question: What categories of students do grasp what codes? The analytical process described enabled me to follow the general procedure

of inductive category formation and deductive category application[23] in chapters five and six, leading to answer explanatory questions. The end of the rigorous process that exhausts "negative evidence" produced a coherent classification of students. It also furnished literal and theoretical replications or "*universal* generalizations"[24].

Any student's answers that did not fit into the patterns were given the same importance as the categorized data. In other words this information was given literal replication while not theoretical replication. For this purpose in the last analytical chapter I include testimonies not only of the five selected students but also those that were relevant for this thesis' goals. In short, the analytic induction procedure is the beginning of a step-by-step process that harness the concepts of theories, research and local knowledge obtained in the empirical work ending with hermeneutic interpretive analysis (Giddens, 1976: 155-170). The hermeneutic task will mediate between the descriptive words of the interviewees' own interpretations of their every-day experiences and of the questions posed with the concepts used from sociological theories as a scholar suggests to do (Giddens, op cit: 156-157). I introduce the main principles and technique of the interpretative step next.

Interpretative techniques

I followed hermeneutics criteria that the interpretation always begins with concepts "which will be progressively substituted by others more adequate" (Gadamer, 1967: 333). This is a mechanism of verification one should follow to apply the technique of comprehension based upon the interplay of questions and answers. In this step I bracketed my inferences until I found that the evidence was convergent (Yin, 1994: 35). I accomplished this by asking to myself, for example: 'Why did she say the opposite in the third interview?' What the hermeneutic task intents are to comprehend the whole from the individual and the individual from the whole (Gadamer, op cit: 360). The goal is to open the possibility of inter-subjectivity.

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[23] The analytic induction procedure aims to discover in a group of concrete cases or empirical data "which characters are essential" (Bulmer, op cit 250). Then the essentialities found imperative are assumed to be "the more general than the less essential and must be found in a wider variety of classes" (Ibid). The procedure continues testing rigorously the last hypotheses by investigating the groups of subjects in which both kinds of essences are found and then to establish a classification (Ibid). In the procedure until no more **negative evidence** is found that refute the transformed hypotheses the categories are accepted. If necessary the phenomenon under investigation will be redefined.

[24] (Bulmer, 1979: 249-251 cites Znaniecki [1934]; Mayring, 2000: http:// www.uni-tuebingen.de/qualitative-psycologie/t-s01/Mayring_ en.htm? procee, [accessed´ 06/07/2005]).

This is not found through the identification with 'the other', it is not through the integration with the other, but through the creation of a "temporary common language" that allows one and the other to see one exterior object of two (Gadamer, 1967: 360). This is, in my view, what Bernstein calls a "language of description" necessary to fill the textual gap between two languages or theories, that I have included using the concepts of the theory of aspirations as similar to those of the students participating in the research. To put it in other words in every inter-subjective situation, the self arrives with their own social, psychological, cultural and intellectual tools and the nature of the knowledge produced depends on their capacity to articulate them in a certain level of consciousness in relation to their own tradition.

However, above all, the first, the last and the continuous task of the hermeneutic endeavour consists of not allowing the interpreter to accept her/his own beliefs nor popular concepts neither in the position, nor the prevention, nor the anticipation, but to elaborate the scientific issue from the thing itself (Gadamer, 1967: 332). That is a correct interpretation has to protect against beliefs' arbitrariness and against the limitations of the imperceptible habits of thinking. One has to direct the views to concrete things since what matters is the attentive view to the thing –even through all the deviations to which the interpreter is entwined (Ibid.). The following section discusses the respondent's validation technique.

Respondents' review of interpretive analysis

In applying "respondent validation" a researcher tests his analysis by presenting it to respondents for denial or assent of an account of their views concerning their experiences. The respondents' responses can be taken as commentaries upon the analysis and as an additional data (Ball, 1983: 98). Respondent validation of interpretive analyses has been acknowledged as "a major weapon in the battle against positivism" (ibid). This is to say that rather than search for an "objective universal truth" it is possible to search for "the possibility of specific local, personal, and community forms of truth with a focus on daily life and local narrative (Rosenau, 1992 and Kyale, 1992: 231 cited by Kyale, 1996).

To proceed with this technique once the researcher has summarized the interviews including verbatim quotations from the tapes, gives them to the interviewees for confirmation. Following this procedure he or she applies "the notion of ongoing analysis" (Denzin, 1994 cited by Mullins and Kiley, 2002: 373). With this respect one has to take

care of possible “misleading or biased” statements that can occur “if the study is perceived as having relevance to some possible change in the circumstances” (ibid; Kvale, op cit: 218) of the interviewees. The usefulness of the university´s interdisciplinary approach was a topic that I remembered as a possible source of bias or ambiguous response. Another theme I foresaw could lead the participants to hide their opinions was the marks they were given. This is why I requested official data such as school and university records, as well as visits students made to the library.

In the participants’ validation moment the interviewees are taken first as witnesses and, or, as representatives, i.e. as an object of analysis (Kvale, op cit: 218). The former criteria considers the students as an “observer substitutes” (ibid, 219), the latter takes into account “the subjects own relations to the phenomena they describe” (ibid). Following this process one reaches what can be called the actor’s definition of their own situation. The final purpose was to keep the interviewee acquainted with the research and its outcomes (Radnor 1994 cited by Bayliss, 2007). With the participants’ checks of my interpretations to their responses I addressed the problem of assessing the validity of open questions, searching for a rough correspondence between group memberships as a reflection of an inner property (Oppenheim, 1996: 148). To sum up the steps of this thesis empirical research were the following, for each participant:

1) Data collection in three different moments through open-ended interviews, open questionnaires and participant observations. 2) Analysis of verbal responses to define her/his capital volume leading to locate them in the social space. 3) Network analysis to identify her/his orientations to meanings and learning. 4) Network analysis of written responses and counting of paradigms to define her/his orientations. 5) Comparison of analysis results against observations data (first empirical-theoretical categories of the students). 6) Analysis of students’ responses to find their aspirations levels. 7) Analysis of the interconnection of each student’s objective conditions with their subjective experiences. 8) Participants’ verification of my integrated interpretative analysis results; comparison of respondents’ validation against the previous analysis (second classification). 9) Definition of students’ schooling codes. 10) Definition of students’ trajectory using university’s records: marks, number of terms completed (performance-trajectory) and library loans. 11) Identification of patterns in the interconnections of students’ qualities with their concrete properties (third level of classification of students’ responses). 12) Definition of students’ codes. 13) Comparisons of findings against the theories: development of interpretations and concepts.

Chapter four

A flexible approach in the education of architects

Introduction

The main aim of this chapter is to analyse the UMXS programme for the teaching of architecture that has been set up in light of the education model that was established. The analysis itself aims to provide the reader with an understanding of the curriculum that was developed (the texts) and the implicit pedagogy in the training programmes (the con-text). The importance of this task is twofold: a) to identify to what extent the architecture programme's discourse follows the USMX educational principles leading to find possible differences and contradictions that the students might perceive; these differences can be a source of discouragement for the students' learning and performance; b) to define the architectural curriculum based upon the theory of codes transmission in order to be able to compare it with the participants' previous educational codes. The accomplishment of these tasks shall give me two more factors that enable me to understand the participant students' perspectives upon learning.

In chapter one I outlined the UMXS pedagogy as flexible-rigid due to its contrasting pace of learning set by the short term's duration of eleven weeks with the degree's length of ten years. The flexibility of UMXS pedagogy is also defined by its pedagogic principle of students work based upon multi-disciplinary approach to understand 'real' problems or those of communities. I represented these characteristics as F+- C- using Bernstein's signs. In chapter one, as well as, in the chapter two I put forward the idea that to understand the discomfort of some architecture students in UMXS it is necessary to consider that there might be a meaningful difference between their high school's educational codes with its practices and those of the UMXS architecture programme. It is also necessary to consider that there might be a divergence between the architectural students' aspirations as they experience and progress through the UMXS modular system and their dark occupational future (expectations) that the Mexican social system offers due to its functioning of privileging a number of families and excluding millions others.

In chapter two I pointed out that the aspirations and the expectations concepts point to two different subjective experiences of a person. The concept aspirations identify three categories of a person's aims that lead him or her to act: professional goals, hopes and

desires; these contain the element of contradiction. Expectations are the result of a rational choice and of complex social relationships that the social division of labour (context of goods production) establishes. This differentiation is important for this thesis research since its major context functions based upon social relationships that tend to control the distribution of information or symbolic means (see chapter one: 11 and figure 2.2). These social relationships are constitutive of codes or regulative principles. This situation that a student experiences in UMXS might affect their dispositions towards the educational process, their learning and their performance. I proposed that to investigate thoroughly this problem of students' conflictive educational experiences from their own views, it is necessary to include the following factors:

a) The knowledge and ways of knowing that architecture students acquire through their previous educational experience and in the family setting.

b) The educational characteristics of the body of knowledge (curriculum), the processes of the transmission of that knowledge (pedagogy) and the forms of evaluation of that knowledge during their experience in UMXS (**space**).

c) The pacing of the architectural students' learning experience (**time**).

e) The students' position within Mexico´s social structure and that of the architecture programme.

f) The students' aspirations.

In order to investigate these interconnected factors it is necessary first to define the educational codes of the architectural knowledge that awakens the participants student's intellectual process, foster and/or constrain their aspirations. In the following sections, I describe the UMX's Legislation and the UMXS pedagogic principles. These constitute the broad university culture or context to investigate the participants' practices. Then I summarize the architecture's programme pedagogic discourses, analise them based upon the theory of educational codes constructs of classification and framing. I will use the signs C and F to make specific the degree of openness, or flexibility (+ or -), of agents' interaction, of subjects, pace and sites of learning (+ or -). I include comments derived from staff meetings where I participated to complement my interpretation of the discourses. I include a table that comprises the educational codes resulting from my analysis of the UMXS pedagogic principles, as well as those of the architecture programme in relation to the curriculum, the pedagogy and the evaluation. At the end of the chapter I share the struggles and cleavages which I have perceived that the controversies on the multidisciplinary approach's usefulness

for the learning-teaching of architecture raised within the staff.

Universidad de Mexico and its Southern *campus* pedagogic principles

The 17th of December 1973 the UMX's Organic Law (*Ley Organica*) was published in the Official Daily (*Diario Oficial*) as a result of the Congress' resolution to the President Luis Echeverria Alvarez decision of funding a different university. The UMX's Organic Law is the part of an official discourse which sets as its main objectives that the three, nowadays four, UMX's campuses will a) form professionals who correspond to the society's need, b) organize and develop scientific and humanistic research attending mainly national problems "in relation with the conditions of the historic development" and c) will "preserve" and distribute culture (2000: 5). In this thesis the term 'official discourse' is similar to Bernstein's conceptions of "official knowledge" i.e. "the educational knowledge the State constructs and distributes in educational institutions but with bias and focus that expect to build in teachers and students a particular moral disposition, motivation and aspiration" (1999: 246.

The first and second objectives express a desire of opening distributive rules of the pedagogic device to reach the society and attend national problems. By promoting contact with the population and dealing with the country's problems the objectives represent a reduction of the separation between communities, academics, researchers and policy makers' i.e. social agents. It shows a weak classification of the university interactions (**C- universal access**). The third objective unambiguously links the university with culture, which might be considered openness to liberal education and humanist ideals; this represents an intention of weakening the regulatory discourse (**C -**). Whilst this objective states "To preserve.." which should be understood "to defend against …"[25] as it is defined in Spanish dictionaries, one ought to assume that the objective contains Mexico's President's good will of creating a higher education institution different to the one prevalent at that time. In other words the third objective indicates the will of reducing the insulation between the university as a channel of communication of science and culture, including the country's people needs, cultural manifestations and myths (**C- UMX's purpose**).

The idea of making the UMX "innovative" lead to implement a "system of credits" seeking

[25] *Preservar v. t. (lat. praeservare) Defender contra algún daño o peligro. (SINON. V. Defender) Diccionario Enciclopedico Vox, Lexis 22: 1976.*

to reduce the number of study hours in the classroom (Lopez, op cit: 80). Two credits are the equivalent of two hours of students' work: one in the classroom and the other at his or her home (Ibid). Another actions considered innovative were: "studying part-time", to broaden new fields of students' studying options, "to receive students" with background in teaching, and "to hire a good number of full-time professors". The last goal was accomplished in such a way that of the "600 professors" working "on December 1974" "84.5%" was full-time. It is said that "some of the country's institutions" founded before the UMX had less than that 600 teachers and professors of UMX (Ibid.).

The UMXS discourse introduced as its educational premises the need of "critical reflexion and creative action" and a concern for "its articulation with the social structure" (Villareal, 1974: 7). To follow these ideas the *documento* proposed to work based on two principles: i) multi and inter-disciplinarity, ii) the student's production and application of knowledge derived from and applied to a "concrete reality" (Villareal, op cit: 17-18; Beller w/d: 2; Guevara in Martínez, 1992: 37). As I mentioned in chapter one, the UMXS pedagogic discourse defines **reality** as a social phenomenon to approach by means of "the physical, biological, psychological, and socio-cultural" (Villareal, op cit: 18) fields of knowledge. To accomplish its aim it is said that the university should "closely involve with the community to determine its **needs"** (ibid).

The interplay between inter and multi-disciplinary work with the "social practices" [of each profession] is called the object of transformation (*el objeto de transformación*) (ibid). In the *documento* knowledge is "to act upon" an object, "to modify it, to transform it and, in the process, to understand the ways that object is built" (Ibid). The *documento* holds that if a number of *objeto de transformación* "are common to several professions they would form modules" (*sic*) around which the courses are organized. An example of a module is "*Man and its environment*", which "separates and links at the same time (*sic*) two branches of knowledge: social sciences and natural sciences" (Villareal, op cit: 8). Another common module for the programmes is "*Knowledge and Society".* Both modules were conceived as "fundamental"; the former to "critical reflection", and the latter to a "category historically determined, central to the understanding of sciences' development" (Ibid: 18).

The structure described above suggests that the interaction of humans' needs, environment, society, academics and communities, generates knowledge at the level of reality. This interacting issue, or network of concepts dealing with a concrete problem, can be considered the core of the re-contextualizing principle of the *documento* as a pedagogic discourse. This

interaction is materialized and synthesized when the student acts in regard to a community's need. The students' actions, or the object of transformation, have to be approached base upon physical, biological, psychological and socio-cultural perspectives they enact. This process indicates the *documento* intention of reducing the separation between the university agents and social groups through the students' practices (**C- purpose** of UMXS). The student's (and teachers) interactions with the community based on different disciplines intend to reduce the State´s control over the agents that transmit the community needs (**F- UMXS pedagogy**). This UMXS process suggests an intention of reducing the insulation between the subjects to study (**C- curriculum**). This process of involving a community also suggests a reduction of the control over the selection of the place of learning (**F- site of learning**) and forms of communication (**F- mode of communication**). However the *documento* is an instructional discourse almost without regulative discourse -as I will show later.

The *objeto de transformacion* has been considered the key concept for the pedagogic practices of UMXS (Beller, op cit; Bojalil, 1994:7). It is said that the concept was derived from Jean Piaget's idea that every action is a "*transformation of reality"*, that represent an example of the observable and a constant conquest of the possible or what it is not yet visible (Juan César García, [no date]: 74 cited by Beller, op cit). Another interpretation of Piaget's ideas suggests that "knowledge is neither contemplative nor a copy of reality, but that it supposes a constructive process of assimilation of previous structures" (Ibid). These citations meant that the community's needs should be studied and investigated through three areas of action specified for the university namely, research, teaching and service. However there is no documentation that explains or gives examples of what is meant by **people's needs**.

The *documento* should state a brief and judicious argument concerning the issue of needs since the satisfaction of a community's needs is not a straightforward process. This is particularly necessary in the context of Mexico City where there is shortage of schools and teachers or the satisfaction of basic needs such as sewage or drinking water is frequently not complete whilst TV sets or mobile phones are abundant. One can ask: What kind of needs does the *documento* refers to? Are these the physiological needs: protection from the climate, hunger, thirst, sex? Or are these needs the "human needs of relatedness, rootedness, identity and frame of orientation" as Fromm (1955: 35-63) and Maslow (1954) suggested? Should the community's needs be the aspirations for learning that have

become vital for survival as the physiological needs?[26]

With regards to the creation of the UMXS discourse, or *document,* interpreters of it recall that the principle of linking the community's needs with the university, determined what the divisions and programmes of UMXS would offer. Considering that this Southern district of Mexico City was an "agricultural area with a tendency towards urban development" (*sic*) it generated the first two divisions of USMX: biological and health sciences (CBS) and social sciences and humanities (CSH) (Rolf Mainers, 1980: 32 cited by Bojalil et al., 1985:19). Thus Southern campus "adopted a pedagogic conception in which the students themselves could access to the production of knowledge and reproduction process through the study of problems taken from his [or her] own real context" (Ibid). The scholars also mention that the contents of the Divisions' programmes were defined through workshops of curriculum's design where teachers participated for articulating community needs and students' architectural practices (ibid).

Based upon these sources, I can say that since all teachers were encouraged to develop the contents of the degree programmes it represented a weakening of the classification. This coincides with my previous analysis of the openness of USMX objectives (**C- UMXS policy**). Since the contents were developed having as a principle that the learning process "should be empirically-inductive followed by theoretical-deductive support" (Ibid) it suggests a weakening of the insulation of the contents of the educational process (**C- UMXS curriculum**). In other words observed phenomena and experience should incorporate theoretical concepts. This approach of UMXS expresses also the purpose of reducing the control on students over the selection of the communication (**F- mode of communication**). This means that students can use not only teachers' words but also those of scholars, as well as those of common people to express their views. The idea of getting empirical information also suggests a weakening over the control of students' site of learning; the classroom is not the only place to learn, it can be a slum, a construction site or a tourist development (**F- space of learning**). However the order "...empirically-inductive followed by theoretical-deductive support" implies a restriction (**F+ sequence**) which could be open by stressing that the approach can start from any of these methods.

[26] Since the time a controversial philosopher pointed out that "under private property the mode of production due to its dependence on humans' consumption is constantly creating new objects which give rise to 'new' needs of humans" (Marx, 1848: 23), a number of scholars have argued that this process of production-consumption is a more complex matter; it involves the phenomenon of urbanization and "informatization" as factors that impinge upon humans' consciousness towards the differentiation of their needs and aspirations (Chombart de Lauwe, 1966: 27; 1969: 70; Fromm, op cit).

The ideas described above represent in Bernstein's terms the intrinsic grammar that the pedagogic device at the level of the pedagogic re-contextualizing field, provides to the pedagogic discourse of UMXS architecture programme. Thus, in principle, the concepts object of transformation, reality i.e. the physical, biological, psychological, and socio-cultural perspectives directed to an object, subject (knower), needs and to act upon, are basic for acquiring the recognition of the discourse's rules. The following sections describe the general re-contextualizing rules i.e. the "thinkable" concerning "the what" (Bernstein, 2000:114) and 'the how' of the UMXS architecture programme pedagogic discourse. A re-contextualization is a change in the meaning of a discourse's text transformed into other meanings. This is a process guided by the ideology, that is, the way the agents make relationships intervening those who try to adapt the new discourse in accordance to their own views or interests (Bernstein, 1997: 67).

Architecture programme's pedagogic principles and concepts

Historically, in the process of "educational innovation" at UMXS the Division of Sciences and Arts for the Design (CAD) was set a year after the Biological and Health Sciences (CBS) and Humanities and Social Sciences (CSH) Divisions (Bojalil et al., op cit: 32; López, op cit: 91). CAD began to work in 1974 with architecture, graphic design and industrial design programmes. The programme design of human settlements (*Diseño de Asentamientos Humanos*) was eventually introduced. CAD was also thought to adapt "its development" to the transformations of the "social reality of the moment" (Ibid). The administrative organization and curricula of this area were not developed in the UMXS official discourse. The architecture programme started to work guided by the *Plan de Estudios* 1975.

The *Plan de Estudios* was organised by a part of the architecture programme's staff. The document was basically a list of subjects, scheduled hours and a list of teachers to run the sessions. The *Plan de Estudios* did not elaborate on the concepts it presented. It neither suggested any teaching-learning activities nor the process of evaluation that would be used. Indeed it did not follow the chief principle of UMXS discourse of working with "real problems". The *Plan de Estudios* organization represented a return to the conventional educational process marked by definable and sometimes strongly insulated boundaries between contents with a defined time schedule for the sessions that were carried out mainly in the classroom mostly by the teacher. That is the *Plan de Estudios* was characterized by a strong classification (**C+ selection of content**) and framing (**F+ mode of communication, site of**

learning, pacing and **criteria of organization**) similar to a collection code in Bernstein's terms.

Two years later (1978) the discourse *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* was designed following the *documento* and the *Plan de Estudios* (1975). Only a part of the programme's staff was responsible for this task. This action represented a strengthening between the classification or boundaries of a small part of the staff attached to the design and theory Departments, with a major number of teachers (**C+ staff development**). In its introduction the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* (now on PELIA) sets two main principles, or re-contextualizing rules, of the UMXS pedagogic discourse: i) multi and inter-disciplinarily and ii) the student's production and application of knowledge derived from and applied to a concrete problem.

The PELIA shows here an intention of widening the boundaries of its pedagogy that is, reducing the insulation between different actors participating in the educational process to student and communities' selection rather than staff/teacher selection (**C– purpose of the discourse**). It also represents a reduction over the selection of the contents or the opening of its objects of studying **(C– content of the discourse)**. Whilst this strategy coincides with that of the UMXS it remains to be seen if the recognition rules have been grasped by the students (and by the staff). I aim to discover in the participants this recognition rules once I have analyse the empirical work information.

Other notions in the PELIA were the "innovation and integration of knowledge" (1978: 8-10). These were considered as a "starting point" for the educational practices although it was neither explained how to innovate nor how to integrate. It can be said, drawing from staff meetings, that "integration of knowledge" is understood as relating concepts of different disciplines concerning an object of study. Whilst the PELIA is ambiguous and vague regarding these concepts I can say that the intention of integrating concepts represents a reduction of the insulation between other disciplines' discourses (**C– contents**). It also represents a low level of teacher control over the students in the selection of the contents (**F- selection**) and the kind of communication (**F- mode of communication**). However, it is necessary to establish this empirically from the students' views, which is a chief concern of this thesis.

The notions of innovation and integration of knowledge are examples of a re-

contextualization, i.e. a change in the meanings, of the *documento*. Yet the different meanings the architectural programme academics intended to introduce are not clear. This change in the *documento*'s meanings does not correspond to what students were looking for when they enrolled at UMXS: to work with 'real problems' and with communities. Hence, it is important to analyse the PELIA. The following section has been translated literally almost as it appears in Spanish to show the PELIA local style. Some of the paragraphs will show punctuations that represent the space of what I considered vagueness in the original. I also present one of the PELIA's diagrams that I used to aid me in the interpretive analysis of the discourse.

Architecture programme's instructional discourse objectives of design

The *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* comprises of four sections: the "general objectives of the programme", "the structure of the programme", "the process of architectonic design" and nine units of study or modules contents called *"Unidades de Enseñanza Aprendizaje"* (UEA). The discourse proposes that some "characteristics of the professionals' profile" would be "a clear sense of the service to provide to society", "a critical formation, creative" and "to possess interdisciplinary vision acquired through team work that enables students to do research" (1978: 10). However there was not description or explanation of what could be a **creative student**. The "general objectives of the programme" are:

1. "To consolidate a curricular programme with constant relations and feedback with updated professional practices" (*sic*),
2. "To engage in the search for technologies and construction systems that contribute to the utilization and development of national resources",
3. "To contribute to the user's appropriation of space, by the process of design and its materialization" (*sic*),
4. "To reinforce constantly an educational process as a product of a continuous dialectic reflection between theory and reality",
5. "To motivate students through an academic programme linked to an active and participation based educational process" (*sic*) (Ibid: 13).

The first objective implicitly links the programme's discourse to the labour market. Nevertheless the first objective represents a weak classification of the discourse since it opens the possibility of a number of practices and not only those which have characterized architects: builders and designers-builders (**C- purpose of discourse**). The next three objectives promote diverse activities including research, policy making and designing with

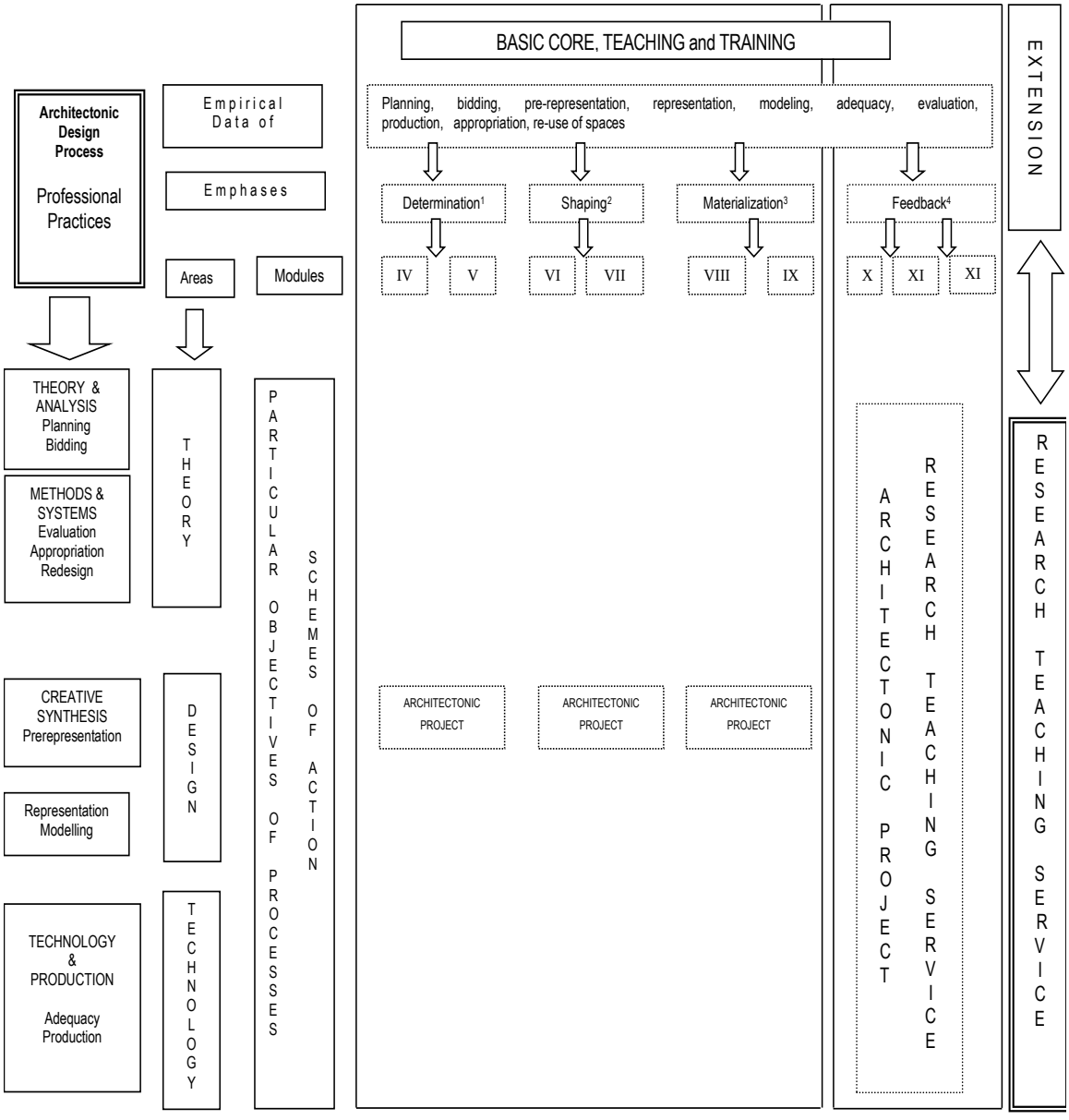
persons. The second objective promotes broad research matters. This expresses a will to reduce the insulation between the social agents, teachers and/or students and policy makers who would help to decide the use "of national resources" (**C- policy**). At the same time it represents an intention to reduce or weaken the insulation between the objects of study (**C- contents**). This reasoning of mine is supported by the third objective since it directs attention to the user, i.e. a person, a community, an owner or the State, as an issue to deal with along the design process. This intention represents a weakening in the classification of the pedagogic discourse or a blurred boundary between the student's actions, the users and the teachers (**C- policy; C- purpose of the discourse**). The third objective also expresses a wish to increase access to own "the space" (**C- universal appropriation**).

While it could be argued that the third objective is ambiguous in terms of how to accomplish its aim concerning the "user's appropriation", 'the how' is found in the fourth objective's idea of "a dialectic reflection between theory and reality". It expresses an intention to weaken the insulation between the content (**C- contents**). It also suggests a reduction of the teachers' control on students' forms of communication and place of learning (**F- communication, F- place of learning**). However it is not certain if this objective also suggests a reduction of the control of the sequence (F- sequence). The fifth objective encourages the incorporation of the students in the process of education. This is consistent with my earlier suggestion of blurring boundaries of the educational process through the student's actions (**C- policy**). At the same time, the fifth strategy expresses an intention to vary the channels of communication from teachers to students, to community representatives, to developers, to policy makers (**F- mode of communication**).

It is important to notice that the fourth objective links ambiguously the programme's discourse with the UMXS pedagogic principle of working with 'real problems' because it does not set its idea of approaching "**reality**". The *documento's* idea of understanding reality by means of "the physical, biological, psychological, and socio-cultural" (Villareal, 1974: 18) perspectives, do not appear in the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* at all. The PELIA's objective of dealing with "reality" can be interpreted as working with concrete problems. Reality and concrete problems are notions used in staff meetings as synonymous with matters raised by a group of people who need a building, or who live in a building experiencing a problem related to the construction. It remains true that the PELIA does not mention and discuss the principle of reality as an issue to be understood through the physical, biological, psychological, and socio-cultural perspectives.

The PELIA contains diagrams that try to complement the text's explanation of an integrated and "innovative educational process" but the diagrams digress in the PELIA's idea that the process of designing can be stages to be the focus in every two modules and three modules at the end of the degree programme. The first diagram (figure 4.1) clearly represents this in

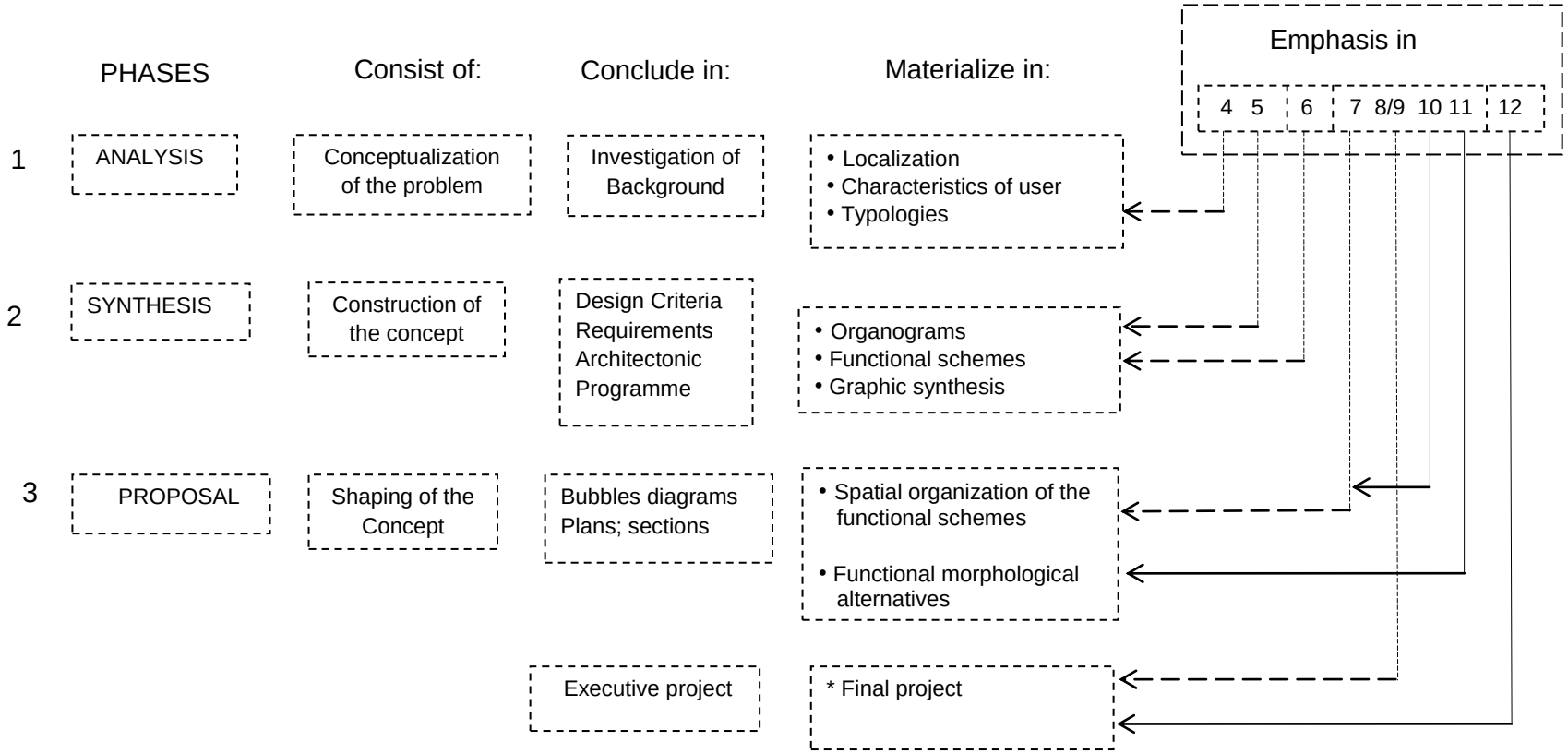
Figure 4.1. "General structure of the architecture programme".
After: *Introducción al programa de estudios de la licenciatura en Arquitectura* (PELIA), 1978: 12.



1: ANALYSIS, DIAGNOSTIC, AND PRODUCTION OF THE CONCEPT 2: DESIGN OF THE OBJECT 3: CONSTRUCTION OF THE OBJECT
4: ANALYSIS, DESIGN, CONSTRUCTION, EVALUATION.

Figure 4.2. A scheme of the design process of the UMXS architecture programme's curriculum

After: *Introducción al Programa de Estudios de la Licenciatura en Arquitectura (PELIA)*, 1978:15



the centre of it at the top. This diagram also attempts to describe that the research and administrative organization of the programme relates itself to the stages of the process of design. The design process suggested by the PELIA of focusing on a stage of the design process is represented in a different way and meaning in another diagram which I show in figure 4.2.

Suffice to say here that figure 4.2 shows that in module four the students' work is focused on the analysis of the design problem. This is different to what the diagram of figure 4.1 represents. In short the result of my analysis is that the PELIA proposes a weak or flexible teachers' control over the students' on the sequence of design and the selection of contents (**F- sequence; F- selection**).This PELIA's technique of working every two modules on a stage of the design process reinforces my previous assessment of its flexibility. This PELIA's technique is connected to the issue of the term's eleven weeks duration and seems to give coherence to the terms' length. My analysis of this issue in relation to the architecture programme's discourse follows.

The controversy regarding the term's eleven weeks duration

The *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* clearly states that the eleven week duration of the UMXS modules is short for the objectives of the architecture programme. The discourse's suggestion of "doing only one architectonic project through several modules" is based on the assumption that to try "to investigate, to program, to project and to develop technologically an architectonic object or an urban environment" in each module of "twelve weeks" is a "limitation" as "experience shows" (PELIA, 1975: 21). It can be argued that the eleven weeks duration of the term is an impediment for a process of creativity, but neither the PELIA nor another document has recorded any empirical or/and documentary information that demonstrates the students are unable to do a 'complete project'. In my view the focusing on a stage of the process, as the diagram in figure 4.2 shows, is useful to oppose the supposed limitations that the eleven week duration of the modules brings about to the completion of a project. In the final chapters I will show the participants' students' opinions regarding the issue of the eleven weeks duration.

Elsewhere the PELIA contends that "the process of architectonic design" is "a fundamental structure" basic to reach the educational objectives (Ibid: 14). In the academic community of the UMXS architecture programme the term ARCHITECTONIC PROJECT[27] is used to describe the final products of the design process that includes

[27] In Kant's system architectonic is the logical structure given by pure reason and empirical intuition which a philosopher [or a person] should use as a plan to organize the contents of any system (1781).

drawing plans, models and, a few times, budget estimates; students deal with this last aspect in the last three modules. In addition, little is said concerning the relationship between staff's research and transmitting it to the students. This absence is important because it indicates that the PELIA, or better to say, the teachers that design it, did not recognised the official discourse's pedagogic objective of teaching based upon research.

So far, I have reviewed the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura*'s general objectives and its main concepts. In order to better understand this discourse's texts I also analysed its specific objectives of design, the contents of study, the ways and techniques of teaching as well as its forms of assessment of the students' learning, or the curriculum, the pedagogy and the evaluation. These last three elements appear in a PELIA's *Unidades de Enseñanza Aprendizaje (UEA).* I analysed module IV UEA as it is the first architecture programme's module that students experience. Next a summary of the main findings derived from analysing the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* as well as module IV UEA pedagogy follows.

The *documento*'s principle of inter and multi-disciplinary work centred on the students is basic for this educational process since it generates the object of transformation that is a student's actions in and out of the classroom. The instructional discourse PELIA omitted an interpretation of the object of transformation. The PELIA does not show either an explanation of reality or a reference to Bunge´s idea -as the *documento* and other scholars state it: "…levels of reality: the physical, biological, psychological, and socio-cultural" (Villareal, 1974: 17-18; Beller, [no date]: 2; Guevara in Martínez, 1992: 37). That is the PELIA did not make specific the principle of approaching a concrete problem from the fields of knowledge mentioned. The PELIA argued that to try to develop an architectural project in all the stages within "twelve weeks" is a "limitation" (Ibid: 21).

There is no recorded evidence of this form of control neither in the PELIA nor in any other document. The fact that the PELIA neither discusses nor relate the meaning of the object of transformation to any idea of reality is a conceptual and analytical absence important to notice because it is reproduced in the UEA's contents that is, in the pedagogy of each module that teachers should follow. Thus, if students perceive this conceptual gap they might feel that their aspirations, i. e. studying with a multi-disciplinary pedagogy related to a "concrete reality", have been blighted. This is why I investigated empirically this conceptual gap from the students' views. In Bernstein's terms the conceptual absence means that the re-contextualizing principle has not been grasped.

From the analysis of the architecture programme curriculum I also found a tension between the contents of Theory and Technology as **C- contents**, **F- site of learning** and **F- mode of communication**, with the contents of Design or **F+ selection**. This tension reveals an increase in the insulation between the teachers participating in the transmission of knowledge resulting in a constitutive of **C+ pedagogic process** with **C+ staff communication**. Bearing in mind that these three areas represent three Departments of CAD, this finding of the separation between teachers' research coincides with my previous analysis in respect to research and the organization of the Departments that implies separated research projects (**C+ research policy**). This in turn increases the insulation between the staff activities (**C+ staff communication**) and increases the control over the selection of the objects of research (**F + research aims**) by part of the staff that teach design. Next, I present the findings of the analysis Module IV techniques of teaching and communication as well as the evaluation.

Whilst the PELIA's techniques suggest they are in agreement with UMXS chief principle of students work, there is not inclusion of the principle of dealing with real problems through a multi-perspective approach. This absence is worth notice because the UMXS pedagogic criteria encourages obtaining knowledge in and out of the classroom. Even if the absence of the principle of 'working with real problems' was the result of a confusion or disagreement of the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura*'s creators, it is important to be aware of it to point out that the student shall work with needs that stem from the community: families, couples, a firm, etc. This process of reducing the control over the site of learning complement the above finding of F- selection and F- mode of communication by including different places (**F- site of learning**). Not to deal with concrete problems would represent a tension with most of the 'official' objectives and contents of this UEA.

With regard to evaluating students' works the PELIA implicitly sets the project or plans as the main product in the sentence: "[...] two partial evaluations corresponding to the research and preliminary studies of the axis problem and of the architectonic lay-out" (1978: 27). Yet the indicators within these means, as well as, the way to measure them are not made explicit. In brief, the discourse *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* does not set a clear criteria for evaluating the student. Hence its evaluation procedures are **C+-**. This absence rather than being open or flexible criteria (C-), should be noted as a vacuum since the criteria do not include students' self-evaluation and/or a group evaluation; it shows a tendency of isolating the students from the process (**C++ mode of evaluation; C+ evaluation process**).

The PELIA sets as a criterion of evaluation for students' works a different "weighted value for the areas of teaching-learning" (1975: 22). The weight value in the nine modules of architectural design is higher for the Design classes. The higher weight value in favour of the design sessions does not reflect the difference in the number of hours assigned to each of the areas in the modules IV. Whilst design sessions last three hours three time per week, the other classes durations is three hours once a week. The higher weighted value favouring Design expresses the tendency of insulating the teachers of the 'supports' or reproducing the hierarchies of the traditional educational system (or of common universities) (**C+ staff communication**). The uneven distributions of time represent the dominance that teachers of Design have had for decades over the decision making in the programme.

Similarly, the PELIA's suggestion of applying two partial and a global evaluation express the desire of controlling the sequence and the pace of learning of the student since it represents an evaluation almost every month (**F+ pace-sequence of evaluation; F+ mode of evaluation**). In addition it does not clarify when exactly the evaluation has to be applied. Table 4.1 summarises the analysis results in relation to the discourses' purposes, as well as to their objectives, the objectives of design, the UEA's contents, the techniques of teaching and communication and the evaluation. The summary indicates prevalence of weak or reduced classification and framing (**C- F-**) i.e. an **integrated code** type. However, regarding the evaluation process the classification obtained defines a rigid process. This PELIA's characteristic is represented at the bottom of the table with the signs C+ F+.

Note that within Bernstein's theoretical framework, in order to work the integrated system needs:

1.To show "some consensus about the integrating idea",
2."The idea must be made very explicit",
3.That "the linkage between the idea and several content must be systematically and coherently worked out",
4."A committee system of staff and pupils in order to develop a sensitive control on the whole endeavour",
5. A "very clear criteria of evaluation" (1975: 84).

Based upon Bernstein's criteria I also found that there exists tension, or rigidity and conflicts, within and between the areas of Design, Theory and technologies' pedagogies. There exists also divergence in the process and in the mode of evaluation, as well as isolation of students from the evaluation process. This coincides that in practice, vague, ambiguous and biased evaluations are set –as we will see in the participants' accounts. In

practice points one, three and five seldom come into being. This view will be corroborated by the students' point of views in the chapters of the analysis. The tensions within and between the discourses above analysed, predicted in Bernstein's theory, have implications on the students development of creativeness as other scholars have pointed out. A brief of these views follows.

Table 4.1 Codes of power and control of the UMXS and architecture programme's pedagogic discourse

ISSUE	*CLASSIFICATION (Power or Insulation)*	*FRAMING (Control)*	*SITUATION*
UMXS purpose	C-		
UMXS pedagogy	C-	F-	
UMXS contents	C-		
UMXS site of learning		F-	
UMXS mode of communication		F-	
UMXS mode of evaluation	C- F-		
PELIA's creation **Staff development** **Purpose of discourse** **Contents of discourse**	 C+ C- C-		**Tension**
PELIA's objectives **Purpose of discourse** **Policy** **Contents of discourse** **Appropriation** **Communication** **Content** **Site of learning** **Sequence**	 C- C- C- C- (universal)	 F- F- F- F-	
PELIA's objectives of design **Purpose of discourse** **Design process** **Contents** **Policy** **Site of learning** **Mode of communication**	 C- C- C-	 F- F- F-	
PELIA's UEA **Purpose of discourse:** **contents** **site of learning** **mode of communication** **Objectives of process:** **contents** **site of learning** **mode of communication**	 C- C- C-	 F- F- F- F-	

	C-		
Synthetic Content:			
Theory: purpose	C+	F-	**Tension**
contents	C+	F-	**Tension**
site of learning			**Tension**
mode of communication			**Tension**
Design: purpose	C-	F+	**Tension**
contents		F+	**Tension**
site of learning	C-	F+	**Tension**
mode of communication	C-	F+	**Tension**
Technology: purpose	C-	F-	
contents			
mode communication			
site of learning		F-	
Modalities of teaching-learning:			
Purpose			
Pedagogic process		F-	
Staff communication			
Contents			
Mode of communication		F-	
Modalities of evaluation:			
Purpose	C-		
Process	C+	F+	**Tension**
Staff communication	C+		
Contents	C+-		
Mode of evaluation	C++	F+	**Tension**

Bernstein's model suggests that the integrated pedagogy "emphasizes ways of knowing", it is directed to assess "inner or dispositional attributes" of the students, as well as, what is "present in the acquirer's product" (1975: 59-60; 1996: 99). Whilst the latter criterion is characteristic of the pedagogic discourse –and of a number of its practices- the two former criterions are not set in the discourse of the architecture programme. Flexible evaluation as a necessary element of the educational process is an important issue if universities are concerned with fostering student's **creativity**. Research focused on this issue has demonstrated that the "expectation of evaluation" and other related constraints such as "deadlines, surveillance and competition" can be a potential killer of creativity (Harackiewicz et al., 1991 cited by Hennessey, 2007: 34; Jussim et al., 1992; Amabile, 1982a; Amabile, Goldfarb and Brackfield, 1990). Hence a crucial issue in the evaluation of education is to find open ways to promote students' creativeness by reducing tensions (Kneller, 1965: 33-34, 99-98). This openness might foster the interplay of all parts involved in the processes of evaluation creating a "kind of suspension of the evaluation, of the arbitrary" (Salmon, 1992: 82)[28]. These ideas, as well

[28] Husserl's idea of bracketing judgements is most suitable for the process of evaluating a student, by refraining from making judgments upon her or him, by neutralizing one's belief. A bracketed judgment is an *epoche* or suspension of inquiry, which places in brackets whatever facts belong to an essential Being (1925: 73).

as the pilot work pointed out the importance of evaluating students fairly, which led me to be paying attention to this issue in the participants' responses.

In 2001 another document was produced as a reference to CAD practices of designing: *Bases Conceptuales. División de Ciencias y Artes para el Diseño* (BACON). My analysis of this document using Bernstein's constructs found the following as the most important matters it dealt with. The discourse *Bases Conceptuales* points out that the "diffusion of **culture**" starts in the Departments (Op cit: 21-22). This discourse's idea is not found in the PELIA; it points to the -perhaps obvious although important- issue of the university as a channel for the transmission of culture. On the other hand the BACON, as it happens in the PELIA, does not explain or suggest how to approach **reality**. Similarly it does not develop its notion of "social needs" (Ibid.). Next I discuss other absence in the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura*: the regulative discourse.

The UMXS Legislation as the architecture programme's regulative discourse

I have mentioned before that in relation to the architecture programme there have been attempts to change the *Introducción al Programa de Estudios de la Licenciatura de Arquitectura*'s contents and organization. However the attempts have not dealt with issues of **order** and **control** (where students and teachers should stay, where they should go, at what time, for how long). A recurring theme of order and control in informal talks and in staff meetings is the students' absence to classes. In staff meetings occasionally reference is made to the UMX's University Legislation (*Legislacion Universitaria*) and its Regulations. I will analyse a part of this document next. I will also go over the sections related to the students' rights and duties. The purpose of this is to identify rules the architecture programme discourse has missed and can be a source of disorder in the pedagogic practices which, in turn may affect the students' education process.

The UMX's Legislation contains the rights, basic duties, administrative regulations and conducts for the students, teachers and administrative staff. One of a student's right is ".. to participate actively and to integrate study groups with other students, in the development of the units of teaching-learning" (*Legislacion Universitaria,* 2000: 352). Another students' right are "To talk about the development and the results of the *Unidades de Enseñanza Aprendizaje* contents"; "To be evaluated in accordance with the plans and programmes of studying"; "To participate in the development of research projects"; "To participate in activities of conservation and diffusion of culture in accordance with their knowledge and aptitudes and conforming to the nature of the

programmes and the respective projects" (*sic*); "To receive acknowledgements for their participation in the development of the two activities mentioned above" (ibid).

The official statements described show the intention of opening spaces for the participation of the student with the teachers in a range of activities including dialogues with teachers and the co-production of knowledge and not only with the reception of knowledge. This intention represents a weak insulation in the interaction between these agents, i.e. a flexible education and socialization (**C- purpose of UMX**). The university idea of allowing students to talk about the development of the learning process suggests an openness of the university actions (**C- policy of university**). On the other hand the right "To be evaluated in accordance…" is vague since it does not specify what qualities of the student are expected to be shown and to be evaluated (**C+ evaluation**). This vagueness also appears in the PELIA, as I mentioned, before. This unclear evaluation process might imply an exercise of power from the university structure, particularly in pedagogic practices since teachers have the right to evaluate the students mainly in accordance with their own criterion than can conveys prejudices towards the students' representations of their learning.

With respect to the student's right of participating in research projects and other activities related to the transmission of culture it expresses the intention, first, of creating an educational process with multiple options or flexible pedagogy (**F- communication**) and, second, to promote the access of young people to updated knowledge through research (**C- universal access**). Regarding acknowledgments students are entitled to receive a Honours Medal which can be awarded when they finish their studies (*Legislacion Universitaria op cit: 358)*. The medal is awarded in each degree programme to the student who obtains the highest grading among his or her generation peers. Another recognition is also the Research Diploma which can be obtained participating in a contest opened every year to all the degree programmes (ibid). These actions represent an intention of praising students for their continuous efforts and for doing research; hence it indicates openness to multiple functions of the university (**C- policy of the university**).

In the *Legislacion Universitaria* there is anything stated *r*egarding the duties and conduct the students have to follow. Worth mentioning is article 16 which states that a "Committee formed by a Department Chief, two members of the academic staff and two students representatives" will "know and pronounce about the problems caused by the students[....]" (Ibid). To implement its decisions the Committee can take as a reference from the following criteria: "I. The observed conduct of the student; II. The

students' academic performance; III. The motives that induce the student to commit the offence; IV. The external circumstances of the offence execution; V. The consequences produced by the offence" (*Legislacion Universitaria* 2000*: 357)*. This organization, which includes the students in the decision-making of collective order taking into account subjective and broad factors, represents an openness of the university to communication between its members (**C- purpose of the university**). It also represents a willingness to deal with its difficulties to socialise the students (**C- policy of the university**).

The *Legislacion Universitaria* deals with the pace of studying and with the criteria for evaluations in its section called Regulations of Higher Studies (*Reglamento de Estudios Superiores*). This Legislation's section states that a student is allowed to present for evaluation as many as five times in a Module UEA (*Legislacion Universitaria* 2000*:* 317). In this case the student is entitled to request "to be evaluated by a jury constituted by three teachers in the area of studies" (Ibid.). In its "Eight Title: the Evaluations" the official regulative discourse establishes that "The evaluations will have as its objective that the professors and students have the elements to know and to improve the efficiency of the modalities of conducting the process of teaching-learning, as well as, the development of research and the accomplishment of the pointed objectives" (*Legislacion Universitaria op cit:* 334).

The students also have the right to disagree and to complain with an evaluation, to which they are entitled to request that the Director reconsider the assessment (*Legislacion Universitaria op cit:* 336). This organization described clearly indicates flexible criteria of evaluation. In addition this document states that the student can fail up to four times a Module and can participate in the evaluation process and its contents (**F- purpose** and **process of evaluation**). The degree of evaluation flexibility is such that "the students can present a second global evaluation (*recuperacion*) without having been registered in the *Unidad de Enseñanza Aprendizaje" (Legislacion Universitaria op cit:* 335).

With regard to the pace of studying the *Legislacion Universitaria* in its "Sixth Title: the Length of the Studies Duration" states that a student pursuing a Bachelor's degree "must cover the totality of the credits in a period that will not exceed ten years." (*Legislacion Universitaria op cit:* 330). Within this duration the students are allowed to leave or not register with the university for a year (*Legislacion Universitaria op cit:* 323). If a student does not finish his or her studies in ten years he or she has the opportunity to request to be admitted again to the university upon a written request to the Divisional

Committee (*Legislacion Universitaria op cit:* 331). On the other hand, a student is not allowed to finish the total number of studies' credits in less than ten terms or Modules (ibid).

This collection of rules expresses a flexible approach in the learning pacing (**F-pacing**). This USMX's characteristic does not coincide with the previous result that the PELIA's pacing of evaluation is rigid or F+. The latter sets an evaluation almost every month but with unclear criteria and times for the evaluation to be applied. Besides, the PELIA does not include the students in the process of evaluation. Thus the architecture programme creators did not recognise or accept the USMX's principles of a flexible evaluation process. Hence it contains a rigid evaluation process (**F+ pace of evaluation; F+ mode of evaluation**). This characteristic of the architecture programme discourse creates tension in relation to the official discourse of USMX.

After the foregoing I can say that the USMX's official regulative discourse is inclusive or open regarding its pedagogy, although it contains a contradiction with respect to the terms duration which is quick, in relation to the programmes' length which is long-lasting. However, the architecture programme's discourse or PELIA followed a few of its official discourse's pedagogic principles. This divergence is particularly true regarding the multidisciplinary approach of learning based upon teachers' research, as well as, the failure to include students in the evaluation process. The PELIA's creators' difficulties to accept the terms' eleven weeks duration as enough time to develop a project remains to be seen from the students' views. Certainly it remains true that there is need to investigate the pedagogic practices of the teachers in relation to their acceptance of the PELIA contents, techniques of teaching and evaluations' criteria.

In the next section I highlight the UMXS architecture degree programme teachers' cleavages due to the disagreement concerning the usefulness of the pedagogic principle of students' work with multi-disciplinary approach. This discrepancy has been a part of their struggles to control, use and distribute the power that their position as professors or lecturers, as well as of belonging to the different areas of knowledge converted into factions generates. This is worth noticing because the architecture degrees programme socialization involves the students in this situation, which might distract them from grasping the discourse's pedagogic objectives and principles. First I describe the disagreements concerning the eleven weeks of the terms' duration in relation to pedagogic practices that I have perceived.

The teachers fight for symbolic control

I mentioned in chapter one and at the beginning of this chapter that at the architecture programme there are groups of teachers who do not agree with the USMX multi-disciplinary educational system. From meetings that I participated I realized that a number of the staff groups do not also accept the instructional discourse *Introducción al Programa de Estudios de la Licenciatura de Arquitectura* pedagogy. This is so despite the PELIA was designed by a part of the staff, mainly from the Design and Theory Departments. Sometimes the discussions on staff meetings bring about difficulties of teaching practice related to students' educational background. Teachers of the Design Department consider that the so called students' deficiency is mainly a lack of basic knowledge of "technologies". In opposition some teachers of the Technology Department argue, for instance, that their teachings and students' evaluations are not accepted by their counterpart colleagues.

In the pedagogic practices of the architecture programme there are divergent views in relation to the PELIA's proposal of focusing on a stage of the design process every two modules. The criterion of doing one project over several modules is carried out in practice only from module X to XII. This agreement among members of the staff coincides with the PELIA's statement that the urban and architectural projects assigned to the students in module X are in "fact of a large dimension" (Ibid: 22). However, the criterion of focusing in a stage of the process of designing in modules four, five and six, seven, and eight and nine –as depicted in Figures 4.1 and 4.2 is not applied by a part of the staff. From my casual observations, a number of pedagogic practices [MeC/f; RV/m; JlG/m; EC/m; JmB/m; EA/m; AR/m; MM/m (although he guides the students to follow a broad approach); SD/m] in the architecture programme carry out the four stages of the design process in each module without focusing on the corresponding stage proposed in the PELIA.

One has to question why do staff members follow the conventional, or restricted, context bound process of designing? This colleagues' behaviour is intriguing since the conventional process, which does not focus in a stage of the design process, is carried out during eighteen to twenty weeks. Even more intriguing is that some teachers a priori decide that the students will not be capable of solving the design problem in the eleven weeks and from the beginning of the term tell the students they will have to use the two weeks of evaluations and the end of term pause for working more on the project. Remembering these behaviours it is worthwhile pondering Bernstein's notion that the

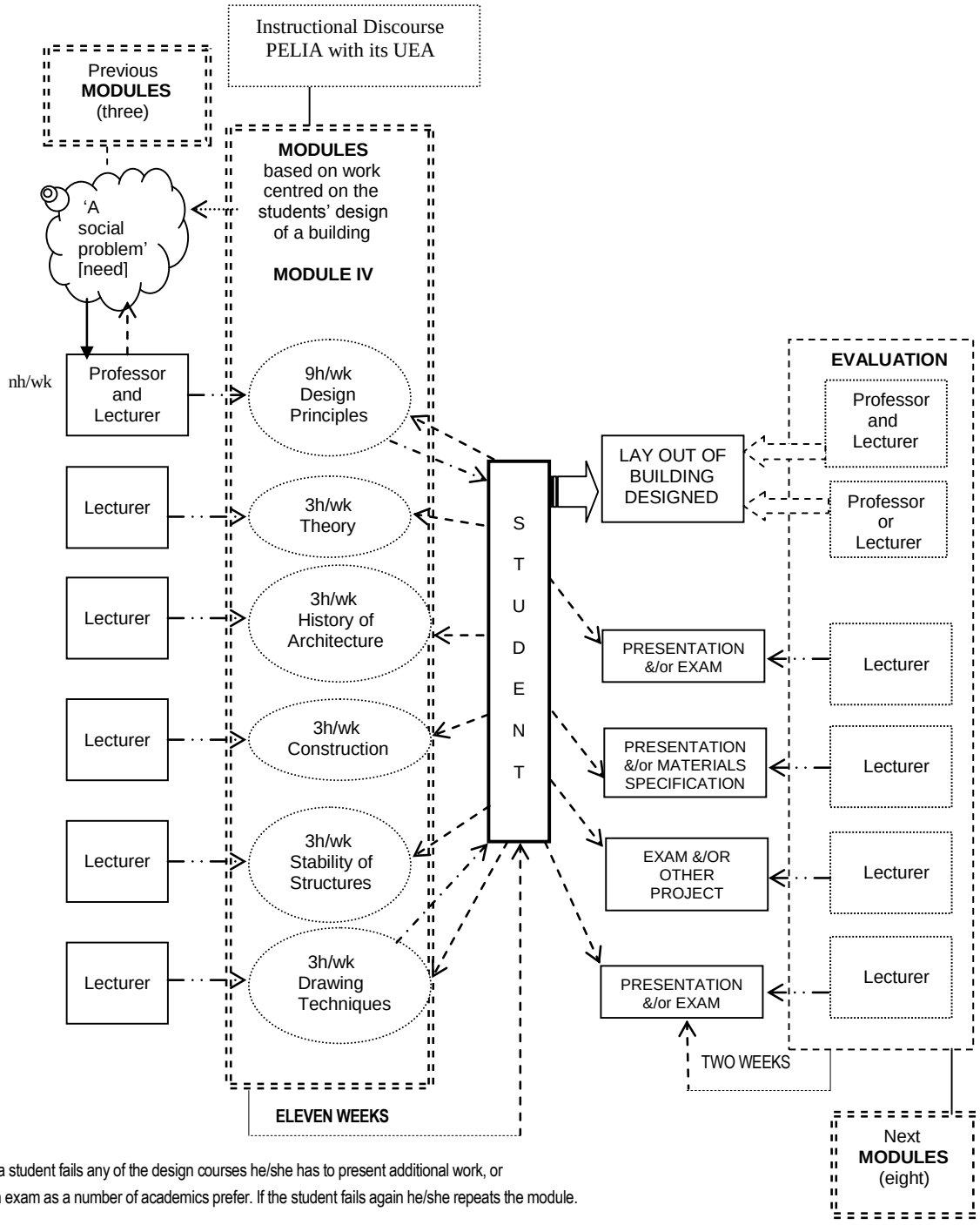
pedagogic practices can oppose the pedagogic discourse in its fight for symbolic control (1997: 27).

To add to my description of the degree of separation between categories I suggested above I describe next the way a module is organized in practice. The modules of the architecture programme are organized around the sessions of Design. These sessions are conducted by a professor, who acts as the coordinator of the group, and a teacher. To complement the design sessions five more courses are given to the students, each course by a different teacher; sometimes a teacher is assigned to two complementary courses. Figure 4.3 shows the organization of module IV, in connection to the architecture programme courses with the number of teachers responsible to offer these courses. The right side of this figure describes the process of evaluation with the products taken as reference for this purpose.

The controversy concerning the UMXS and the PELIA's pedagogy led to attempts to change the instructional discourse. However, the attempts missed to take into account research from the field of education. For example that at the end of the 80's a researcher suggested that to understand pedagogic problems at UMXS Basil Bernstein's "scheme for the analysis of the transmission of valid knowledge" might be useful (Castrejón, 1988:102). The attempts also missed the point that the UMXS educational model can be as "useful" as the traditional model for the society, but this demands "an ideological consensus among the staff" concerning the validity of the educational model (ibid: 106). From 1998 the Director of CAD proposed a "redesign" of the architecture programme's discourse.

A commission formed by professors of different departments was appointed to carry out the task. This commission found several "problems" (Velasquez et al., 2001: 4). The problems range from deficiencies of graduated students, difficulties of students when choosing majors, the student's deficient educational background -particularly in "technologies", the repetition of content in the *Unidades de Enseñanza Aprendizaje*, non-compliance [by the teaching staff] with the content and "serious irregularities and contradictions on the procedures of evaluations" (Ibid). However there are no files and data that support the commission's arguments. This is a characteristic of the architecture

Figure 4.3 Representation of a module organization.



programme's research which tends to be chronological and speculative rather than empirical guided by theories. This deficiency is important to remark since the character of my thesis try to rupture with this inertia.

Notice that the principal's investigation suggested that teaching at CAD was "stagnant and weak" and the professors lacked research (see chapter one: 11) but, strangely, the commission did not investigate these issues. The commission reached an agreement concerning the "professional's profile to be formed" being “necessary to update the different professional practices set in the UEA and its programmes”; this would lead to a "social practice" of the graduates being aware of the "circumstances of the citizen's quality of life deterioration" (Ibid: 25). The commission focused on the contents, and developed a totally different version of it. The core of their proposal linked the study of the city and its "phenomenon of urbanization" with the architectonic space. Another part of the proposal was to extend the programme’s duration to five years (Ibid: 19-23).

It is necessary to note that the commission’s suggestions did not follow their own findings such as the “students’ deficient educational background” among others. The results of the commission’s work have not been implemented thus far. Nevertheless the disagreements concerning the UMXS pedagogy and the PELIA’s usefulness is prevalent. In short, the attempts to modify the curriculum of the architecture programme that I discussed above shifted away from the student and community centre perspective of the official discourse of UMXS. To what extent the teachers’ reluctance to accept the UMXS and the PELIA’s pedagogy influence their teaching practice? Do students perceive the teachers’ divergence towards the UMXS principle of doing research based upon multi-disciplinary approach?

To what extent the staff members of the architecture programme’s hidden communication (or codes) in the classrooms enable or constrain students to advance in their studies? Does this process enable them to reach their aspirations of a new, flexible pedagogic process? These are the main issues I scrutinise in chapter five and six. I used the classification of UMXS architecture programme’s discourse as integrated code to compare it with the participants’ previous schools pedagogic codes in relation to their orientations towards learning and meaning. My goal in this task was to find patterns of similarities and differences in these interconnections. Then I relate the students’ high school’s educational codes to their aspirations to find other patterns of differences and similarities. Afterwards I relate the patterns found with the student’s overall performance (marks-educational trajectory) as the concrete result of those interconnections. At the end of the analysis process I suggest a number of codes that students followed during their process of education.

Chapter five

Results from interpretative analysis of students' spoken and written responses

Introduction

In this chapter I present the findings derived from the analysis of the students' views that were obtained from three interviews and written responses. My goal is to be able to categorise the students' responses using elements derived from Bernstein's theory of the transmission of knowledge. My final goal is to propose categories that integrate the theories of social contextualization and the sociology of aspirations. In order to reach these aims I remembered throughout the process that the students might have framed in different forms the questions asked. Nevertheless I considered this the starting point of the analysis as a mean of grasping the students' concepts (Giddens, 1976:166).

In chapters one, two and three I put forward that to understand the participant students discomfort with the pedagogic practices of the UMXS architecture programme, it is necessary to define their social positioning, discover their orientations towards learning and meaning and to define their high school's pedagogic codes. However, in order to explain the participants' dissatisfactions with the pedagogic process is necessary to search for and define their educational and professional aspirations to find interconnections between all these factors and each student's performance and trajectory. I pointed out that the students' social position entails discovering their interpretative frameworks (codes) since these are the tools by which students analyse the flexible and tacit educational process they are experiencing.

In chapters two and three I suggested that the students' discomfort might be due to the difference between the university student centred, multi-disciplinary approach and the teacher centred approach they were exposed in their previous twelve years of studies. Consequently I put forward that to understand and explain the contradictions in the students' aspirations as a result of their exposure to the student centred approach of the UMXS architecture programme, it is necessary to define the architecture programme educational codes. In chapter four I examined and compared the UMXS official discourse with that of the architecture programme pedagogic discourse using Bernstein's constructs. I defined this university discourse as similar to an integrated or a pedagogic context C- F-.

This progressive pedagogy should function based upon the students' ways of knowing and problems solving rather than in teacher directed, curriculum centred transmission of states of knowledge where the solutions are given and non-negotiable. Due to the difference in the ten years duration of the degree programmes of this university with the eleven weeks of the term I suggested that the educational process is flexible-rigid (C-F+-). While the ten years duration can drive a student to indulgence the eleven weeks may set her/him in stress. I also pointed out in the previous chapter that the architecture programme instructional discourse does not clearly follows UMXS principles of a process centred in the students working on real problems with multi-disciplinary approach. This absence is clearer for the Design curriculum.

This asynchrony within the pedagogic practices in the architecture programme may be perceived by the students particularly when they are lead to reproduce rather than allowed to create; thus they may feel their aspirations blighted. For the said afore I started the analysis of the empirical information the twenty eight participants provided using the theory of educational codes transmission. Its categories context dependent or linguistically implicit with particularistic meanings and context independent or linguistically explicit with universalistic meanings leaded me to define their orientations to meaning and learning. In this chapter five I report the main results derived from the analysis of five selected students' information (see chapter 3: 64 for the criteria to select them). I also report my analysis of the pedagogic discourses of the high schools where the students studied.

From the analysis of the interconnection of their language orientations with their schooling pedagogic codes, I should be able to understand the students' discomfort with the architectural programme pedagogic practices. After the section concerned with the students' orientations I represent their social position as a result of analysing their cultural capital and volume. Afterwards I discuss the participant students' social positioning interconnection with their orientations. I shall proceed to introduce the five selected students' aspirations I discovered. Thus I will be able to explain the participants' discomfort with the architecture programme pedagogic practices. Then I show the results of relating their aspirations and orientations against their overall trajectory, namely the official information on educational performance. I will plot the selected participants in a final graph that represents the interconnection of their four qualities found.

Students' orientations to meaning and learning derived from their verbal responses

From the preliminary analysis of the first interview responses the following elements arise: most students found '*very different*' the education process, particularly, in the first three modules. Even when students spent a great deal of time researching a social problem, which seemed unconnected to architecture, like the *'pollution and scarcity of water' or 'the acceptance of abortion as a mean to control birth rate*', most students found it '*interesting'*. A number of students were concerned that only having '*three hours of class*' and because they *'have to talk and to participate in discussions*' which they found '*quite interesting*'. The process of applying network technique to the verbal and written responses corroborated that students found different the learning process in the architecture programme to what they followed in the high school levels.

The use of a strategy network (see figure 3.5) enabled me to capture each student's words in relation to Bernstein's categories first from their answers to the question 'Would you like to tell us about your interests, your tastes and your goals? I chose their words from their answers to the question 'What do you plan to do when you finish your architectural studies?' I followed the same procedure for the second and third interview. Then I grouped the answers in terms of the similarity of their meaning. I grouped the meanings in ten sub-groups from **a** to **g** as more context bound while meanings in the **h** to **j** sub-groups as less context bound. Then I used tables 5.1 and 5.2 to count students **RB**, **IÑ**, **VL**, **MP**, **SM** and **DT's** meanings. This process of analysis also enabled me to start to discover each student's orientations to learning.

The following paragraphs present the main outcomes of the analysis of the five selected student's orientations to meanings and learning. I set forth these orientations as the classification component of their codes as a first approximation to define them. Afterwards I present the results of the analysis of written responses. Subsequently I deal with the use and distribution of time for the three main areas of architectural knowledge -from each student's perspectives. This is why in the following paragraphs I do not assign to each student the framing component of the orientation (F+ -), but until I dissect their answers concerning the classes and term's length.

Following the data derived from the three interviews registered in tables 5.1 and 5.2 one can see that student **RB** (7) responded only with ambiguous (particularistic) meanings in the first interview. In the second interview his conversation was a mix of particularistic with universalistic meanings. In the third interview **RB's** answers were

Table 5.1 Students' degree of context bound after two interviews

STUDENTS' ORIENTATIONS TO MEANING																							
Student	**FIRST INTERVIEW**												**SECOND INTERVIEW**										
	+Context-bound responses								**-**Context-bound responses				**+**Context-bound responses								**-**Context-bound responses			
	a	**b**	**c**	**d**	**e**	**f**	**g**	**Σ**	**h**	**i**	**j**	**Σ**	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**Σ**	**h**	**i**	**j**	**Σ**
7 RB			1					1					1						1	2	1	1		2
11 IÑ	1							1		1		1	1							1	1	1		2
17VL				1				1	1			1				2				2				
26SM							2	2		1		1	1						1	2	1			1
27DT				1				1	1	1		2							1	1				

Table 5.2 Students' degree of context bound after three interviews

Student	**THIRD INTERVIEW**											
	+Context-bound responses								**-**Context-bound responses			
	a	**b**	**c**	**d**	**e**	**f**	**g**	**∑**	**h**	**i**	**j**	**∑**
7 RB	3				1		1	5			1	1
11 IÑ	1			1		1		3	2	1		3
17 VL**+**	+							+				+
26 SM	1		1			1		3				
27 DT		1		1				2				

+ This student drop out of studies.

four times more oriented to particularistic than to universalistic meanings; three of these were strongly bound by his contexts. RB was oriented to objects, focused on working, with little concern on his professional career, as well as with authority. Therefore C+ meanings. Student **IN** (11) responded with particularistic and less particularistic meanings in the first interview. In the second interview IN showed more universalistic meanings than particularistic. In the last interview IN responded with same amount of particularistic and universalistic meaning, with more responses than in the previous interviews. Whilst IN was oriented to objects she wanted to work cooperatively; then she focused on her professional career while she was also concerned with authority and identity of architects. I set her initial orientation as C-. **VL** (17) gave similar amount of both particularistic and universalistic responses in the first interview. In the second she answered only with ambiguous responses that are particularistic or context bound. Her initial orientation was C+.

Bearing in mind **VL** fluent speech, rich lexis and grammatically correct sentence construction it is feasible to tell that her orientations are universalistic. Yet VL's speech had ambiguous meaning indicated attachment to the dysfunctional code of the staff that do not accept interdisciplinary work; then she was particularistic-instrumental. VL did no return the questionnaire and I could not find her for the third interview. **SM** (26) responded with more particularistic than universalistic meanings in the first interview. In the second interview his responses showed both kind of meanings with low and high degree of context-bound. In the third interview he gave only particularistic responses, mainly implicit, tending to be more bound to the meso-context. His orientation was set as C+. SM is an example of a student who responded in an institutionalised manner.

Student **DT** (27) answered in the first interview with more universalistic than particularistic meanings although a number of her answers were taken from the brochures given to the students by the architecture programme administrative personnel at the beginning of the courses. DT was clearly oriented to persons since she repeated the words 'to help people' in each interview but the third one. By contrast, in the second and third interview DT gave only particularistic responses. Her answers of the third interview tend to be more bound by the meso-context. I set her orientation as C+. DT was one of the three students whit less verbal fluency -the others being **RB** and GA.

In brief, when students **RB**, **IN**, **VL**, **SM** and **DT** enrolled at the university their meanings were clearly bound to their contexts. With the pass of time that is with their exposure to the architecture programme flexible-rigid pedagogic practices, the five

students, but **IN**, levels of bound to their immediate contexts were higher than when they started their studies at UMXS. In Bernstein terms, the students' talk become more implicit that is with particularistic orientations to meanings as they advanced in the programme. I verified all my above interpretations after the analysis of their written responses that I present next. To remind the reader along the process I was searching for students' hidden messages (codes) or contradictions.

Students' orientations derived from their written responses

Following Bernstein I analysed the students' responses in the questionnaires based on their use and frequency of finite and infinite verbs, subordinate clauses, nouns, pronouns, adjectives, 'You', 'I', 'we', 'one', prepositions, egocentric sequences and determiners. A student who uses more adjectives and adverbs was assigned an elaborated code (C-). This was considered an explicit elaboration with less context dependent meanings. A student who used fewer adjectives, adverbs, with repetitive conjunctions (so, then, and, because) ego-centric sequences and subordinated clauses was assigned a restricted code (C+). This type of student speech was considered ambiguous and/or implicit, with more context bound meanings. I used the grammatical element 'determiner' since is a "word that limits the meaning of a noun and comes before adjectives that describe the same noun" (Longman Dictionary, 1999: 299).

I did not include articles as in Spanish the use of an article does not remark the noun it accompanies, but it is common grammar use. I present below the graph that shows RB use of written grammar elements (figure 5.1) that I obtained by transferring each element in an Excel spreadsheet that transformed it into this Word graph; the list numbers on the graph right side correspond to the questionnaire's question number. Once I processed each students' written grammatical elements and obtained their orientations I plotted them in a Cartesian graph that links their orientations to meaning with that of learning. The graphs of the other selected students can be seen in the appendix. Figure 5.2 shows the location of four of the five selected students in this graph. Student **VL** does not appear on the graph as she did not return the questionnaires.

After analysing the students' responses by frequency of words use I analysed them by their sentences meanings. I did this to triangulate or to compare my previous analyses. For this purpose I considered, following Bernstein, that short, unfinished, unclear sentences, showing local ties, dogmatic or naïve logic has less elaborated speech with particularistic or implicit meanings (C+). For universalistic meanings the opposite applies, i.e. long, well-constructed sentences, more explicit, accurate, less local

Figure 5.1 **RB** frequency of use of grammar elements.

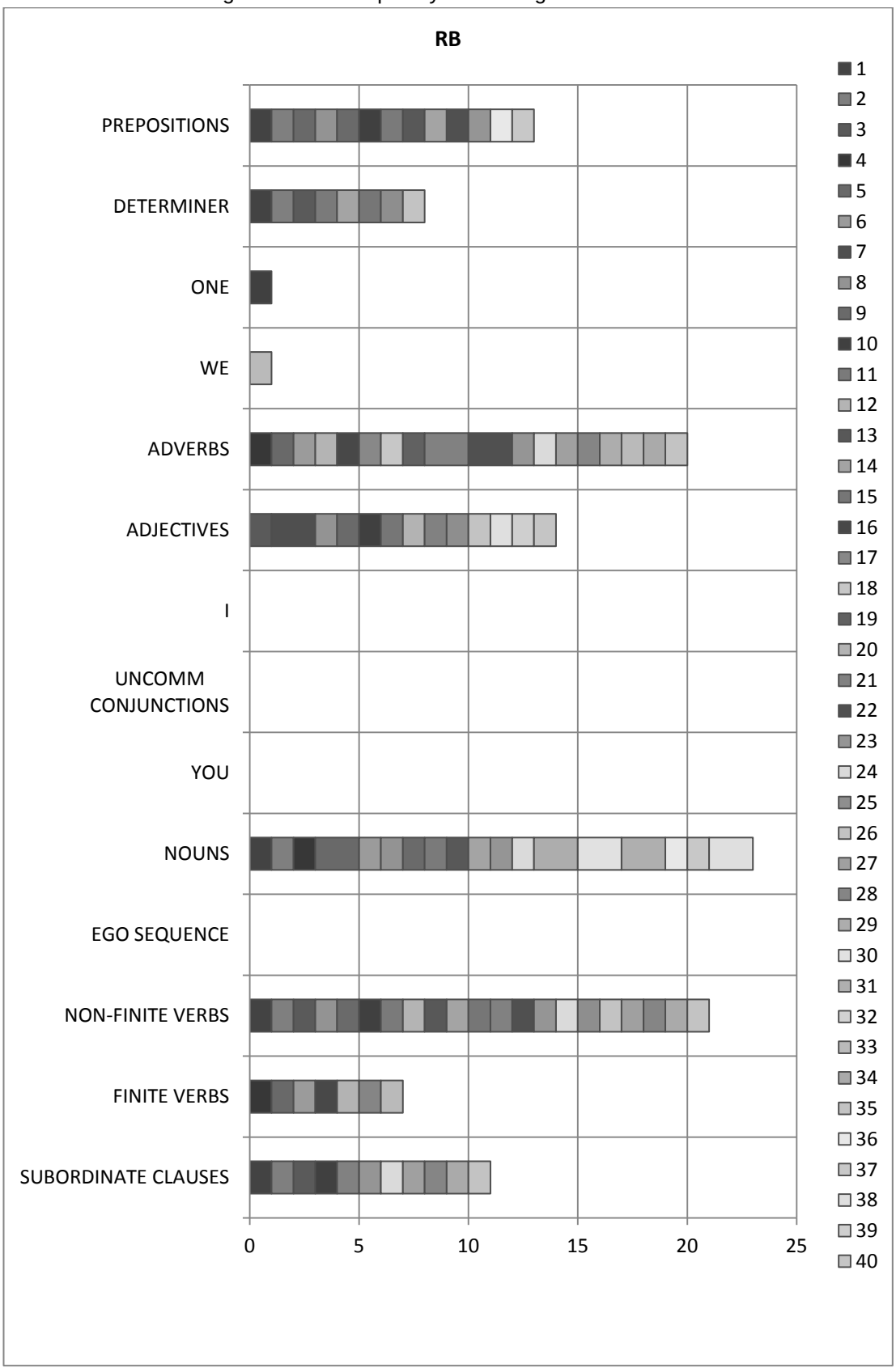
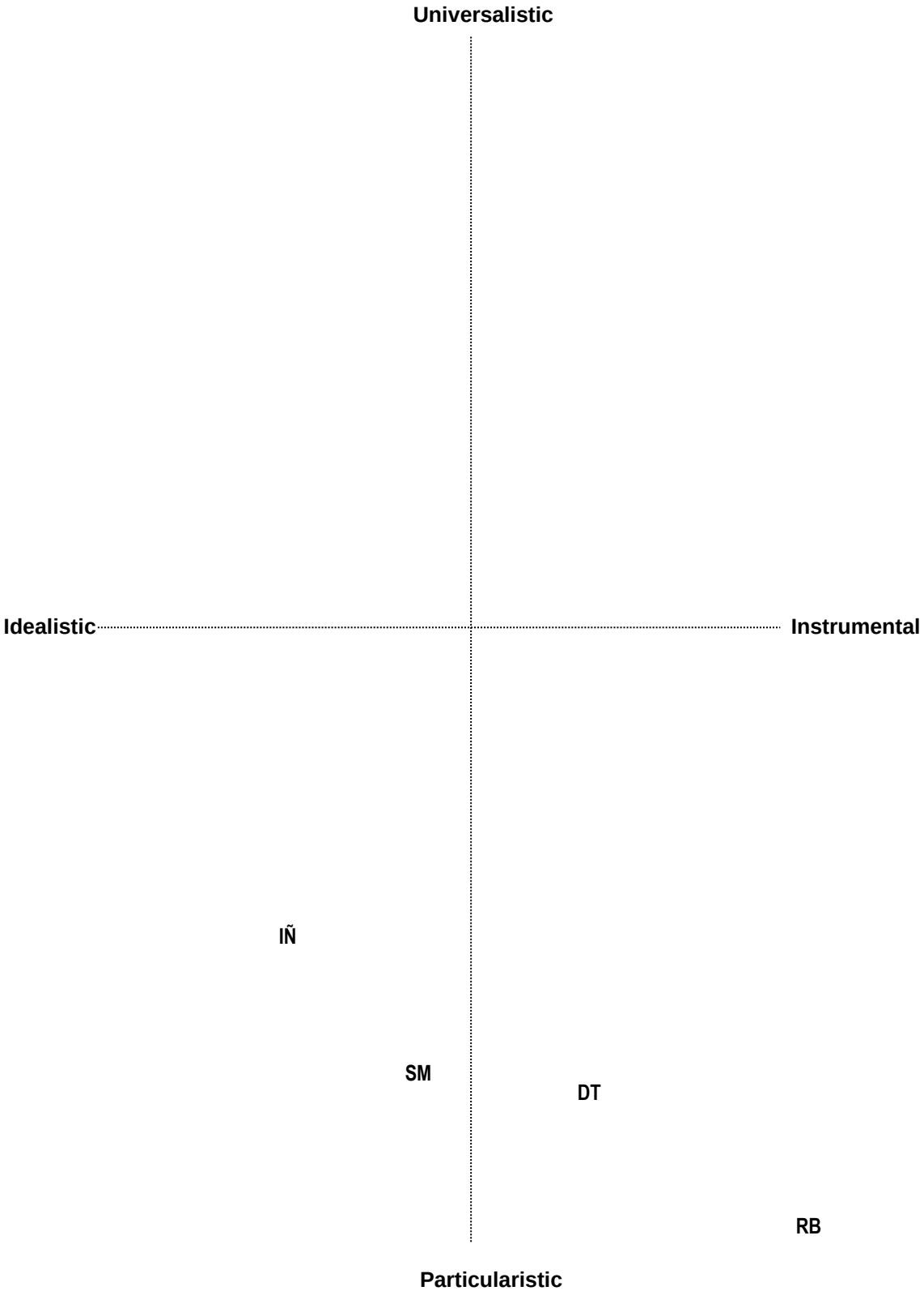


Figure 5.2 Classification of students derived from the analysis of their frequency of use of grammar elements.



bounding with greater willingness to negotiate meaning (C -). Figure 5.3 is an example of the network I developed by locating each student's sentence in the reconstructed network. In this network I separated the sub-categories ambiguous/implicit since I found a meaningful difference between them.

The former sub-category reflects several possible meanings, a non-constructed or exclusively personal answer, whereas the latter tells about interactions between persons, either between persons with different power levels or equal levels. The implicit answers are still focused on the person himself or herself, although they try to reveal a feeling, frustration, anger, disappointment, joy, etc. These are also related to an interaction with a teacher or, perhaps more meaningful, the lack of interaction with him or her. The implicit answers are those where one can find a student's contradictions or codes. Yet, these answers can suggest something useful and virtuous to do regarding the learning process. This is important to remark since I used these types of answers to find the students' codes. The sub-category explicit shows responses that were heuristic, informative and/or imaginative; that is students with orientations to universalistic meanings or less context-bound (C-).

Figure 5.4 shows the classification derived from the analysis of each student's sentences. If one compares this classification of students against that of figure 5.2 one can perceive that the only student whose location changed significantly was **DT**. I located her to particularistic-idealistic since her answers were informative although without fluent language. **IN** appears above her previous position as particularistic-idealistic moving towards universalistic meanings. In the network of figure 5.3 I introduce the framing component of the code as **time**. This separation of the framing component of the codes was due to practical reasons of the analysis process, not because it is separated from the boundaries the interactions and pedagogic practices create, themselves transformed by the boundaries of power relations. The issue of time has to be included because the eleven weeks duration of the module, is a controversy within the architecture programme community. (In point of fact the controversy is not such anymore, as a number of Design teachers have assumed that students cannot finish the project within the eleven weeks failing all the students without going over the projects).

I also considered design theoreticians' suggestions that limiting time tend to restrict students' **creativity**. To define the framing component of the students' language orientations I related their responses regarding the hours assigned to the different classes and subjects to the Bernstein's category of control. I also took into account the

Figure 5.3 **RB's** sentences analysis

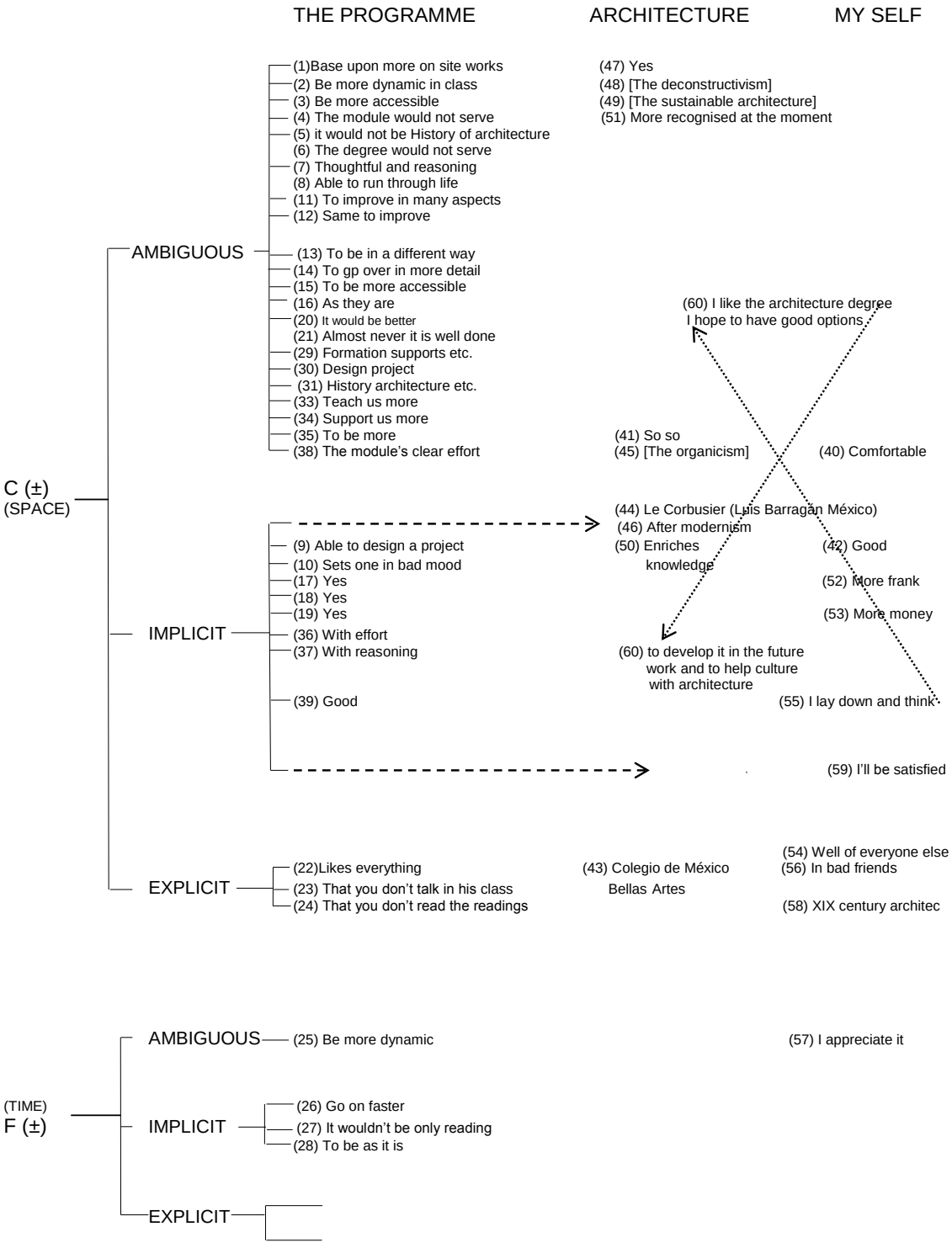
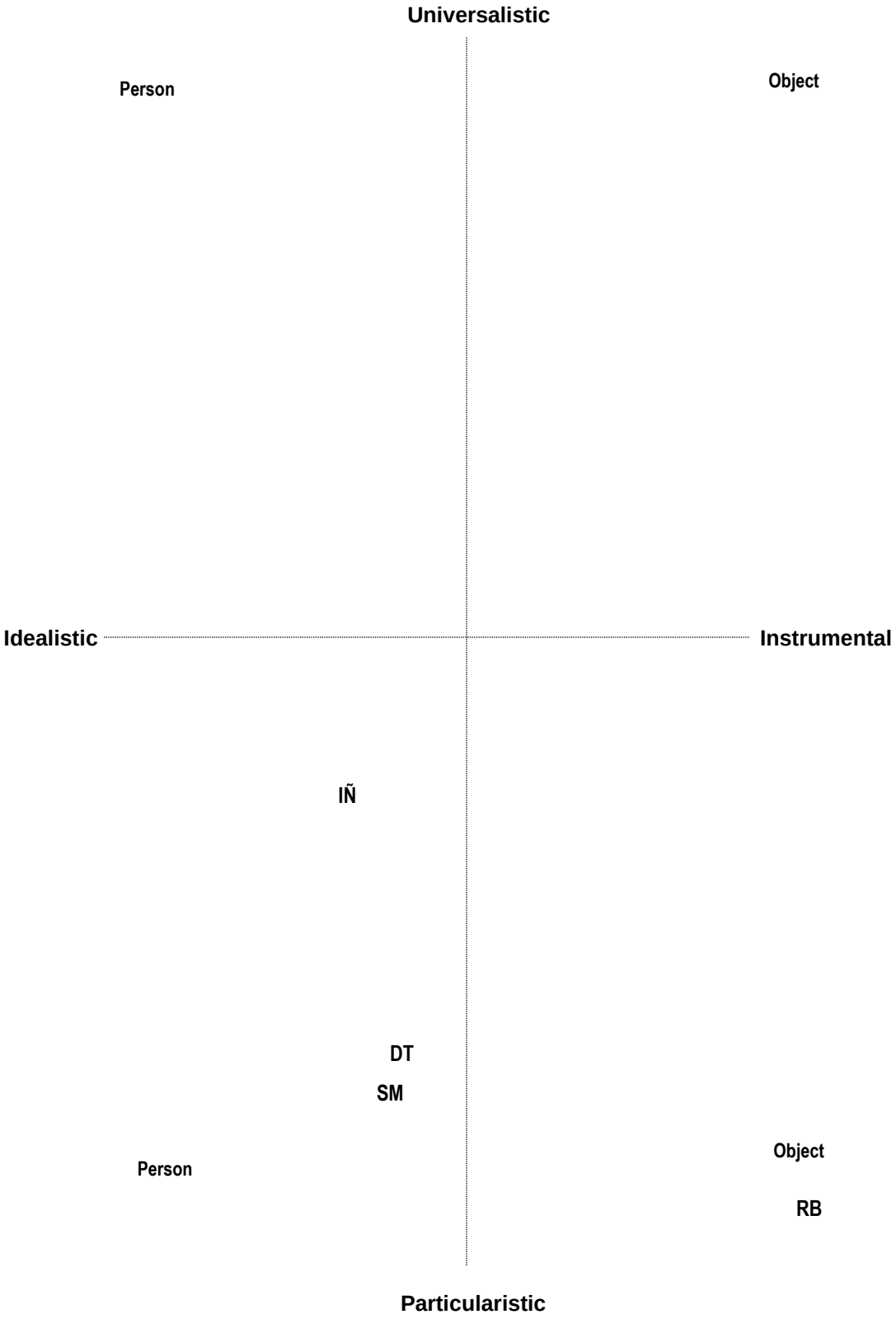


Figure 5.4 Classification of students derived from the analysis of sentences.



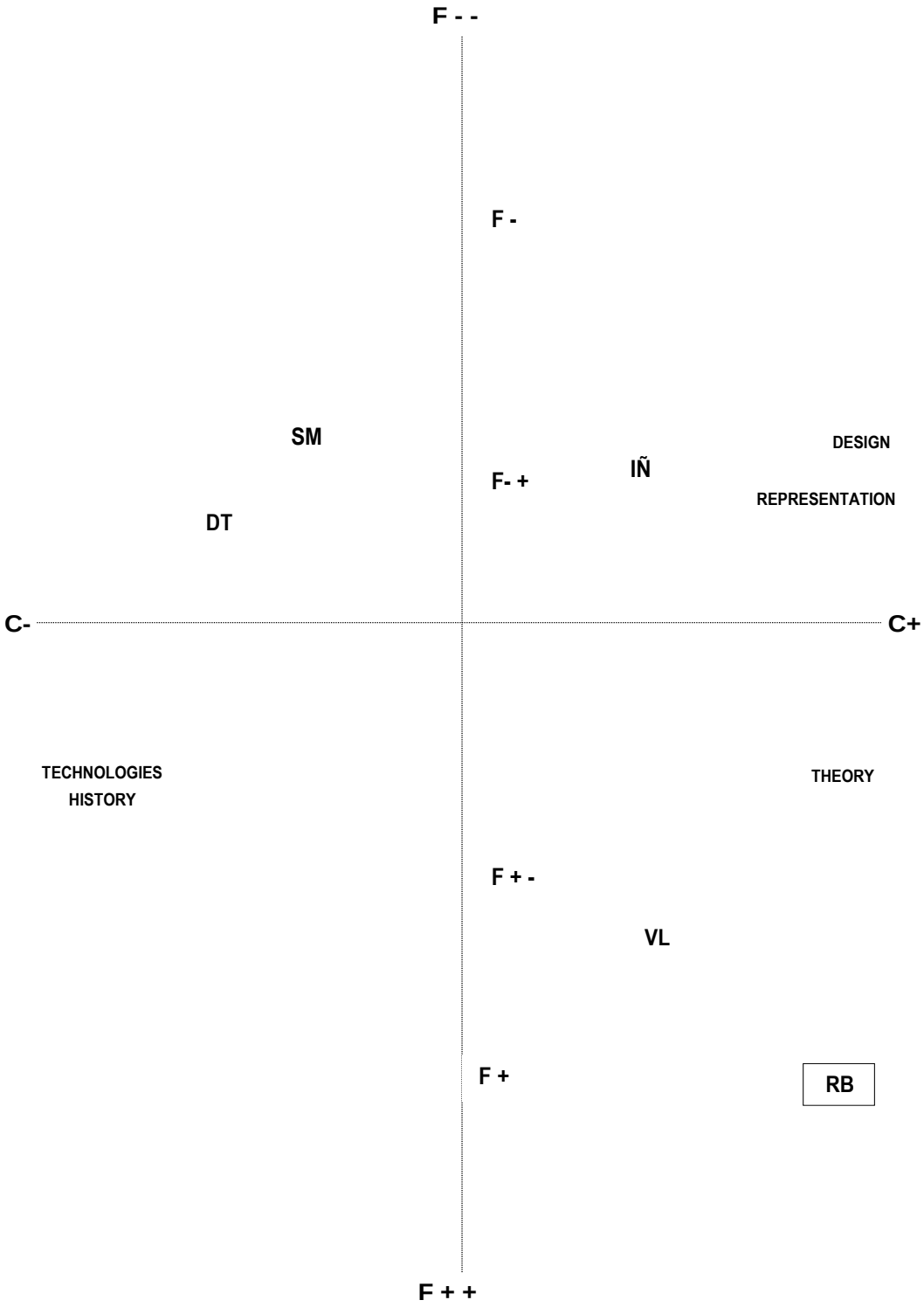
participants' views regarding the freedom to design they encountered that is their teachers' acceptance of their ideas. The following are the results of this analysis.

1. **SM** and **DT** wanted less control or more freedom to design, with more balance in the use of time (F -),
2. **IÑ** also wanted less control (F -) or more freedom to design, while wanted 'more importance' (power) to Design and less to the support courses (C+).
3. A number of students that were not selected to appear in this report also wanted an increase on the duration of the term (F-) combined with other strategies related to time for example RC, JcA and EC who were in favour of giving more time to Technologies (C- F-).
4. **RB** said extending the term's duration was unnecessary whilst he saw necessary to have '*more dynamics sessions*': (F+ C+) and,
5. **VL** did not seem concerned with adapting or changing either the term's duration nor the sessions (F+ C+).

Figure 5.5 shows the classification of the selected student's answers in terms of the distribution and use of time for the different courses. I added to the sign F a double ++ or - - signs to indicate a higher or lower degree of the framing category. The centre of the graph is the lower degree of concern in the use of time. The construction of the graph gave me insight into the students. Some of them recognized the hidden control and the power, more or less, to classify them that the different length of time assigned implies. Others recognised the power relations that the different courses' ideas embodied in the pedagogic practices generate in the architecture programme. The students initials in a square are those who did not recognized both rules or did not provide me enough information to infer this. **IÑ** is a student who did not try to hide her opinions. The rest, but **RB** and MP who I was not able to infer their identifications, clearly tried to hide their opinion that is with communicative competence or without compromising their location as students.

Yet, in this stage I still continued searching for the specific codes the participants followed. It is important to emphasize that the meso-context where the participant students studied is a flexible-rigid (C- F +-) type that bounds a programme that tends to be rigid-flexible in its pedagogic discourse (C+ F+-). These contexts are controlled by a rigid macro-context (C+ F+). The orientations I found in the students ought to be understood in relation to these contexts where they live. In chapter two I said that in Bernstein terms this interconnection is represented as:

Figure 5.5 Classification of students derived from their opinions concerning the distribution of time in the architecture programme.



$$d = \frac{O^{E/R}}{+C^{e}++F^{e}/+-C^{i}\pm F^{i}}$$

Where d refers to the dispositions constructed in the students by the university specific campus. The other notations mean students' orientations (O) elaborated or restricted that are controlled by the limited distribution of material means (the strong classification and framing of the macro context ($+C^{e}++F^{e}$), by the architecture programme's pedagogic discourse ($+-C^{i}$) interdisciplinarity, itself conditioned by the semi-flexible pacing and learning sequence at the university weak-strong framing, or $\pm F^{i}$, of the meso-context.

An issue that rises from the categorization of the students is if the official knowledge that the architecture programme transmits should ideally form students "autonomous, non-specialized, flexible thinking", active persons participant in team work as Bernstein suggested (1999: 249). One can see in figure 5.4 that this is seldom the case. It can be seen that the most students are located in the lower-left quadrant (C- F+) and less in the lower-right quadrant (C+ F+). Translating Bernstein concepts into the context of architecture and everyday living, students in the former quadrant would be planning to open their firm, would be concerned with 'new' technologies like '*intelligent buildings*' and might be looking forward to getting married.

Of the students located in this quadrant **SM** showed a tendency towards cooperative work, although he did not mentioned getting married at all. Acquirer **DT** does not fit into the previous scheme since she was more interested in vernacular technologies, working for someone else designing affordable homes for people with limited money. She was also oriented to cooperate but the interpretive analysis of their language use set her into this quadrant. I firstly located **IÑ** near to the upper-right quadrant. However, based upon the analysis of her grammar elements I set her in the "neo-conservative" category (Bernstein, 1999: 247). **IÑ's** situation replicated in EaS.

DT and **SM** are most interesting cases. The two had limited grammar elements and finished their degree programme. They seem not to fit into Bernstein's theoretical scheme that they would not advance in their studies if one only considers their particularistic orientations to meanings. Since DT and SM finished their studies it is necessary to take into account that they had idealistic realizations to learning. This is why I locate them in the low-left quadrant. Of the students in the quadrant of

particularistic-instrumental learning and meanings that is, focused on objects, rationality (or restricted-retrospective old-conservative), who were strongly bound is **RB** (as well as ER, PR, EC and GA). These last students also brought up the issue of how much their previous studies and the messages from the macro-context web of communications control their orientations towards learning at the architecture programme. Reducing the first formula into the personal level (or micro-context) their dispositions are represented as:

$$d= \frac{O^{R}}{\text{-+++}C^{ie}/\pm\text{+++}F^{ie}}$$

In brief the rigorous analysis pointed out that students **IÑ**, **SM** and **DT** had few elaborated speech orientations since their conversations were less explicit, more bound to the three main contexts. Hence they are prone to particularistic-idealistic meanings. These participants provide literal replications. **RB** had even less elaborated code or what is called restricted, since his responses were mainly ambiguous, strongly bound by his contexts. **RB's** restricted orientation was replicated literally by ER, EC and GA. Student **VL** was interviewed only twice and did not return the questionnaire. This reduced the accuracy of my classification of their orientations. Yet drawing from the two interviews I can tell that VL had a mix of restricted codes with elaborated since her talk was fluent while not fully explicit. **VL's** conversation was strongly bound to the meso (instructional) and to the macro (regulative) contexts. Hence I interpreted that she is prone to particularistic-instrumental meanings.

VL's (and VH's) properties challenge Bernstein's argument that explicit speech is connected with universalistic meanings less context-bound or elaborated codes. In other words they are contextualised. Finally it is worth mentioning that I only found two students with universalistic orientations. OG's and IC's speech was more explicit than the other participants. Their opinions were less bound to the interpersonal**,** the regulative and the instructional contexts. Hence the meanings they give to their learning experiences tend to be universalistic-idealistic. To compensate for the prejudices that my interpretive analysis might have brought about I used observational techniques to obtain data concerning the students' behaviour that I contrasted with my interpretative analysis. I present below the results I obtained from this task.

Interpretation of previous results in relation to observations data

In the last sections I proposed that most participant students showed ambiguous and implicit speech forms characterised by particularistic meanings that is they were more bounded by their contexts. Yet most students had idealistic realisations about learning.

I only found IC and OG to have universalistic-idealistic meanings, that is, their conversations were less bounded by their contexts. The goal of this section is to compare the students' actions in the design studio with my analysis results of their verbal and written responses to find similarities and differences in their orientations to meanings and learning. The similarities ought to lead me to corroborate my previous classification of their orientations. An action I observed in the classroom that did not match with my previous categorization lead me to bracket my inference until I found more evidence that enable me to point with more certainty the student's orientations to meaning and learning.

This process shall complete the basis to later identify their codes. In the appendix I describe the observations setting, then I elaborate on the learning process the coordinators of the classes used. After the classes in the classroom I used a photocopy of the students list to take quick notes to register the students' acceptance and compliance with the process and tasks, the clarity or ambiguity of their verbal communication, the group of peers they formed and their realizations of what I perceived as their codes. Some of these notes appear in the appendix. Of the twenty eight participants I only had the opportunity to observe OG, PR, GA and **VL** in modules VI and VII; **DT**, CaS and JcA in modules VII to IX. I also observed these students during visits to a site. I describe the students' behaviour in the classroom in terms of their orientations to the learning process below.

I worked with these students in Design sessions with a senior colleague who was the group coordinator. I also worked with these students in the Construction and Installations classes. It is necessary to mention that in module VI the group coordinator [RV/m/50s] was physically and emotionally affected. This condition of my colleague coincided with that some of the students started to miss more classes, like **VL**, and talked more in class or arrived very late (like GA). It was interesting that some students sometimes sent glances to me as if they were asking to me 'Why do you accept this confusion?' or 'Mm either you are a friend of his or you don't have the guts to do something'. In spite of the coordinator's disorientation and our disagreements most students managed to develop the project at the level of basic design. However a number of students failed module VII, for example **VL** and GA. **VL** did not present extra-work ('*recuperacion'* in this University concept) and remained behind of GA who did it and passed. Next I describe the observed behaviour of **VL**.

VL/f was late more than twenty percent of the eleven sessions for the Construction classes. For the Design sessions she did not attend more than fifty percent of it. In the

construction sessions she frequently was reviewing shoe catalogues which passed to her class mates. This activity did not distract her from following the talk I was delivering, as well as to answer questions I addressed to her. She in fact was capable of raising questions related to the themes being dealt with, although many times her questions tried to imply that the talk and the issues were not clear. VL height was a bit above the average, with light dark, shiny skin and long, curly black hair. She used to wear fancy clothes that gave her a conventional appearance. Considering these characteristics, along with her voice's tune and her assurance when answering and raising questions one can say that she came from middle-low social background of Mexico City; the variety of her clothes also suggested this observation.

VL used to criticise *a priori* what the teacher was saying. Her criticism was bias because she did not criticise the work schedule in the time the teacher requested her to do it, and because she did not listen the beginning of the sessions. Her critique was also suspicious because she whispered to her peers questions like '*What are we seeing?*', then raised her eyebrows and/or twisted her mouth as a sign of surprise or boredom. Her intention was to make this noticeable to the teacher. VL did not stay for more than three weeks with the team she start to work with in the Construction sessions. She did not comply with the team work assignments, neither with the individual ones. In Bernstein's terms she understood the means of both the instrumental and the expressive orders, but she did not accept them.

VL preferred to play a 'wait and present work' strategy pretending she had work continuously and what she had developed had been following teachers' advice. Thus if her work was wrong it was due to the incorrect teachers' guidance. In short, she followed the dysfunctional code i.e. not to collaborate with the learning process by disrupting team work trying to create a teaching-learning atmosphere of useless themes and techniques. VL failed module VI in Design and construction and did not return the next term; she later advanced to module VII but she was frequently absent. She dropped out studies in module VIII. VL disrupting behaviour observed during classes, positioned her as a particularistic-instrumental acquirer in a sub-category of a student centred on herself. Therefore my previous classification of a student with particularistic-instrumental meanings and realization remains.

I observed student **DT** (along with CaS and JcA) during two modules, working with other coordinator [SD/m/50s]. In the appendix I describe the pedagogic process set by the group coordinator. The following paragraphs describe the observed behaviour of

DT. DT/f was a quiet, very shy student. She used to answer questions by asking another, frequently trying to respond with the intonation of the affluent classes. Her low pitch of voice was noticeable, which combined with her difficulty expressing more than four or five words together made difficult to understand her intentions. Her simple clothes, skin and hair appearance indicated a social background from the still rural outskirts of Mexico City and a home where basic needs have been hard to satisfy. Yet, she carried a mobile phone. DT´s height was average, a bit sturdy, with light brown skin, short straight dark hair, small eyes and a round face.

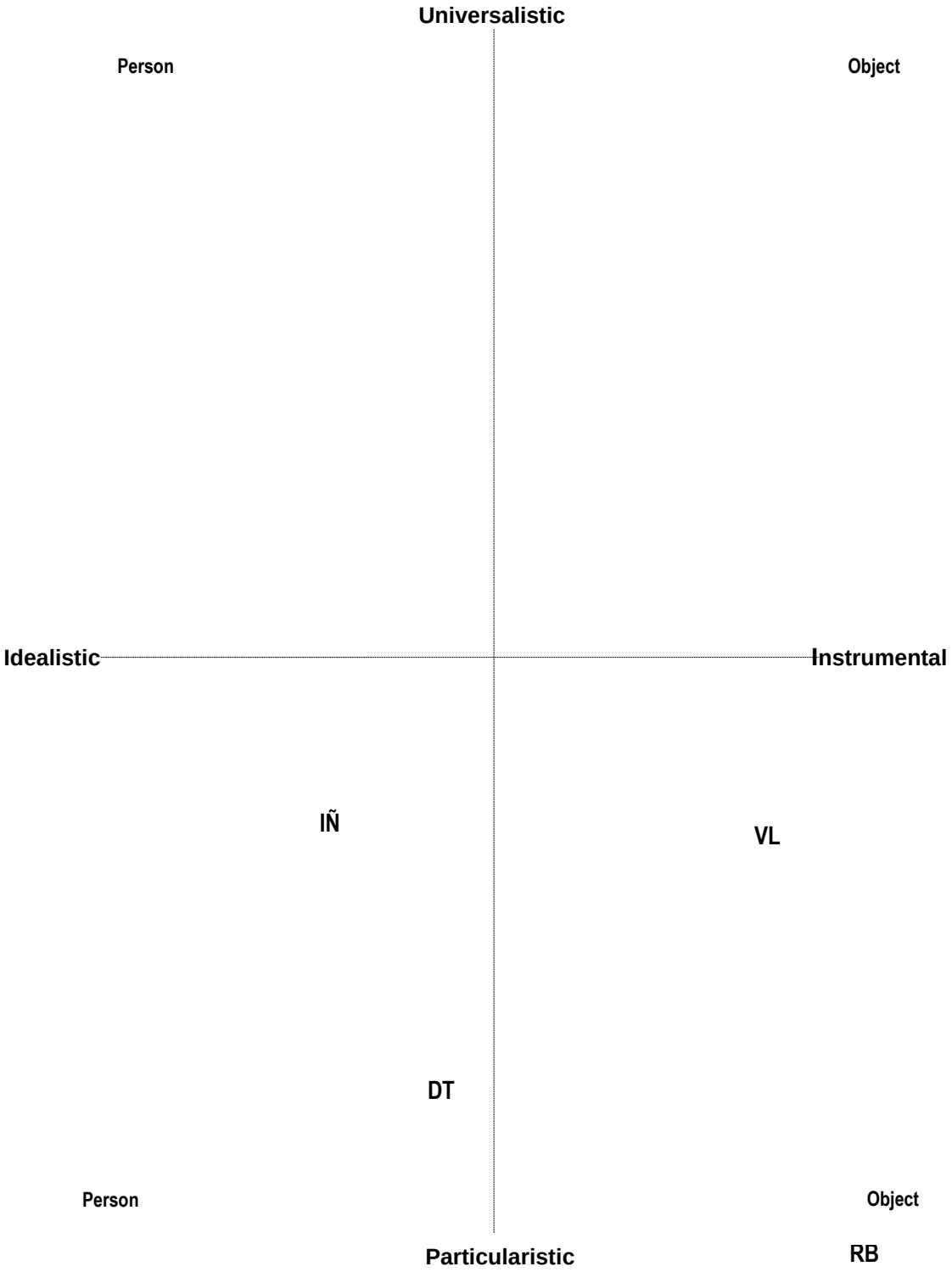
DT worked quite well in teams; she suggested working criteria and activities, asking her peers and teacher questions. Since module VII I had insights that DT had grasp the basic design principles since she was able to describe her project with a few words. Her drawings clarity also represent her capabilities. Her projects could be considered functional and practical, i.e. easy for the personnel and patients to reach any area without interfering other activities. Drawing from the Construction and Installation session and assignments it is fair to say that DT was capable of understanding any subject, summarised and used within the project. DT seldom talked while the teachers were speaking and seldom questioned the coordinator. Even more, she spoke humbly to him.

I inferred that **DT** had understood the hidden principles of communication and conduct. Another sign of her understanding of the hidden principle (deferential code) manifested when she was presenting to the class a 'post-modernist' architect's work. When she was saying '*his buildings have irregular and/or curved forms and they function*' she realised the coordinator looked slightly altered, to which she changed her words to '*and they did not work well!*' A different sign of DT's understanding of the codes used in this term was her absence from classes just a few days before a deadline to use this time to finish her designs. It should be remembered that UMXS Legislation allows students to skip 20% of the sessions without any sanctions –rule of which DT was aware.

I also interpret **DT** absences from sessions as a way of rejecting the ends of instrumental order set by the coordinator rather than that of the expressive order established by the university's legislation. DT passed these modules with good marks. Based on the interviews analysis I located her as a particularistic-instrumental student due to her scarce grammar elements. I also considered her difficulties to speech, although this might be influenced by the interviewer asymmetrical social positioning. I shifted this category to a particularistic-idealistic student after the analysis of her written

responses that were less ambiguous, more elaborated. Drawing from the observations this last category is closer to what she could be due to her verbal communication. With this data from the observations in relation to the above presented participants' verbal and written responses I can now locate with more precision the students in the learning and meanings graph as figure 5.6 shows.

Figure 5.6 Classification of students in terms of their orientations to learning and meaning.



I may now suggest, in anticipation of my final interpretations to be presented in chapter six, that students **IÑ**, **VL**, **DT** and **SM**, learned the codes transmitted by the programme's pedagogic practices, mainly the hierarchical or deference code. It is probably right to say that these students focused on passing, regardless of the actions they had to follow in the classroom tacitly imposed by the coordinator. **RB** also recognised the dominant codes in the space of the architecture programme although they have difficulties to internalise it.

The recognition of the codes enabled the students to communicate with their teachers on their own terms. However, not all of the students who learnt the codes above mentioned advanced at the same pace; some of them dropped out their studies. I will discuss the interconnection of the qualities found in this section with their performance in the last section of this chapter. Thus I can repeat that the recognition and realization of the implicit principle of respecting authority and its voice is necessary for the students to grasp it in order to advance in their studies, as it matters in the pedagogic practice of this architecture programme. Drawing from the analysis of **DT** information I suggest that her case challenges Bernstein's idea that students with restrictive verbal meanings do not advance in a pedagogic process where the hidden pedagogy dominates.

I now turn to present the results of analysing the students' cultural capital volume leading to describe their position in the social space. This step provided me insight of their objective conditions of living. With this element I developed a sound idea of their degree of satisfied basic needs. Once I locate the students in the social space I shall analyse the interconnection of this property with their orientations trying to find patterns of similarities and differences between the interconnections. Afterwards I interpret students' responses regarding their aspirations. In addition I will be closer to defining more students' codes as in the process I will focus on their contradictions.

The participant students' position in a social space

In the last section I demonstrated that student **IN** had particularistic meanings, as well as **DT** and **SM** who are more bound by their contexts than IN. Yet, students had idealistic realizations to learning. **VL** and **RB** had particularistic-instrumental orientations to meaning and learning. This type of students is more bound by their contexts than the former types of students. In other words they are more oriented to objects than to people and subjective issues. In this section I show the connection of these student's qualities with his/her resources to reach material and symbolic means that is to satisfy basic needs. I do this applying Bourdieu's constructs of cultural capital

and capital volume to each student's personal information provided in the interviews and questionnaires.

In so doing I will follow Bernstein's concerns that his theory lack a precise location in the social space of the fraction of the middle classes who controlled "dominant and dominating forms of communication" (1975: 17). Bernstein pointed out that the principles for analyzing that location could be provided by the "theoretical and empirical work of Bourdieu and his colleagues" (Ibid.). To try to fill this void in Bernstein's theory I applied Bourdieu's principles of social differentiation. In so doing it was necessary to analyse and assessing the participants' educational, socio-cultural, economic and symbolic capital that defines their capital volume. The definition of these "active variables" (Bourdieu, 1984: 24), enabled me to define their capital volume as more, fair or minus (+ ± -). To asses each participants' capital volume I used the interviews transcriptions to construct a table.

First I marked the relevant indicators (text with screen in figures 5.7 and 5.8) such as numbers of years studied, diplomas awarded, optional courses, possessions, home neighbourhood, clothes, etc. that indicated her/his objective conditions of living. I did the same procedure with her/his answers regarding their use of free time as preferred activities, their readings, their preferences for works of arts and architecture as complementary information of their cultural capital. L also included their parents' studies as complementary indicators of their cultural capital. I considered their parents' jobs as more indicators of their economic capital. Excerpts of the transcriptions of the five selected students' responses regarding this personal information appear in the appendix.

Second I constructed a simple scale to measure the students' educational capital based upon the number of years studied, optional courses and diplomas awarded to have a numerical referent. The rationales for the definition of the scale values can be seen in page 324 of the appendix. I followed similar procedure to assess their other forms of capital. Then I set the numerical value of each forms of capital in the table to count them and to obtain, in a less intuitive manner, a value of their capital volume. This data in relation to each other student indicated her/his position at the top or the bottom of Bourdieu's graph. Then I related this initial position of each student with her/his parents' jobs to define more their location in connection with Bourdieu's constructs of economic capital + or – and cultural capital + or – to set each student in the correspondent quadrant in accordance with the composition of these two main

forms of capital. Figures 5.7 and 5.8 show in bold the figures that result from analysing VL's and DT's forms of capital that determined their capital volume.

Figure 5.7 and 5.8 Basic information to measure two students' capital volume

VL/f was born in '*Mexico D. F. the first of August 1984*'. VL studied the previous schooling levels in state schools which follow the '*schooling'* system. She was awarded a diploma as technician in decorative design from the *Colegio de Bachilleres*. Her father studied '*secondary finished my mother err bachelors' course finished*'. VL's mother works as '*professor off no, well she is coordinator in a technical secondary and my father is professor of physical education*'. VL lives with her parents, her fifteen years old sister and her brother three years old. VL's parents were born in two towns built up resorts in Mexico's Southwestern state of Guerrero. They are married. All they live in a flat in '*Reforma 309 (nineee) building G flat 6 Granjas Estrella ¿Postal code as well?* [District?] *Iztapalapa*' a low middle-class neighbourhood within a low class District with high rate of criminal activity. VL commutes to the university by '*Pesero, two two peseros* [A *pesero* is an uncomfortable, cheap transport millions of people in Mexico City use]. It takes her '*like forty five minutes*' to get to the university [this is a short journey in comparison to an average journey in this city]. VL said she has '*much time to read*' being her preferred author '*García Marquez*' among writers. She said that she paints oil canvas and likes Botero as he makes '*effects a bit of interesting*'. In the very first question of the interview VL said: '*What I want now is to finish my degree, I like going out with my friends and my boy-friend*'; the latter is her favourite activity to spend her free time. VL talked fast, particularly during the section of her relatives and personal information, with concise answers. Her voice sound with a little intonation trying to resemble that of the affluent class, her clothing looked neat and fancy. She wore ear rings, rings and full makeup (an appearance that resembles that of an executive). It could be said that her cultural capital is high: CC (+). Her average grading in high school was one of the two highest: 8.8. Considering the above said, that she lives in a low class District of Mexico City, that her past schools were public, and that she has two younger brothers VL could be considered with fair economic capital: EC (±). Drawing from all the above information it could be said that VL capital volume is fair: CV (±).

Participant	Participant Capital Volume
July 16, 2003	
VL/f (21)	
	Educational Capital 6+3+3+1+ 2 = **15**
	Symbolic Capital Casual assurance + verbal fluency + Verbal coherence: 1+1+1 = **3**
	Cultural Capital Reads, paints: 1 Father: 6 Mother: 17 Club: zero = **23**
	Socio-economic capital Father: 3 Mother: 3 Parents' Prestige: 3 = **9**
C. V.	**50**

DT studied all the previous periods in State schools which follow the traditional education system. Her father studied up to the secondary level and sells groceries for living; her mother did not study at all and is a house wife. DT is an only child and was born in a State of central Mexico where his father was born; she lives in a semi-rural urban area at the East of the Metropolitan zone of Mexico City. DT studied in high school computing systems which did not '*help me very much in the entrance exam which ask us about art and so on*'. DT said that she likes paintings that '*handles the environment*', that she does not have time to read apart from the academics and in her free time she likes drawing, knitting and playing the *mandolin*. Regarding her preferences for works of architecture she said that she likes '*a lot*' the building of the architecture programme, that she does not know who built it but she likes it since it seems '*innovative very different to the others*' '*err likee it uses well the space it has*', '*it is not the same the aisles are not the traditional*'. DT talked mainly with short sentences slightly accentuating the final word of each sentence and elongating some words trying to mimic the affluent classes' intonation. She was shy at the beginning of the interview and sounded less timid as it progressed. Whilst she sometimes had difficulties to find the words to describe her opinions or experiences, it could be said that the questions were sometimes too open for her since she asked to rephrase the question or for more details. It was less difficult for her to talk concerning her tastes in which she was explicit as well as in her personal information. DT clothing looked humble and plain; she did not wear any adornment. Considering all the above data it could be said that DT cultural capital is little: CC (-). By contrast her average grading in the previous level was one of the two highest of this cohort: 8.8. In the light of all this and that she commutes for one hour and a half to reach the university, that her past schools location is in semi rural-urban areas and her parents occupations with limited income, she could be considered with little economic capital: EC (-). Similarly it could be said that DT capital volume is little: CV (-).

Participant	Participant Capital Volume
July, 2003	
DT/f (26)	
	Educational Capital 6+3+3+1+ 2 = **15** average
	Symbolic Capital Casual assurance, verbal fluency, v. coherence: zero + zero + 1 = **1**
	Cultural Capital No reads, no museum visits Father: 9 Mother: zero Club: zero = **9**
	Socio-economic capital Father: 1 Mother: 1 Parents' Prestige: 2 = **4**
C. V.	**29**

I chose to show **VL** and **DT** as examples of the assessment of this quality since they were opposing cases in capital volume and composition of it. Bourdieu's diagram of the symbolic social space with its indicators of parents' jobs and family composition was most useful for locating the participants based upon these elements as complementary data of their capital volume previously assessed. The only case that did not clearly fit within Bourdieu's indicators was VH. It is possible to say that Bourdieu's graph information provide me with data that the participants would have guard or did not know, for instance their parents' income. I discuss the usefulness of this research tool in the last chapter. Next I describe each of the five selected students' position in the social space. I provide testimonies as some indicators to identify each student's objective conditions.

I will use figure 5.9 to describe the participants' composition of capitals. The texts with the lightest font colour show their preferences; the rest of the texts are those of Bourdieu's. To intuit the students' nearness or farness to satisfy basic needs one needs to relate the position of their initials name to the squares that contain the constructs capital volume, cultural capital and economic capital that suggest their objectives properties in more (+) or less (-) amount. One can see students **IN** and **VL's** initials in the left quadrant of (+) cultural capital with (+) economic capital. **IN** said she studied the basic and secondary instruction in the '*traditional'* educational process, she likes '[...] *the music that the youth listen right?*' IN also acknowledged to read once in a while '[...] *tending to drop the reading if it does not interest me*'. IN's mother holds a degree in psychology while her father in accounting. IN's mother has '*an office where*

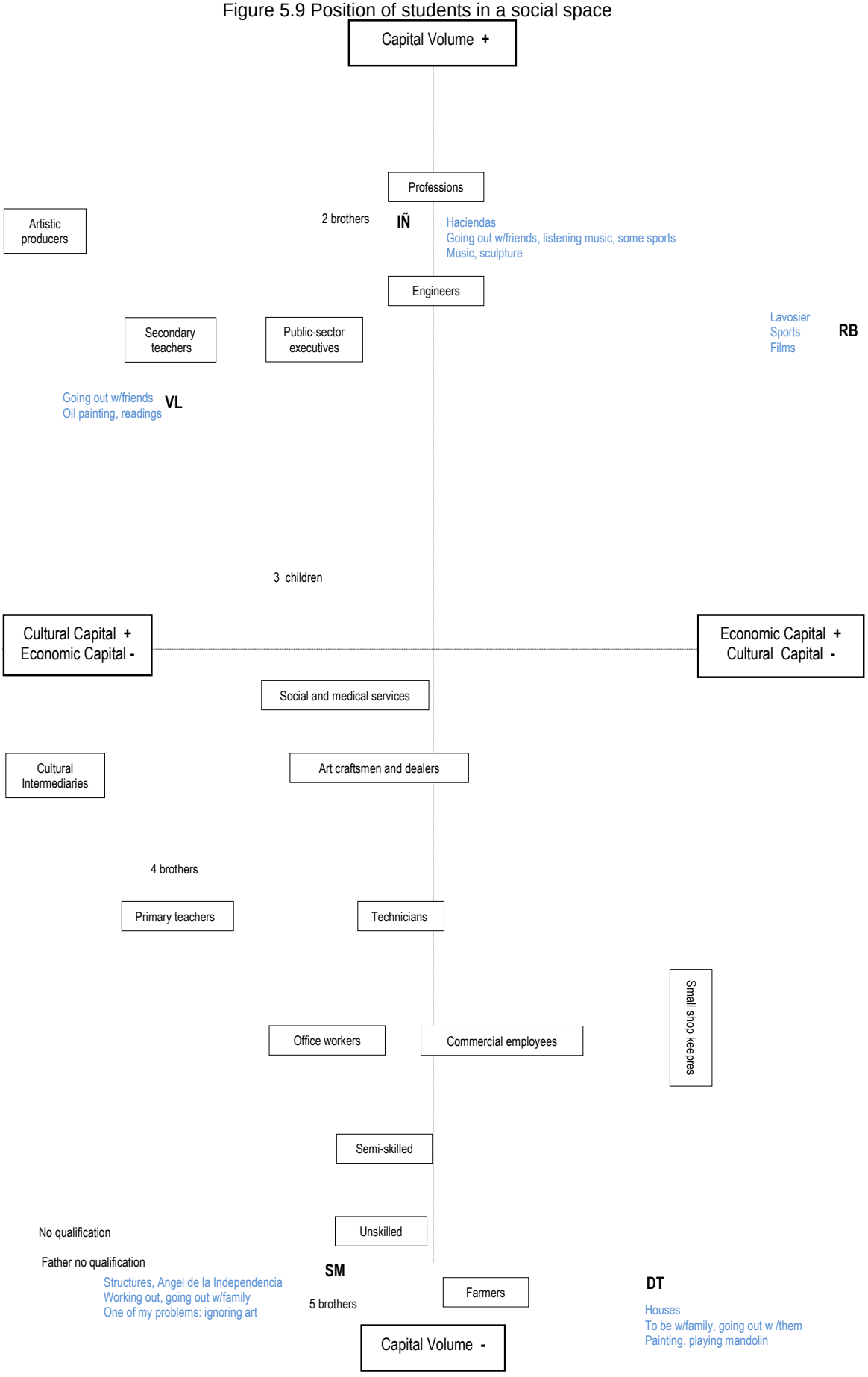
she err gives courses and many things and my father is the one who takes the accounting of the firm of my mother'. **VL** has less capital volume than **IN**. VL studied the previous school levels in state schools which follow the conventional education system. In high school VL was awarded a diploma as technician in decorative design.

VL also studied in a private university computing systems for one year. Her father studied up to Secondary School and her mother got a bachelor degree in education. VL said she has '*much time to read*' being her preferred author '*García Marquez*' among writers. She said that she paints oil canvas and likes Botero as he makes '*effects a bit of interesting*'. In the right quadrant of (+) cultural capital with (+) economic capital one founds **RB**. RB got a Diploma as Design construction Technician before enrolling at the university. RB said he is not interested in the arts; he does not have '*the habit*' of reading. RB's father studied '*two degrees business administration and economy my mother unfortunately up to the prepa* [...]'. His mother has a '*business'* and his father is a public servant in the '*Ministry of Agriculture*'.

In the left-lower quadrant, that is the position with less economic capital and cultural capital than the first group, I located most of the students. **SM** is one of these students with very little economic capital. **SM** studied all the previous education levels, but high school in State schools with teacher centred pedagogic process. In high school he was exposed to a more open and interacting learning process that transmitted him several subjects including sociology. With regard to his cultural preferences SM said '*one of the problems I have is that I do not know much about the arts although I like to create things or something new*'. He said that he has time to read '*twice a week in addition to what is coming with the course Conocimiento y Sociedad something about math or physics for not to forget them*'. SM's mother studied primary and his father up to the secondary level. His father works as a '*janitor of a machines factory*' and his mother '*is in the house*'.

In the right-lower quadrant, at the bottom, with very little economic capital and cultural capital is **DT**. **DT** studied all the previous periods of study in State schools which follow the teacher centered approach. DT studied high school in the area for the degree in computing systems which in her view did not '*help me very much in the entrance exam which ask us about art and so on*'. DT said that she likes paintings that '*handles the environment*', that she does not have time to read apart from the academics and in her free time she likes drawing, knitting and playing the mandolin. Her father studied up to

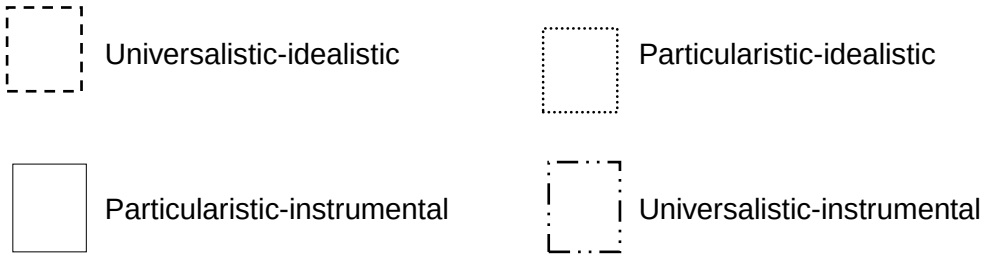
Figure 5.9 Position of students in a social space



secondary level and sells groceries for living; her mother did not study at all and is a house wife. DT is an only child and was born in a State of central Mexico where his father was born; she lives in a semi-rural urban area at the East of the Metropolitan zone of Mexico City. Next I discuss the interconnection of the participants' position to reach material and symbolic means with their orientations to meaning and learning.

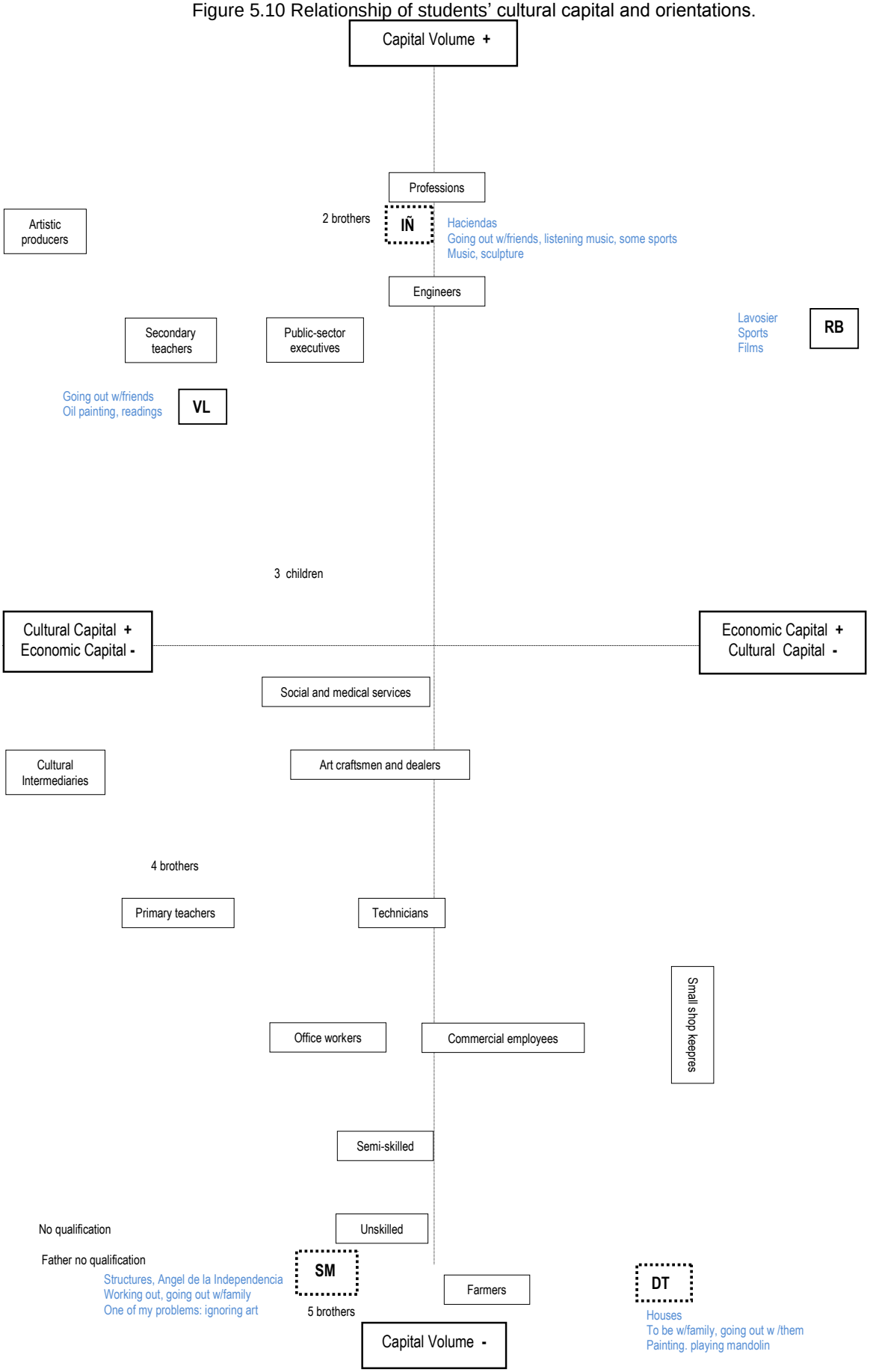
Relationship of students' cultural capital with their orientations

To find interconnections between the students' orientations to learning and meaning with their cultural capital and volume, I used the Cartesian chart of figure 5.9. I located the students' initials in a square with different format line to indicate their orientations. Please refer to figure 5.10 to observe this representation. The squares represent the following:



Descriptions of the relationships are as follows. Student **RB** had one of the highest capital volume with (-) cultural capital. RB had particularistic-instrumental orientations. Student **IN** had similar capital volume although with more cultural capital than the previous student. She had particularistic-idealistic orientations. Student **VL** had less capital volume than the previous students. VL had more cultural capital than RB although less than IN. VL had particularistic-instrumental orientations or similar to RB. In the bottom of the left quadrant with very little capital volume due to very little economic capital with fair cultural capital **SM** had particularistic-idealistic orientations. In the lower-right quadrant with similar capital volume of SM but less cultural capital than the previous students **DT** had particularistic-idealistic orientations. These relationships point out that:

Figure 5.10 Relationship of students' cultural capital and orientations.



1. Universalistic-idealistic meanings do not replicate in students,
2. Particularistic-instrumental orientations to learning and meaning (context-bound) replicate in students with (+) capital volume: RB and VL,
3. Particularistic-idealistic orientations to learning and meaning (less context-bound) replicate in students with (+) cultural capital: IN and SM,
4. Particularistic-instrumental orientations to learning and meanings do not replicate in students with (-) capital volume.

It is necessary to remember that social agents are not completely defined by their objective properties and their social position at a given time (Bourdieu, 1979: 109). This fact renders it necessary to discover the participants' most inner wants in order to explain, not only to describe, their educational trajectory and performance while interacting in the flexible-rigid architecture programme. Can sociological concepts enable one to explain how **DT** and **SM** with very little capital volume and limited verbal communication advanced well and very well in the flexible-restricted learning of the architecture programme? Following B. Russell it is probably right to say that the problem in trying to find any patterns that enables one to explain how these students managed to advance well, should be approach with socio-psychological concepts since one is dealing with "what effectively happens in our minds when we use language with the intention of meaning something with it" (In Wittgenstein, 1922: 185).

I turn now to analyse the students' aspirations and needs as these are conceptualised in the sociology of aspirations. With this theory's concepts I shall fill a gap in the internal language of the two theories I have used in this and in the previous section, relating it to the information provided by the participants. I hope that in this process I will echo what the students expressed to me. I shall relate each student's aspirations, with her/his orientations, with her/his cultural capital and with their overall performance to explain each student's trajectory or dropping out of studies. I shall develop as case studies my interpretation of these interconnected factors. I will bring about the students' previous school pedagogic code to identify the influence of this factor on their overall performance.

My methodological goal is to discover replications of the constructs I am using that lead to demonstrate their usefulness to infer the participants' principles that drive them to

act differentially in the classroom. This task implies to find patterns within the interrelated factors that enable me to form types of students that comprise their qualities discovered. This is one of my aims in chapter six. Having accomplished these goals I will make succinct my findings to set responses to the research questions in chapter seven. My final goal in chapter seven is to find the participants' tacit regulative principles or codes. I shall do so since the code concept is amenable for the Mexican context where language is frequently a set of tacit rules.

Expanding theories: students' aspirations level fosters their trajectory in the flexible-rigid educational context (C- F+-) of the architecture programme

In chapters two and three, following Bernstein I put forth the principle of defining students' schooling educational codes in order to understand the possible contradiction in their educational aspirations as a result of their exposure to the student centred multi-disciplinary approaches of this university with the ambiguous, vague and closed architecture programme's pedagogic practices. This is so since their previous pedagogic codes may differ from those of their tertiary educational contexts. In chapter four I demonstrated that the university's educational codes are flexible in relation to the fields of knowledge a student can choose as well as in regard with the course's duration of ten years. However, this easy pace of learning is in contrast with the terms' duration of eleven weeks which sets a speedy understanding of the subjects.

I also showed that the architecture programme curriculum is not explicit concerning the principle of working with real problems as the university's discourse establishes. These double divergences of the participants' educational experience generate conflicts that impede them to interact in accordance with the principle of student's work. In the following sections I present the analysis results of the participants' schooling educational codes. I shall specify the degree of mismatch between the participants' previous educational codes with those of the university context that are flexible and tacit in nature. I also suggested in chapters one, two and three that in order to explain the students' dissatisfaction with the flexible, student centred pedagogy it is necessary to discover their orientations towards learning and meaning as these can lead to infer their cultural codes.

To infer their cultural codes (interpretive frameworks) is basic for understanding their realisations since they are the tools that students use to analyse the complex educational process they are experiencing in relation to their aspirations (subjective experiences) of a new pedagogic process bound by a restrictive major context that

offers to them dark expectations. Following Bernstein and Bourdieu I also put forward that to understand the participants' orientations to meaning and learning it is necessary to get insight of their degree of satisfied basic needs as given by their social positioning (objective conditions). In the previous section of this chapter five I demonstrated that students who have (+) capital volume, or that are socially well positioned, tend to have particularistic-instrumental meanings that is, they are context-bound; for example **VL** and **RB**.

In contrast to previous students, **SM** and **DT** who have much less capital volumes tend to particularistic-idealistic orientations to meanings and learning, that is they are less context-bound. While these latter students are also bounded to their contexts they have a more open view of their experiences and interactions than the former group. Interestingly, whilst student **IN** had (+) capital volume, higher than VL and RB, she had particularistic-idealistic orientations. Please refer to figure 5.10 to follow the above description in a graph. Since Bernstein suggested that his theory needed an external language of description to make explicit the tacit made visible with his theory, I include the sociology of aspirations concepts leading to define and discover the participants' aspirations' level.

The need of understanding a student's aspirations influence on her/his advancement in their tertiary studies was implicitly suggested by Bourdieu's contention that the social system deflates students' aspirations, that in the case of disadvantaged students drive them to drop their studies out. Hence my main goal in this section is to identify and define each student's aspirations' level. Afterwards, I analyse the connection of each student's objective conditions of living and orientations with their inner properties or aspirations. I will use Chombart de Lauwe's concepts of goals, hope and desires to find patterns of aspirations levels in the responses of each student. With these concepts I shall also translate the students' orientations that I have presented in the previous section. This will enable me to group the participants by similarity and differences of their qualities interconnections.

It is worth repeating that in the following sections I make clearer each student's orientations that I found with Bernstein's constructs, using as an external language to that of Bernstein those of the sociology of aspirations. In short I will make explicit "in a non-circular way" the tacitly constructed (Bernstein, 1996: 136). I present the five selected students highlighting their school origin to examine the interconnection of their

objective conditions and subjective experiences (qualities) with their previous educational codes as another factor in their educational trajectory. I put forward each student's performance with the number of terms they needed to complete the degree programme to triangulate my interpretations of the aspirations I found. For this purpose I used the students' marks the university office records provided me. This step defines each student's trajectory that I depict in a graph.

I also relate the average marks they obtained in high school with their evaluations in the university. In order to relate these elements I assumed the following values for the evaluations of the university: MB = 10, B = 8, S= 6 and NA= 4. The marks appear in brackets after the initials; the first corresponds to their marks in the *prepa,* the second to the score of their entrance exam and the letters MB, B, S or NA for the marks given by the university. A few students' regulative principles (codes) are contrasted since they have not been made evident yet. The section ends with a chart that contains the relationship of students' capital volume (objective conditions of living) with their orientations to learning and meaning and with their aspirations level (subjective experiences). The chart includes a representation of their trajectory as an output of these interacting factors.

In analysing the interconnection of the constructs under investigation as subjective properties of students within a restrictive social system it is necessary to repeat that human aspirations are linked to their **needs**, i. e. to what must be satisfied in order to live (Chombart de Lauwe, 1966: 27; 1969: 70). It should also be bore in mind Chombart de Lauwe's argument that for humans' aspirations to manifest it is necessary an authority that allows clear information that enables its population to realise them. Based upon types and levels of aspirations developed in this field (please refer to chapter 2: 22 to see the criteria to define them) I identified those of the participants following a procedure similar to that I followed with network technique. I also located their answers to the question Where would you like to be when you finish your studies?

As mentioned before this question was not unproblematic for the students. Hence I bracketed my interpretations trying to be in the hermeneutic position of grasping their views of their experiences. Thus, until I reviewed every student's answers to the other operationalizing questions regarding their aspirations I defined them. The process of discovering students' orientations, in brief, was the following. I marked the participants' words from the first interview with a light blue screen; in yellow those of the second and green or blue for the third interview. Then I located the students' aspirations from the three stages of their studies in terms of their levels using the curly bracket key I

presented in chapter two. Figure 5.11 to 5.15 are the graphs I produced in this stage of the analytical process.

The words with screen show the identified aspirations for students **SM**, **VL**, **IN**, **RB** and **DT**. The brackets tool aided me to identify easily the aspirations level to set them in a table divided by the three levels. This allows me to count their aspirations levels. Table 5.3 shows the resulting aspirations levels and types of the five selected participants. These tools also enabled me to relate in a next stage their aspirations with their social positioning and with his/her orientations. This process enabled me to understand the interconnection of both qualities of students. Next I present the five selected participants' aspirations levels. Afterwards I discuss each student's aspirations' level recalling firstly their orientations I found; then I relate them with their objective conditions of living and their marks (performance).

I first summarise the analysis of their high school's codes. Then I translate their orientations previously highlighted into the language of aspirations; afterwards I draw more aspirations from the specific operationalizing questions. I shall put together each student's aspirations' level and type to relate them with her/his previous schooling codes, their social positioning and their orientations. It will be of interest to see if students with similar cultural capital have similar aspirations as Bourdieu suggested (1970: 156, 184, 207; 1979: 53). It will also be of interest, following Bernstein (1975: 53; 1996: 99), to discover if these students' social positioning is connected to the development of her/his aspirations as a result of their exposure to the pedagogic practices in the integrated educational code of this university's architecture programme.

Aspirations of student from semi-open (C- F+-) educational context

Student **SM** studied high school in a State fund College. The Colleges high schools were created in 1973 as institutions dependent on the notion of "decentralised from the State". A purpose of these schools is "to offer students in secondary level, studies that enable them to move and to use integrally and satisfactory knowledge, skills and attitudes belonging to the natural and social sciences, as well as, the humanities" (www.cbachilleres.edu.mx accessed 11-06-09). These mid-level schools have "two modalities" of learning "schooling and open" (Ibid). The former modality is that which SM followed. In the schooling modality this type of College's curriculum comprises thirty three subjects from the three fields of knowledge above mentioned. Examples of these in the "basic formation area" are "Introduction to the social sciences", "Research methods", "Mexico's History", "Philosophy" and "Ecology" (Ibid.).

SM's College's core of specialities offers six "optional subjects", which in the case of students planning to follow an architecture programme could choose two of the following "Economy", "Sociology" or "Introduction to Anthropology". Each student also "must consider Differential and Integral calculus or Inferential and Descriptive Statistics as a third subject to be studied in the fifth and sixth semester" (Ibid.). With regard to the regulative discourse this College provides a number of explicit rules by means of several handbooks, guidebooks and instruction booklets (Ibid.). In the "Rights and Duties of the Students" the regulative discourse starts by giving them assurance to be respected, served and informed on time by any of the academic, administrative and maintenance staff. With regard to their duties in the classroom the document encourages students to "be on time to classes, hand in assignments and homework as soon as possible" (Ibid.). These features can be considered outstanding within the Mexican educational system. Based upon these characteristics I considered that these high schools' pedagogic code is C- F+- or semi-flexible.

When **SM** enrolled in the architecture programme had cultural capital (-+), economic capital (-) with particularistic-idealistic orientations to learning and meaning. SM's highest aspiration in the 1st interview was to work with real problems followed by to do a Master; his lowest was not to do exams. I drew the former from his answer to my question Why did you decide to study in this university? SM answered: '*Err it stays quite close to me apart from this it has a new model, a model that is since 1973 I have understood, that is very good it makes us to be critics besides of being critics it carries a system that in the first three trimesters they don't base their program but to study society and that is what attracted my attention*'. I drew SM's aspiration of not doing exams from his answer concerning evaluations: '*The evaluationss err I think doing like projects, not doing exams, a project to apply all to apply all my knowledge on a project*'.

SM's highest aspirations in the 2nd interview were to help people followed by respect. I drew the latter from his comment that some teachers of Design '*like the one that I have now* [JmB/m/70s] *is good but is a bit pedant* [he] *insult all of us, thinks that all what he says is the best but he contradicts himself too but doesn't accept his mistakes, if one starts to give points of view he alters, lose his temper, starts to respond swearing, criticise our way of dressing, I think a critical teacher would be the best*'. For the

Figure 5.11 **SM's** aspirations in the architecture programme

(Where would you like to be when you finish your studies? How have you like the architecture programme?).

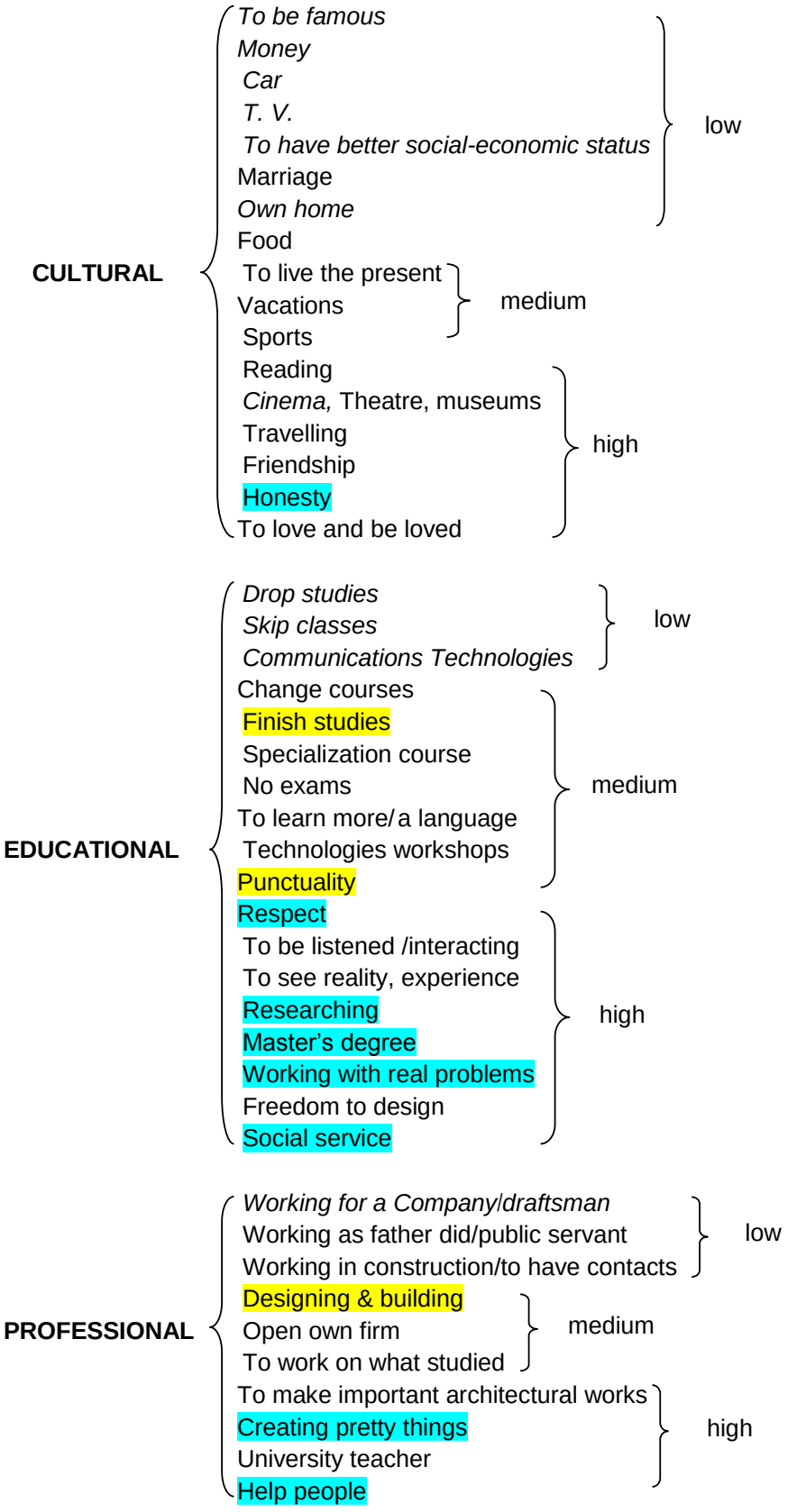


Figure 5.12 **VL's** aspirations in the architecture programme

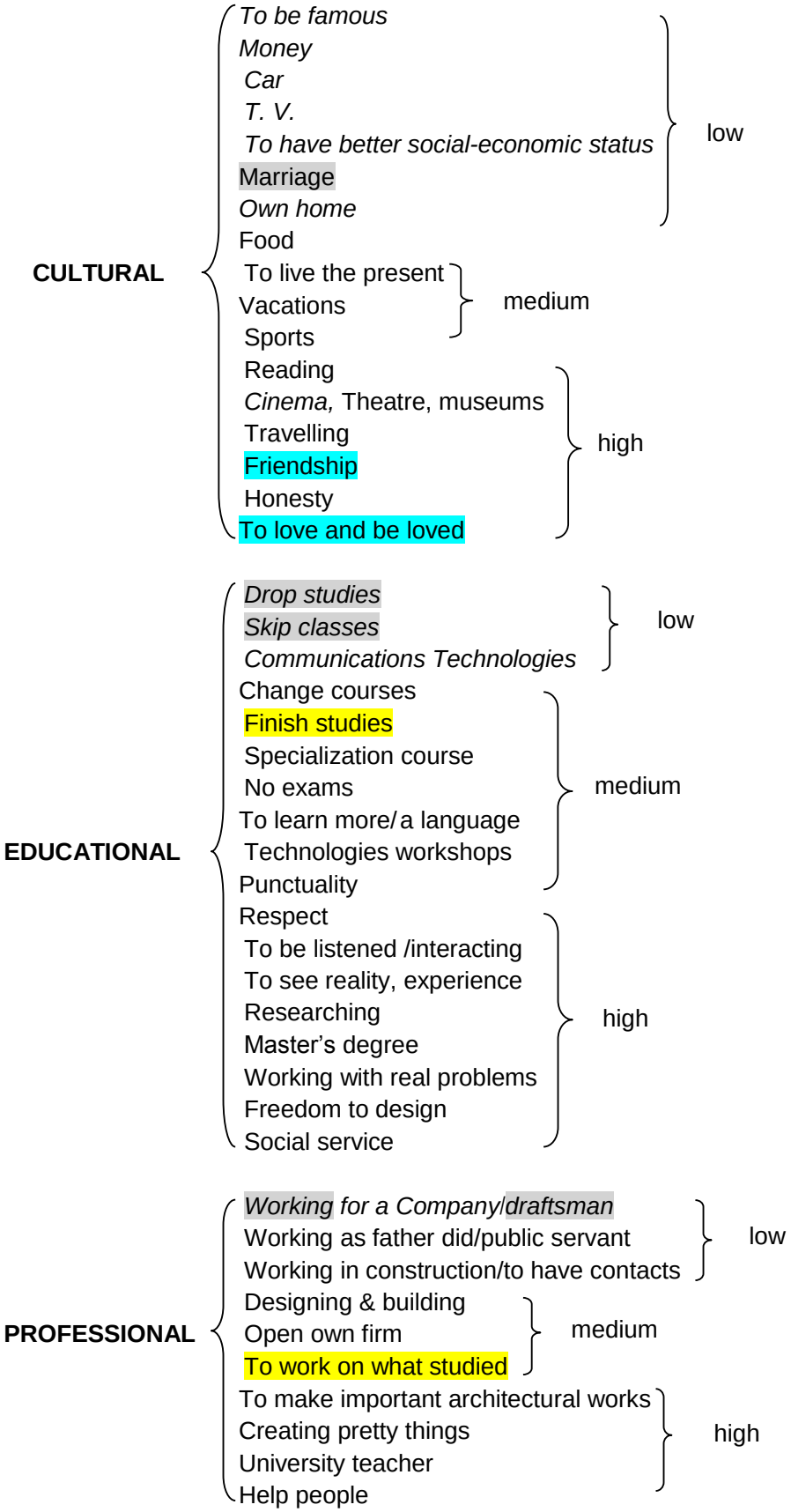


Figure 5.13 **DT's** aspirations in the architecture programme

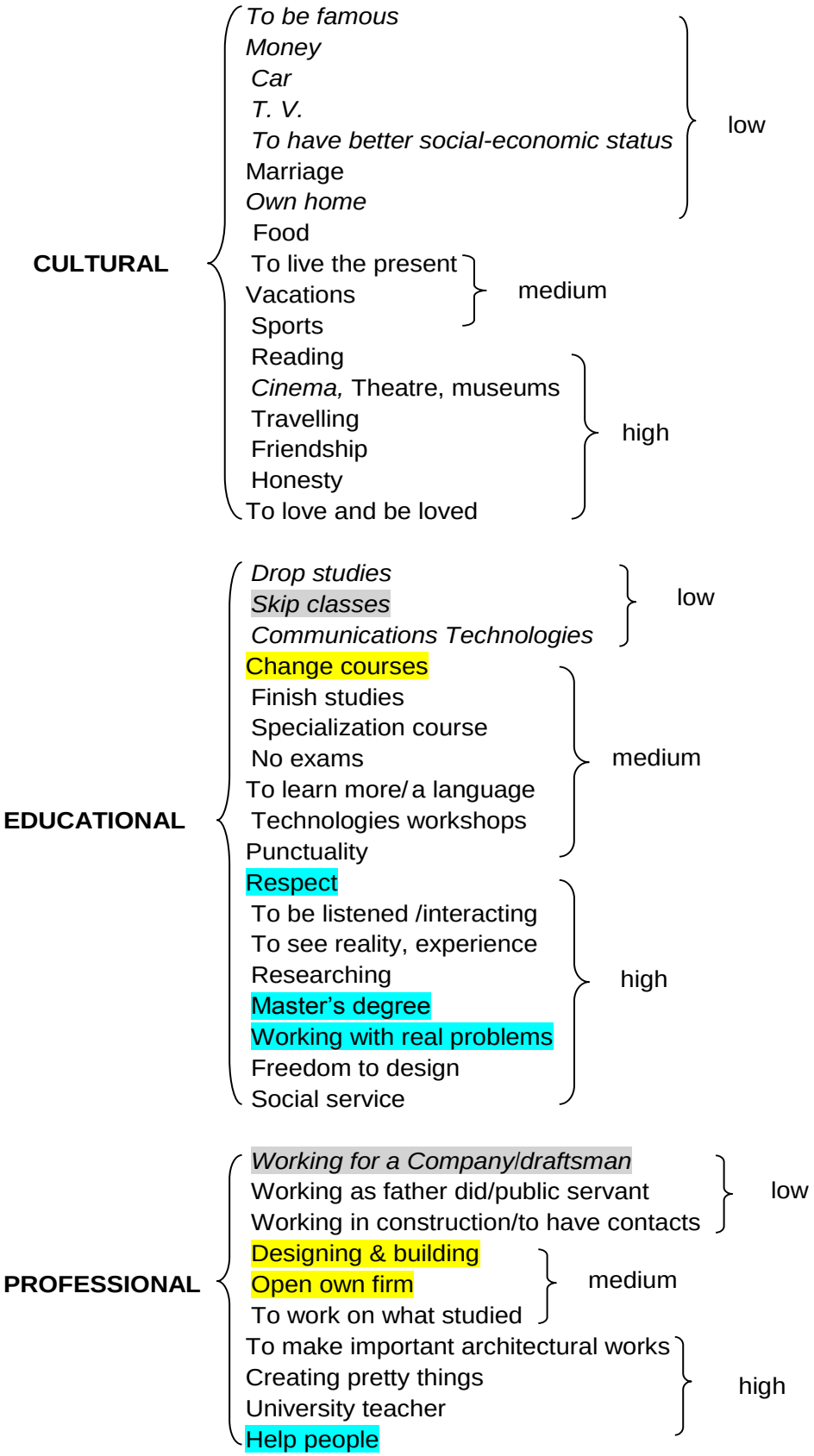


Figure 5.14 **RB's** aspirations in the architecture programme

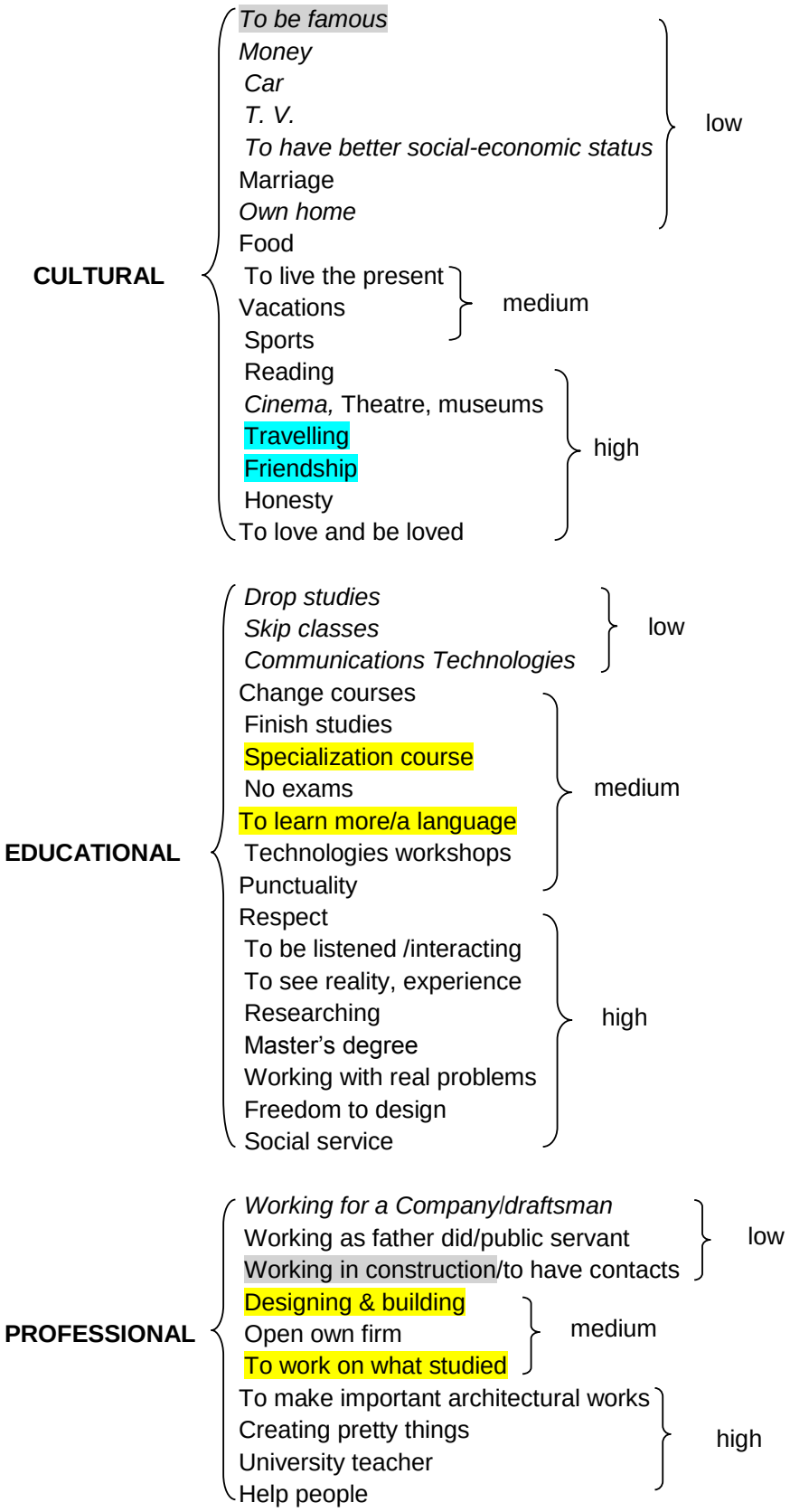


Figure 5.15 **IN's** aspirations in the architecture programme

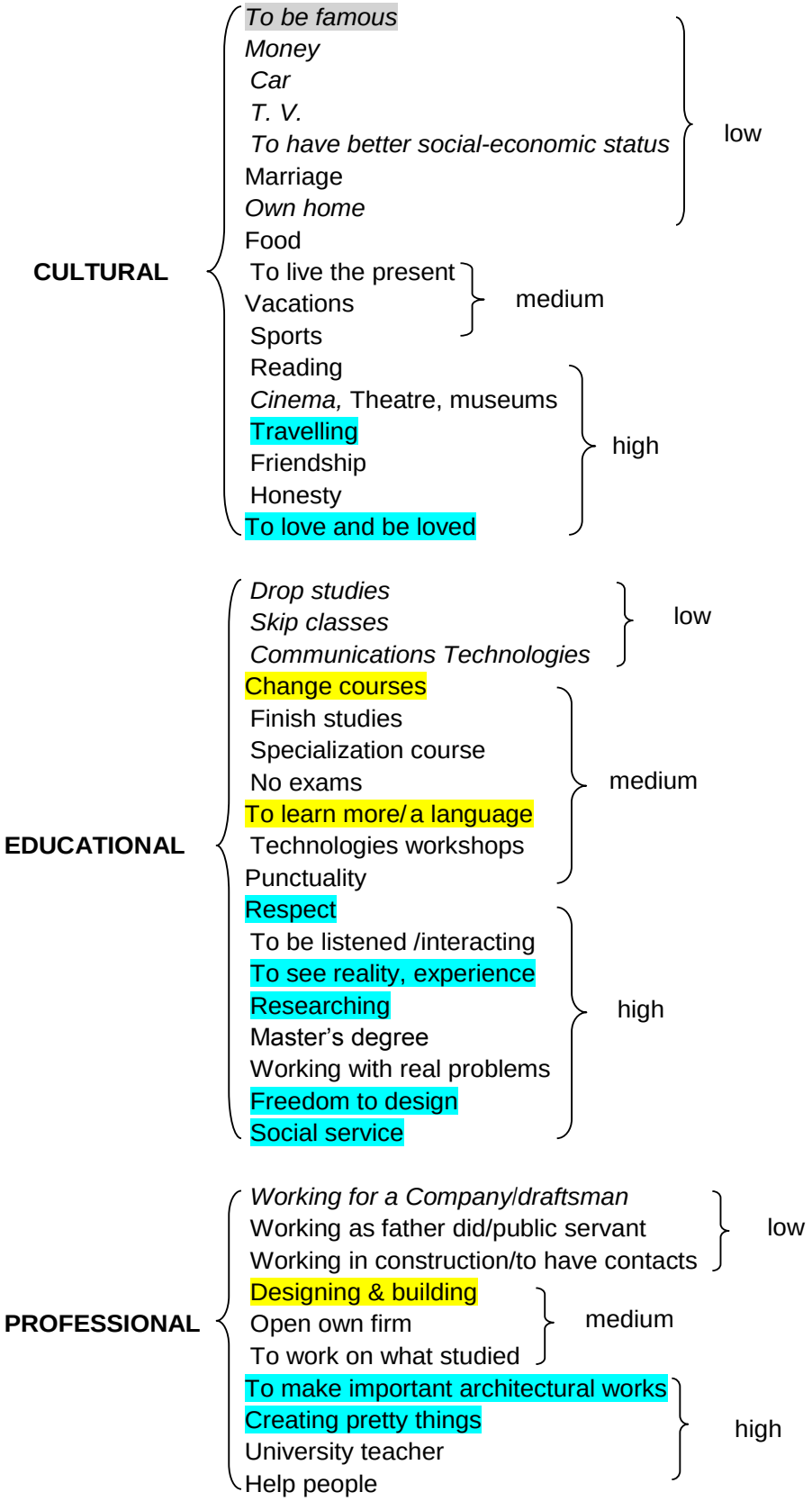


Table 5.3 Students' aspirations' level after three interviews

LOW

STUDENT	Money	Car	TV, Cinema	To have better social status	To be famous	Food	Marriage	Own home	Drop studies	Skip classes	Communication technologies	Working for a Co. /draftsman	Working as Father/ public servant	To work in construction
SM														
VL							2		2	2		2		1 2
RB													1	1
DT										2		3		
IÑ					2									2

MEDIUM

STUDENT	To live the present	Vacations	Sports	Change programme	Finish studies	No exams	Specialization course	To learn more/ a language	Punctuality	Technologies workshops*	Designing building	Open own firm	To work on what studied
SM						1			3		2 3		
VL					1								1 2
RB							2 3						3
DT				2							3	3	
IÑ				1				1			3		

HIGH

STUDENT	Honesty	Reading	To perform well	Cinema, Theatre, Museums	To travel	Friendship	To love & be loved	Respect	To be listened to/interacting	To see reality experience	Researching	Master's degree	Post-graduate in another country	To work W/real problem	Freedom to design	To do social service	To make important Architectural works	To create pretty things	University teacher	To help people
SM	2 3							2			1	1 3		1				3		2
VL						1	1										1			
RB					2	3				1 3										
DT			1					3				2		1 2	2					1 2
IÑ					2		2 3	3		1	2				2	3	2 3	1		

question How have you liked the architecture programme? **SM** said: '*It is pleasant but I still insist that the system is not apt for the architecture course is err the teacherss err are not very good for the same that think orrr as it is said as it is said by the thee same educational system of the university that err err we have to research if they don't also take themes or do not give themes very deeply for the same that they say that we have to learn all aand well they are not very good teachers they don't give what they have to give a hundred percent*'.

SM thought that teachers of Installations and Structures were the less committed '*..they don't get into very deeply and I think that in architecture we have to know about everything we have to know structuration, electric installations and without in change* [in this last expression SM tries to use the conjunction 'however' that in Spanish starts with the preposition 'without', but he mixed it with 'in turn'] *they say that we are going to be architects and are going to have an electrician and structuralist I think we also have to know about it in case we get to structure something or or to make the installations of a small work*'. Whilst **SM** had not fulfill his aspiration of a new pedagogy with the course's themes he considered the teachers' teaching techniques '*err, good they give practically the basic*'. With regard to evaluations he said: '*Err well..so far fine*'. His answer was so limited that I tried to obtain more information asking him a bit intrusive question What marks have you got? He smiled and said '*Mostly MB and one B*'.

I prompted: In Design or in general? **SM**: '*In Design err and in general MB*' Again I prompted: And in the technologies? SM said: '*Err I have also done well in fact well* [laugh] *is that pushing hard is all..*'. It was interesting that even when SM had obtained very good marks he was not pleased with installation teachers' techniques that I followed up this issue saying: Nevertheless you think that the content has not been enough? '*Err what it happens is that as each trimester is moving forwards suddenly one arrives and gees that is 'I have passed the trimester but in reality what do I know?' I still have the fear of facing the field work I don't figure out how to face the field work*'. I tried to pointed out to SM that he was in module VI for what he said: '*I'm still on 6th but I think that we have to have already the idea or have the mentality since the beginning that we have to arrive to a field work but I don't feel with the bases I feel that they are not giving me good bases*'.

In the 3rd interview **SM's** highest aspiration was to create '*new things*' followed by to do social service –which he was about to finish. SM's last aspiration was followed by to do a Master whilst his lowest aspiration was being punctual followed by working for a firm '*designing, to take experience*'. SM raised the issue of the staff's lack of punctuality as a disapproval to the '*lack of generating criticism between ourselves to generate*

debates like the unpunctuality of our teachers that constraint us and unpunctuality of ourselves'. SM said he did not like of the architecture programme pedagogic process '*I think thatt the lack of opinion of our groups I think we lack a bit off...generating the criticism in front of ourselves for generating debates, the unpunctuality of our professors, errr the disorganisation also of our professors that constrain us and…unpunctuality also of us* [laugh]'.

I requested **SM** to elaborate on his view of teachers' disorganisation and he said: '*Errr well our design teacher for the same that he is in the Doctorate and all that err yes he makes us to waste time and suddenly the class finishes at eleven and he says 'We see us at 12.00' and he arrives at one, these are two hours lost that we could use without change we stay, he reviews two teams and the rest he does not review and we wait from one until three and we lose two hours then there is lack of professor's organisation and also of us that we have not demanded him that punctuality*'. Clearly **SM** hoped to find in the university punctual teachers that use time efficiently. SM quite likely used the time that the process of tutorials provided him to complete his projects that were not possible to finish at night due to his social service involvement.

SM said that besides knowledge he learnt in the architecture programme '*Err one of the most fundamental parts is to err to generate architecture to all people without considering err the social class or the medium where it is projecting I think architecture has to be projected in every place in the conditions that it is found the best as possible not taking don't know* ***elitist*** *in certain way I think is the main that we have learnt*'. **SM's** aspirations were of the same high level throughout his exposure to the flexible-rigid educational process at the university. This process did not lead him to ignore the importance of being punctual and to finish tasks on time –a behaviour he was encouraged to follow at high school.

SM's responses were careful. It suggested to me that he was aware that he will be an architect and as such his goals and hopes should be of the higher. For example he did not aspire to a simple office job but to a position where he is allowed to design and where he can continue developing. SM actions were remarkable since before finishing the architecture programme degree he had finished his social service in a government office. I identified SM's aspirations as none low, four medium and nine high. To contrast my interpretation of this student's subjective experiences against official records next I describe his overall performance or trajectory in his educational settings.

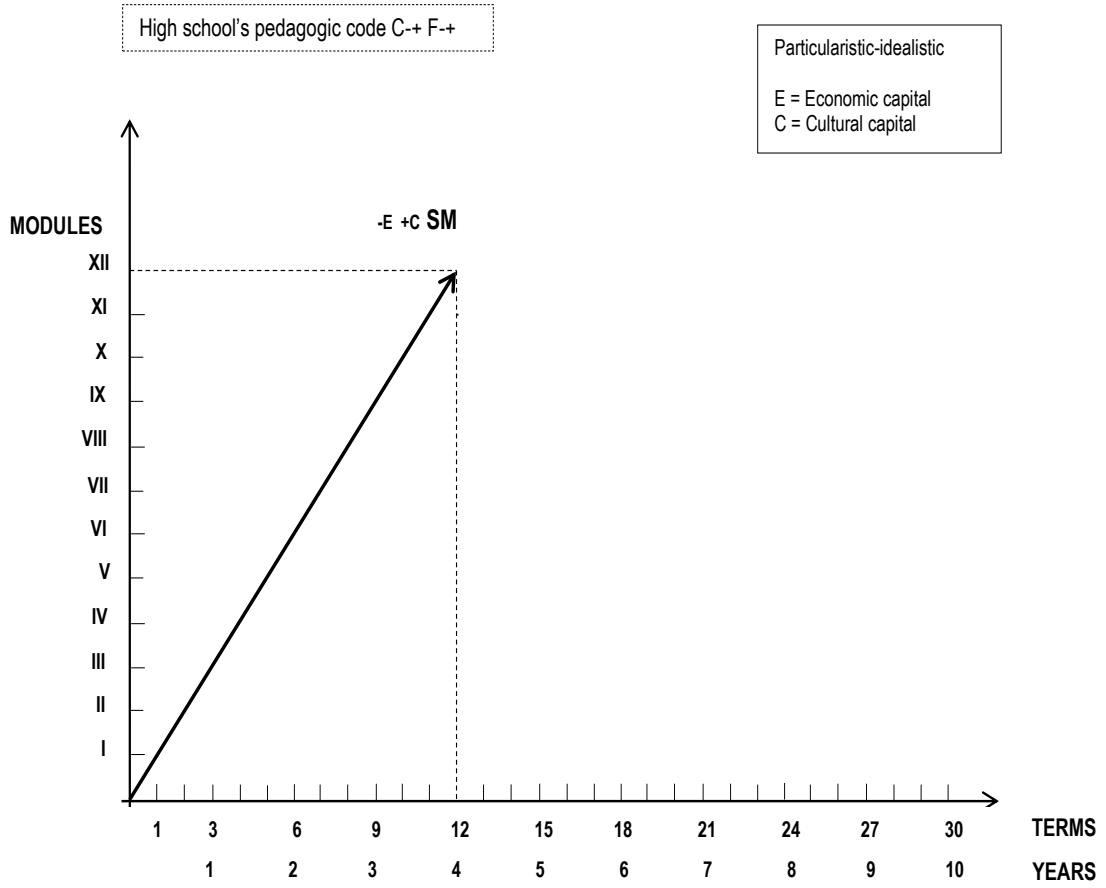
Performance and trajectory of student from a C- F-+ educational context

In figure 5.16 one can see that **SM** finished the degree programme on time. SM's performances were 8.1-537-7MB/5B. SM's average marks of high school are above

average in comparison to most participant students. In addition his marks at the university are better than his marks in the College's semi-flexible educational process. SM's performance is not totally reflected in his score on the entrance exam which was medium near to low. SM's overall performance is the fourth best among the participant students. SM's very good performance coincides with his high aspirations that are greater than his low ones. This means that his high aspirations drove him to perform very well. His quality high aspirations-very good performance concurs with his particularistic-idealistic orientations.

Having gone over **SM's** objective conditions and subjective experiences I can point out that SM's high school pedagogic code being similar to that of the university acting as context of this research enabled him to accomplish very good educational trajectory in the architecture programme. That is, student **SM** implicit, context-bound meanings with very good overall trajectory challenge Bernstein's suggestion that students with these types of orientations would find difficulties to identify, use and control the elaborated code of the integrated pedagogy (1990: 79) since he did not struggle to advance in this type of educational context. SM was even able to finish his social service before finishing the degree programme.

Figure 5.16 College student's forms of capital, orientations and trajectory in the architecture programme.



Aspirations of student from a closed (C+ F+) educational context

VL studied high school at a colloquially called *prepa.* The *prepas* are attached to one of the largest State fund universities of Mexico. The *prepas'* pedagogy is organized by subjects without linking any concrete problems. In this type of pedagogy the teacher talks in most of the sessions. Students are evaluated with exams. An inspector oversees students' behaviour, telling them where they can stay or not and when to attend classes or other events. I defined these middle level schools as a collection educational code type (C+ F+). When VL arrived to the university from that type of high school she had (+) cultural capital (+-) economic capital with particularistic-instrumental orientations.

Let me go over **VL's** aspirations. **VL** highest aspiration in the 1st interview was making important architectural works while her lowest was to work in construction. After a year of studies VL's highest aspiration was '*to work in what I studied*' while the lowest was to get married. The latter was her explicit response to the question of the images she had of herself at the end of her studies. The other image she had of herself was working as draftswomen. VL said that she had decided to study in this university's modular system '*One because I liked the schooool err in part like it did influence my friends presence and err that of my parents...they like the area where it is and the system in fact I have uncles that studied here and they liked the system that is handle here*'.

For the question How have you liked the architecture programme? **VL** said: '*Well so farrr I have liked it more than when I got in I already have realised what I want to study that I am focused to something that already, already I am in what I am is really what since the beginning I always wanted*'. I requested VL to elaborate on her comment of being focused and she said: '*Err before like I still had many hesitations and wellbeing in the suitable degree or I don't know I wasn't still quite sure if this was truly for me but now I know that what I want to devote to is to architecture, to design, to build that is to all what is related to architecture*'. VL said that she would prefer to design than to build. I ask her: Any type of buildings in particular? She said '*Mmmm how buildings?*' I said: dwellings, hospitals, schools. VL: '*Yes I would like to focus on dwellings errr or also for example the area of discotheques that here it is not handle that type of constructions*'.

Thus, with exposure to the 'modular system' from module I to module III as well as to the architecture programme's practices of modules IV to VI **VL** had modified her goals as a practising architect making 'constructions of great magnitudes' for designing dwellings. **VL** said that she liked the architecture programme's teaching techniques although '..*the modular system still does not **convince me** I feel thaat it is still a bit deficient and no, no no I feel that sometimes the plans of studies have not been set*

well or as it should be'. I requested her to elaborate on aspects of the modular system that do not convince her and she said: '*For instance many teachers take it as "In the modular system it is your responsibility to study it is your responsibility to search" that is they want to leave aside the teachers' part that is to support, to guide the student that is the part they want to leave totally the student to be autonomous when* ***it is*** *but it has to carry certain guidance*'.

I requested **VL** to suggest what can be done to improve teachers' role for what she continue generalising on teachers' faults and suddenly she said: '*the thing is that are are* ***subjects*** *we are going to have to give in the classroom because many teachers due to the modular system itself say: "No, I better don't come you research it" when we are not given bibliographies, texts to read and things like that*'. VL thought that the architecture programme's contents were '*Sometimes a bit confused as in some modules the subjects are repeated there are follow up but they are repeated but if we are not assigned the same teacher the follow up is lost thus suddenly this makes us to be confused or the chain of what is being carrying is lost besides each trimester the project is changed*'. VL was not pleased with the teaching principle of students solving problems.

With regard to evaluations **VL** said were more unfair '*I think in the technologies, so far we have had many problems with those subjects due to we are not assigned a teacher since the beginning we are now in the fifth week and we still don´t have a professor for Installations then it arrives a teacher three weeks before the trimester ends and wants to evaluate as if we had had classes the whole trimester*'. VL was not contacted for the 3rd interview as she was frequently absent. I observed this behaviour of her in modules V and VI. VL's aspirations were five low, two medium and three high (0.60); the only student with more low aspirations than high.

Performance and trajectory of student from a C+ F+ educational context

VL performances were 8.8-581-6MB/S. VL's 8.8 average mark in high school is one of the two highest of the twenty eight students' scores. In contrast, her mark on the entrance exam was fair. VL marks in six of the seven modules she attended at this university were of the highest (MB) or very good. VL's very good performance in the six modules she attended led me to bracket my inference that the learning process she was exposed to in high school, whilst different to that of this university, did not condition her performance in the architecture programme. However, VL dropped her studies out in module VIII after having failed it four times. This drop out of studies coincides with her low aspirations that outnumbered her high ones. However, it is fair to think about

that she might have gotten disappointed by a poor score (S) she received (S stands for '*suficiente'* or enough).

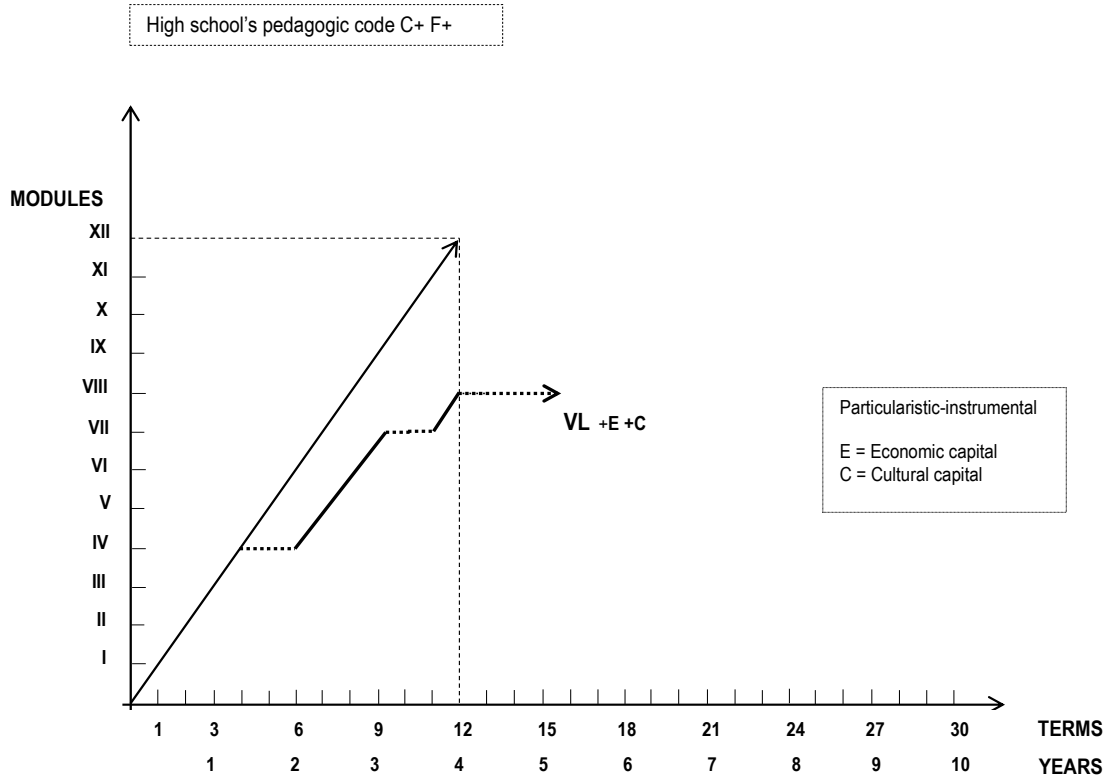
In other words **VL** was not willing to continue working within the ambiguity she found in the pedagogic practices of the architecture programme. One can see a representation of **VL's** cut trajectory in figure 5.17. **VL's** very low aspirations-dropped out contrast with **SM** from a *College* who had high aspirations-very good trajectory. That is the student from semi-flexible pedagogic process had more high than low aspirations, accomplished better overall trajectory than the student with the opposite subjective condition having studied in closed pedagogic system. Next I present the analysis of **DT**, a student from other State fund middle level Institution.

Aspirations of student from a semi-flexible closed (C+- F+) educational context

DT studied high school in a State fund Centre for Scientific and Technological (CST) studies coordinated by the second largest tertiary studies institution in Mexico. The CENTRE where DT studied sets one semester as common for all the programmes where subjects from different branches of knowledge and the humanities are offered to the students. Humanistic subjects like philosophy and ethics are also transmitted in two more modules, although the process of transmission is directed by the teacher. These subjects complement the main area of instruction which is concerned with themes like "Technical drawing", computer aided design and "Construction systems and techniques" (http://www.cecyt11.ipn.mx/ accessed 09-06-07). In this kind of educational setting students have to attend all the sessions, they are controlled about only being in the designated areas for students and have to return to class promptly. Thus its pedagogic code can be considered with a variant of the collection educational codes or C-+ F+.

In the CENTRE where **DT** studied, or CENTREM, the numbers of subjects from diverse fields of knowledge are less than in most Centres. The CENTREM'S curriculum focuses on developing the students' skills to manipulate machines, which in DT's case were computers. This school's main objective is "to form integrally the youth being capable of continuing higher studies and/or to incorporate to the labour market" (http://cecytem.edomexico.gob.mx/cecytem/jsp/plan/tecnicas_didacticas.jsp accessed 07-06-08). Other subjects studied are Mathematics, Chemistry and computing

Figure 5.17 *Prepa* student's forms of capital, orientations and trajectory in the architecture programme.



information technologies, followed by English, science, technology, society and values, ecology and reading, oral and written expression. In the CENTREM students are also

DT said she had read the university's plan of studies of which she liked '*what we are seeing in this first module…what it is how to research..how how knowledge is born* { }'. **DT** said she liked the teaching techniques of module I, as well as the evaluations since '*Well they* [teachers] *are not going only with exams but they take into account class participations, how we evolve, how is that affect what they give us and also the teaching for us to be able to research'.* DT also mentioned that '*Well, the Professor that we have is very much interested on us not be speechless and she being the only one talking but that* ***all*** *give our points of view and that we allow listening the others' points of view'*.

Drawing from the 2nd interview I interpreted **DT's** aspiration of freedom to design when she said that she found '*difficult to understand teachers of Design because they change and change the design and later if one is not in agreement with the marks one cannot discuss with her* [DT mentioned professor CR/f/40s] *because it can affect the final mark*'. I asked **DT** How have you liked the architecture programme? DT responded: '*Good well it seemed to me likeee a new experience I think that when I got into the*

programme I did not have anyyy like I did not know what I was going to study and now well I carry more or less knowledge of the course'. After my prompt regarding the different contents she said '*Errrr in general yes they are all right but for example some…I think sometimes the objectives are not accomplished of the teachers*'.

After one more prompt she said. '*I think where I have had more problems is in History that the teacher does not come a few times…for example we have one class a week and he gives us only ten minutes, he does not assign us works, nor researching, nor give us class*'. **DT's** highest aspirations were still to help people followed by freedom to design and to work with real problems. Her lowest aspiration was to skip classes. I inferred this desire after had seen that she missed two or three classes generally. It is fair to say that this behaviour of DT's could have been induced by non-interesting classes, as well as by the fact that she had to commute two hours to attend classes. This educational situation of her, along with the implicit expenses of commuting, may have impulse her to reduce costs by following the official rule that allows students to miss 20% of classes.

In the 3rd interview **DT's** highest aspiration was to be listened to and interacting followed by respect while her lowest aspiration was communication technologies followed by to work for a firm. DT expressed her hope for being respected when she said that *'Some teachers should be more accessible to students because if they are not, like you are going with the idea that you are not going to be able'* but '*the teachers' character influences much the relationship with the students, the way they talk to you, the respect, the way they treat you....all that influences that one gets discouraged'*. In DT discouragement was not strong -or she fought against it. Her good performance despite her low (-) cultural an economic capital points out that her learning and educational developments were drove by her high aspirations that surpass her low and medium.

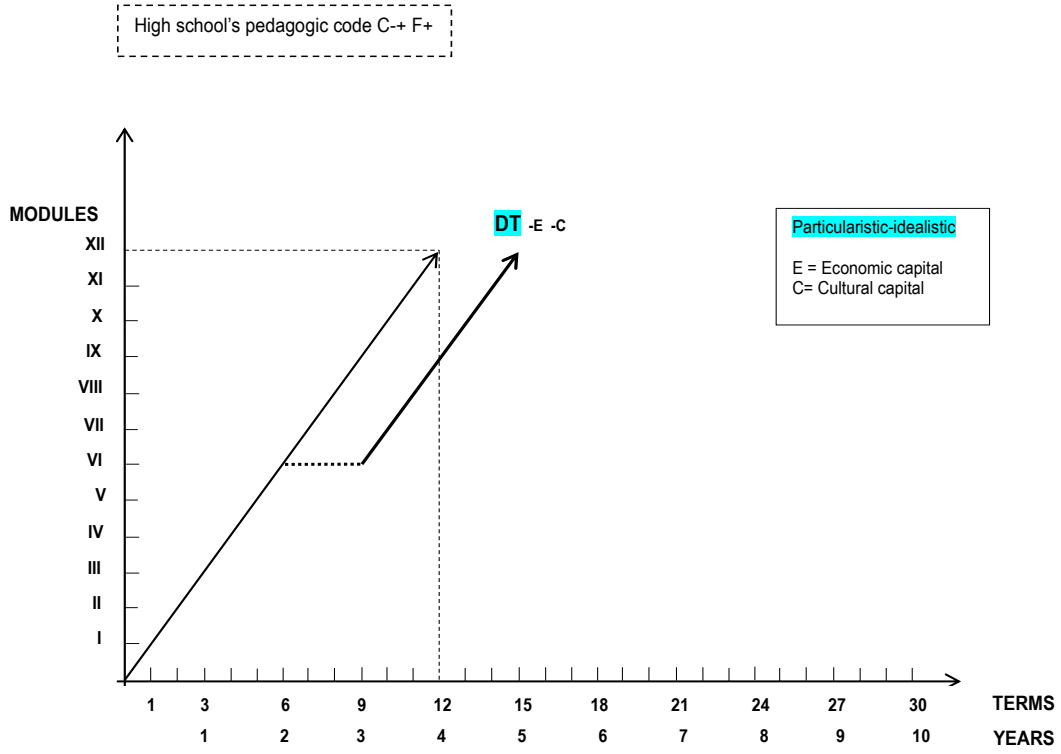
To these elements it should be added **DT** exposure in high school to a pedagogic code with classification component similar to that of the university. DT did not comment again in the third interview on her goal of helping people and working with real problems, whilst she was looking forward to designing for a firm and to open her own. The former could be an indicator of a more realistic priority considering her disadvantaged social position; the latter may mean a hope for independence. She said so spontaneously or perhaps influenced by the prevalent notion in the political field that everyone should have their own businesses. DT's educational aspiration levels decreased as she moved forward in the architecture programme. Her aspirations were three low, three medium and seven high.

Performance and trajectory of student from a C+- F+ educational context

A representation of **DT's** trajectory appears in figure 5.18. DT finished the architecture degree programme in three more terms than the minimum established officially; her performances were 8.8-519-3MB/6B/2S. DT's average mark in high school, one of the two highest among the twenty eight students, is much better than her marks in the architecture programme: 7.8. That is even when she liked the university's pedagogic principle of learning by researching she was not able to accomplish as good performance as in high school. I also wondered how much work **DT** had to do to obtain good marks (B, B and MB) in the first three modules as the teaching techniques in these modules are mainly presentations and discussions. These activities are not DT's strongest.

Note that DT's humble social background with limited verbal communication was evident. These features of her might have influenced the architecture programme's teacher's perceptions about her. DT's lower performance in the university with delayed trajectory

Figure 5.18 CENTRE's student's forms of capital, orientations and trajectory in the architecture programme.



was due to her limited lexis, her shyness and asynchrony with her teacher or teachers' design ideas of module VI when she was failed three times. DT's response that '"*some teachers do not let us to express our ideas*", implies that the group's coordinator asked her to change her designs, which in turn produced a conflicting learning situation. I also

inferred this based on her behaviour during two terms when she showed the capability of developing clear projects –not to say her skill for synthesising. Drawing from observations I can say that DT's accomplishment of obtaining the degree in architecture was a result of her capability to synthesise and to cooperate with team work. The latter ought to be considered another high aspiration of her.

To be explicit: student **DT** with little or very little cultural capital in disadvantaged social position accomplished good trajectory drove by her high aspirations of learning by researching. DT replicates the pattern high aspirations level-particularistic-idealistic meanings with successful finishing of studies that I found in **SM** who was also socially disadvantaged. In contrast, **VL** who lived in better social positioning had particularistic-instrumental orientations to meanings and learning and dropped her studies out. This finding is useful to complement Bernstein's argument that socially disadvantaged students with particularistic orientations would struggle to advance in an educational context with elaborated pedagogic code pointing out: unless they have high aspirations levels.

In anticipation I can say that Bernstein's constructs were useful to analyse **DT's** previous educational context; they enabled me to say that her high school's curriculum classification component resembles that of the university acting as context of this research. That is the resemblance between DT's educational contexts is another factor that led her to finish successfully her tertiary studies. These findings about the three students from diverse schooling contexts above presented seem to respond to the research problem set in chapter one: a student's sense of confusion, passive rejection to tasks and disrupting behaviours in the classroom are more visible and acute in **VL**, the student who studied in an educational process with different classification component from the one followed in the architecture programme (C-+). In order to see if these replications are supported again I have to analyse the students who studied in other type of CENTRE and private schools. Next I present the analysis of student **RB** from a State funded mid-level Institution that I call CERVES.

Aspirations of student from a rigid (C++ F+) educational context

RB studied at a CERVES, schools dependent on the Mexican Ministry of Education. In a CERVES the curriculum focuses on technical themes as well as to develop skills to manipulate tools. This curriculum leaves aside branches of knowledge like philosophy and History of Mexico, being "Socioeconomic Mexico's context" the only subject that guides students to a broader view of the learning process context (http://www.cecyt11.ipn.mx/ accessed 09-06-07). In these schools students are controlled every day by security staff and the teachers, who tell them where they can or

cannot, go reminding them to attend classes. Hence, this school can be considered with a stronger variant of the collection codes or C++ with strong framing or F+. Note that these types of schools work by semesters or terms two months longer than that of the university acting as context of this research.

RB had (-) cultural capital, (+-) economic capital with particularistic-instrumental orientations when he enrolled in the university. RB's highest aspiration in the 1st interview was to see places, to experience while his lowest was to be famous. I drew the latter interpretation from his view of himself as an architect '*being practical, disciplined, having a good project, surrounded by people*'. When I asked RB Why did you decide to study in this university? he said: '*Because it provides spaces to the students, it is not easy to get into and not difficult, it is near to my address*'. RB did not say anything regarding the pedagogic principle of researching social problems with multidisciplinary approach. In other words one of his goals was to study in a university near to his home.

After a year of studying in the university RB's highest aspiration was to travel, '*to visit*' followed by to learn more. For the question How have you liked the architecture programme? **RB** said: '*It seems to me a degree err in which there are a lot for what to live together, it interests me a lot because in many fields I can develop err well..diverse er how can I tell you activities or gifts that it seems to me that I have them to develop them in the degree of architecture up to the actuality I feel that the university has had those goals and achievements for me are important to develop as an architect no?* '. **RB's** last answer was not clear. He tried to give information about himself that he considered important to move forwards in the architecture programme but either he was not able or did not want to point it out.

RB also tried to tell something about the university architecture programme he could not express or did not want to. I asked him about his gifts and he said: '*I feel that the university is is in various aspects is very rich in terms of projects don't know with regard to projects each trimester that passes in the degree are diverse projects that are done but I like the way they are realized it is not only the theory but the practice and the visits that are done to the sites and and the knowledge that that is outside no? and that we can get it at hand and it is very important to me how the university handles it*'. Again RB's speech was unclear. In the first part of the sentence he tried to criticize the considerable amount of work that was compensated by out of the classroom activities. This latter activity is an aspiration he fulfilled in the course.

RB also said he felt '*very well*' in the architecture programme. RB thought that the Design and complementary classes were '*Very good…I have had good bases, the*

teachers are quite accessible and err..really the supports have been excellent and but there is a lack of a little bit more commitment from the students, it is a part of the formation in which are… the teachers give them to us to certain extent but we have to reinforce by ourselves'. RB was not pleased with some evaluations: '*They have been in some moment a bit confusing mainly for the supports such as Installations, I have had professors that really have been very strict when marking because in accordance to them we should already have knowledge of many things in module IV but I and many of my classmates ignore it*'.

It should be remembered that **RB** high school studies focused '*on design and construction*' which should have transmit him basic information on lighting and plumbing at the basic level. This is what a teacher in module IV of the architecture programme would expect students to have. It is possible that RB's had forgotten the basic subjects regarding installations topics he studied then. Yet, RB studied high school in a pedagogic process where the terms last six months that represents a slower learning pace to that of the architecture programme. This difference in the learning pace reduced RB understanding and assimilation of the subjects and tasks he found in the architecture programme. RB had obtained one MB and three S in the first four modules.

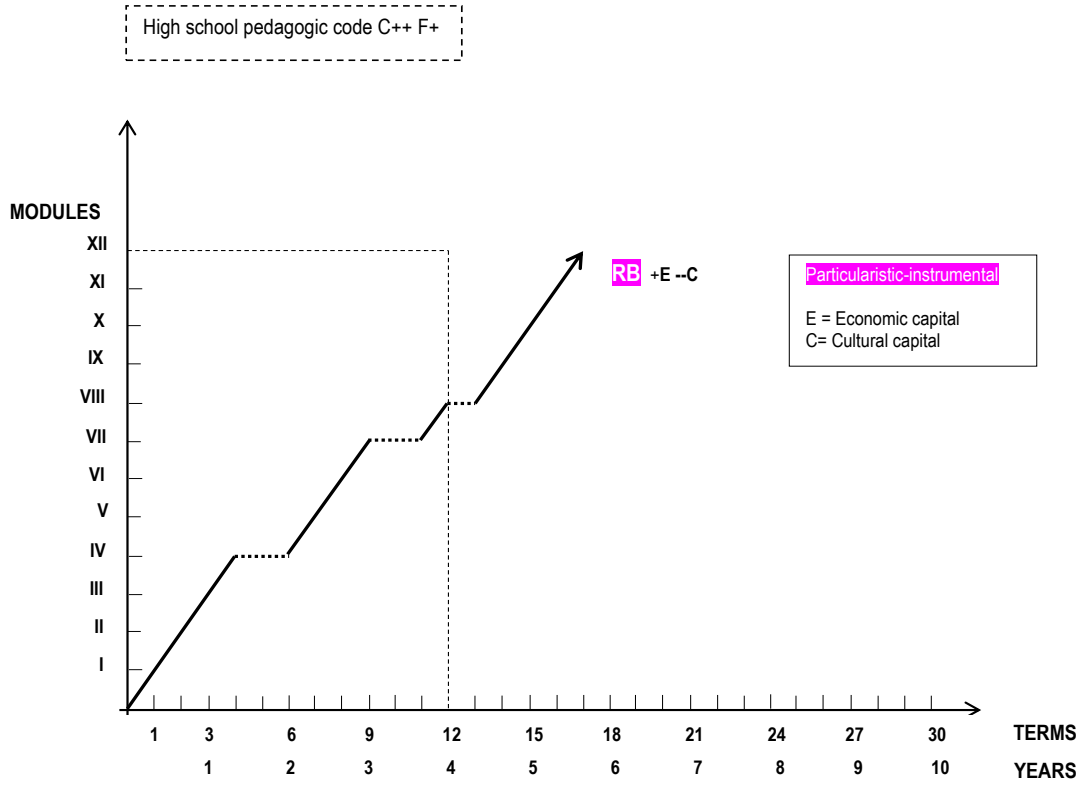
In the 3rd interview **RB's** highest aspiration was again to travel, to experience followed by '*interacting*' while his lowest was to work in construction. When I asked him How have you liked the architecture programme? RB said: '*Err first of all good morning and thank you for being one of the selected to do these interviews no? well **good** I have liked the way I have been conducted by the professors I think it has been of of of goodness for my life I have tried to carry on the school, my personal life, my job err err err well that these relate to each other and the school allows me to advance err academically and that allows me to be a professional person and to keep going no? and well I have liked the school's handle and and I have tried to keep going in this school and shall keep going as much as it allows to me*'. As the time passed RB's aspirations tend to be fewer desires (famous or surrounded by people) and more towards his goals (to learn) along with his hopes (to interact, to communicate). RB's aspirations levels were four low, three medium and four high or low aspirations levels.

Performance and trajectory of student from a C++ F+ educational context

RB finished his professional studies in five more terms than the minimum established officially (see Figure 5.19). His performances were 7.7-501-MB/3B/7S. RB's 7.7 mark obtained in the CERVES is above the average and his entrance exam score is medium near to low. By contrast his marks at the university (6.2) were much lower than what he

obtained in high school even when his studies of architectonic design (”Diseño arquitectonico” http://www.dgeti.sep.gob.mx/index2.html accessed 10-06-08) awarded him a degree as ‘technician-professional’. It should be noticed that he obtained it from a six semesters programme. That is while from an official point of view **RB’s** overall performance at the university was unsatisfactory it ought to be analysed bearing in mind that the learning pace in his high school was slower than that of the university.

Figure 5.19 CERVEs’ student’s forms of capital, orientations and trajectory in the architecture programme.



The learning pace at the CERVES last more than twenty weeks each semester which contrasts with the UMXS architecture programme term’s eleven weeks. This university’s fast learning pace in combination with his previous instruction on memorising solved problems limited **RB’s** understanding of the problems sets by the architecture programme teachers. Thus RB was not able to comply with the assignments at the speed established in the flexible-rigid pedagogic process which led him to delay his trajectory for five terms. It is important to repeat that **RB** had low aspirations. This quality coincides with his limited language context-bound with particularistic orientations to meanings and instrumental learning.

In the second and third interview **RB** was one of the three students with less lexis of all the students along with **DT** (and GA). RB’s qualities replicate with GA who dropped

studies out. By contrast DT had higher aspirations than RB (and GA) and finished the architecture degree programme only in two more terms than the official duration establishes. DT, who studied in a pedagogic code with a more open classification component, was found to have more high than low aspirations, accomplishing a good overall performance much better than that of **RB** (and GA). RB's low aspirations' level, low cultural capital with particularistic-instrumental orientations that resulted in a delayed performance replicates my previous response to the research problem: students' confusion with passive rejections to tasks is more visible and acute in students who studied in closed educational process or different from the one followed at the architecture programme.

Aspirations of student from a flexible (C- F-) educational context

In this section I present the interpretative analysis of the interconnections of aspirations, orientations, cultural capital and overall performance of student **IN** who studied in a private high school of Mexico City. **IN** also studied the basic and secondary learning levels in private schools. One of these, well known in Mexico, is sponsored by a religious organization. I am going to call it *El Colegio*. IN studied two years of secondary education in this school that transmits subjects that range from anthropology, religion, exact sciences and sociology. In terms of its sequencing and pace of learning, where the students have to stay or to go it is inflexible. I considered this school's educational codes as C- F++.

During her basic and secondary studies **IN's** parents moved out a city in Central Mexico to another city and then to Mexico City, which implied changing of schools. The last year of secondary and the three years of high school IN studied in the *LOGOS Escuela de Bachilleres S.C.* [accessed May 2007]. IN said this school's teaching process is based on subjects or '*escolarizada'*. I found in this school web page a different concept to what IN said. The Logos plan of studies ranges from mathematics, biology, chemistry and physics to ethics, psychology and artistic expression. Its pacing and teaching sequences are quite flexible giving emphasis to play, communication and travelling. Hence I set its pedagogic code as C- F-. The *LOGOS* framing component of its educational code is opposite to that of the *El Colegio* and more flexible to the external component of the framing category of the university context of this research.

IN's higher aspirations at her entry to the university (1st interview) were of creating as an interior designer. She had also thought to be a psychologist. IN said that her mother is a psychologist; this is an image or model that generated in her a latent professional aspiration which, as IN said, '*for a strange reason*' changed for architecture. I interpreted her goal of being a psychologist as to 'change programme' or her lowest

aspiration. After a year of studies IN's highest aspiration was making important architectural works while the lowest was to be famous; this was lower than in the previous interview. For the question How have you liked the architecture programme? **IN** said: '*It seems to me interesting, for the fact that, well the modular system that is practised make us like always try to find and not to depend on the teachers to get new knowledge, it is alright*'.

IN said she had enrolled in the university '*Well first because I have a cousin sister of mine who is studying here architecture and err she told me that the system is alright that is different and I had had like many conflicts* [IN used a very colloquial word: '*broncas'* for conflicts] *with the traditional system thus I said let's try by other side*'. IN described the traditional educational system as the '*school where everything is individual and the assignments like focused on 'only you' and not seeing beyond how can you deal with with other people to research to build something very good between various persons and not only with one's head*'. **IN** elaborated from my encouragement of describing her '*broncas*' saying that '*I don't know if it was the school or the way of thinking but err, well likee like very closed, then you propose something new and no, no there is no place where to move then everything has to be done like very squared thus it can be* ***squared****! but seeing beyond frontiers*'.

From my comment she elaborated saying '*Well yes I, one of my goals are to be independent and I think it is helping me a lot to be like that independent* [laugh]. **IN** found some '*bumps'* with teachers that '*gave us like thirty minutes of class and like three of ten that he had to give us, then he told us "You should already know this" then he sent all of us to recuperation, we had to do another assignment and then to all of us mark us with S and that does not seem to me fair*'. IN was '*very upset because it is supposed that you are sent to recuperation due to Design's project because you missed a plan or you still have to research something but the supports are supposed to be the simplest and what has to be done first, however here I went to recuperation of History and I got very upset*'.

IN was also upset because her '*average grading got lower*'. In Design IN obtained a B. Despite that '*strange'* experience IN found the supports and Design's contents '*well'*. IN also said she felt '*fine'* in the architecture programme. At the final year of her studies (3rd interview) IN's highest aspiration was still making important architectural works and her lowest was working for a firm. IN stressed that working for a firm was necessary '*because I cannot continue: "Mom, give me* [money]'. Whilst I have suggested that working for a company as a goal can be considered a contradiction due to the low salaries and over time that novice architects have to endure if they do so, in IN case it

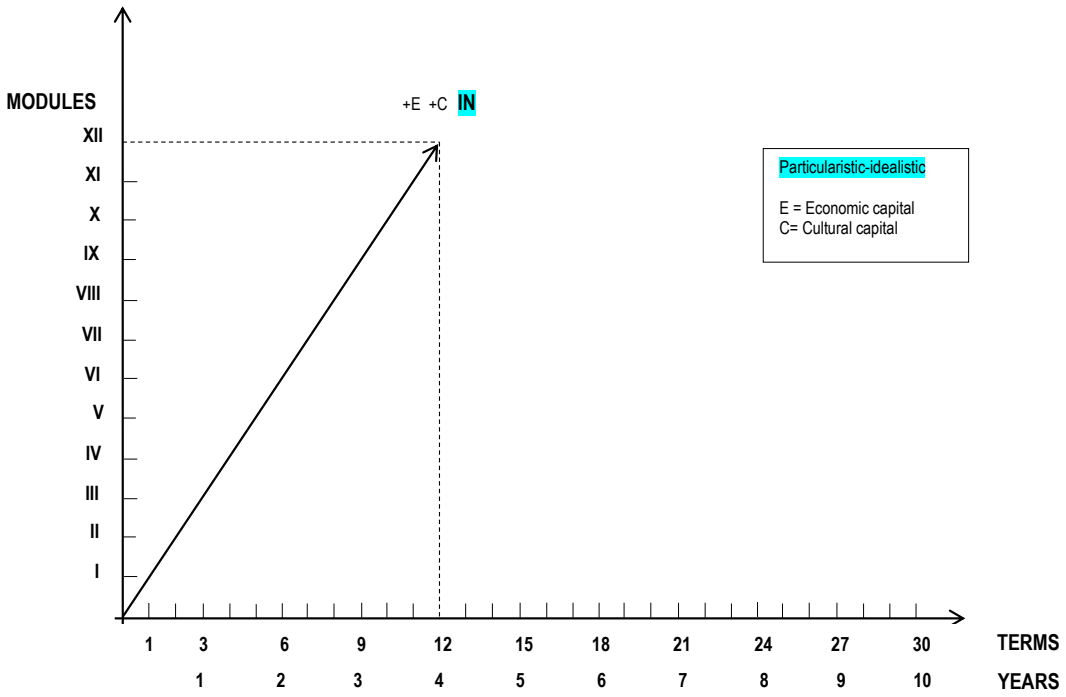
should be considered a way to autonomy. She was aware of this as a necessary step to reach her aspirations of '*travelling'* and '*freedom to design'* which demands money.

Two IN's aspirations necessary to mention are honesty and respect. I drew these from IN's complains about her teacher of the last modules [AC/m/50s] who did not give her reasons of her design's deficiencies but simply labelled her and her fellow students '*unfit for designing, without apprenticeship*' among other actions the teacher used to follow. I identified IN's aspirations as two low, three medium and nine high.

Performance and trajectory of student from private high school

One can see a representation of **IN's** trajectory in figure 5.20. IN's high school poor performance of 7.0, the lowest of all participant students, contrasts with her very good performances in the university: 510-6MB/6B or 9.0. These facts suggest that the

Figure 5.20 Student from private schools (C-+ F-) forms of capital, orientations and trajectory in the architecture programme.



educational process she experienced at the *LOGOS*, which is of the open type gave her learning skills that enabled her to perform better at the university. IN's improved performance at the architecture programme can also be the manifestation of her enjoyment of studying there, as her comment (1st interview) suggests: '*in the prepa only the teacher talked, gave the theory...*' whilst '*in the university no, I like that everyone discusses and suggests things*'.

A query prompts: if she was not allowed to talk enough at high school and she does not read frequently how did she acquire and develop her good verbal communication? Is it that when she said '*in the prepa only the teacher talked* [….], she was actually remembering what she experienced at the *El Colegio* but not the LOGOS' learning process? IN is one of the two students who talk for more than an hour, with rich, informative language. To close this section up I want to bring about **IN's** relaxed mood.

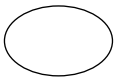
IN's frequently laughed. This IN's mood contrasted with VL's. VL's voice intonation and face expressions let me perceive she was upset or worried, for example when I asked her about her professional plans. Hence I can suggest that another source of explanation as to why a student like **VL**, who had the material and symbolic means to advance well in the architecture programme dropped her studies out, can be found in her emotions. Other cases clearly brought up the role that our emotions play in our decisions. For example RD and ME's spontaneous accounts let me know that, for the former '*economic, social even emotional problems combined to make me drop out my studies in architecture...*'. For the latter in the architecture programme '*I'm worried not for the work load but if I'm going to find a job when I get out, architecture is a very competitive profession, when one gets out one becomes a part of the unemployed*'.

These latter cases suggest integrating the constructs that can point out the way they saw themselves as members of the programme, of a social group and as people in the future. These latter issues and concepts were slightly explored in this research; I suggest these could be researched in the future. Based upon all the stages of the interpretive analysis developed, I summarise my interpretations of the students' responses as follows:

1. **DT** with (-) economic and (-) cultural capital had high aspirations levels (2.5 ratio) and finished the degree programme. **SM** with (-) economic capital and (+) cultural capital had very high aspirations (9.0 ratio) and attained excellent performance.
2. **IN** with (+) economic capital and (+) cultural capital had high to fair aspirations and performed well; **VL** with similar capitals but very low aspirations (0.60) dropped her studies out.
3. Students with less high aspirations are who had (+) economic capital and (-) cultural capital for example **RB**.
4. Students who studied the previous school levels in pedagogic codes similar to that of the university acting as context of this research finished their tertiary studies particularly if they have high aspirations level,

5. Students who studied the previous school levels in pedagogic codes different to that of the university had difficulties advancing and completing their tertiary studies in an educational context C- F+- particularly if they had low aspirations level.

Figure 5.21 represents the five selected students' aspirations' levels in interconnection with their high school's pedagogic codes and their trajectory. The circles lines stand for the students' previous educational context as:

C+ F+ 

C++ F+ 

C-+ F+ 

C-+ F- 

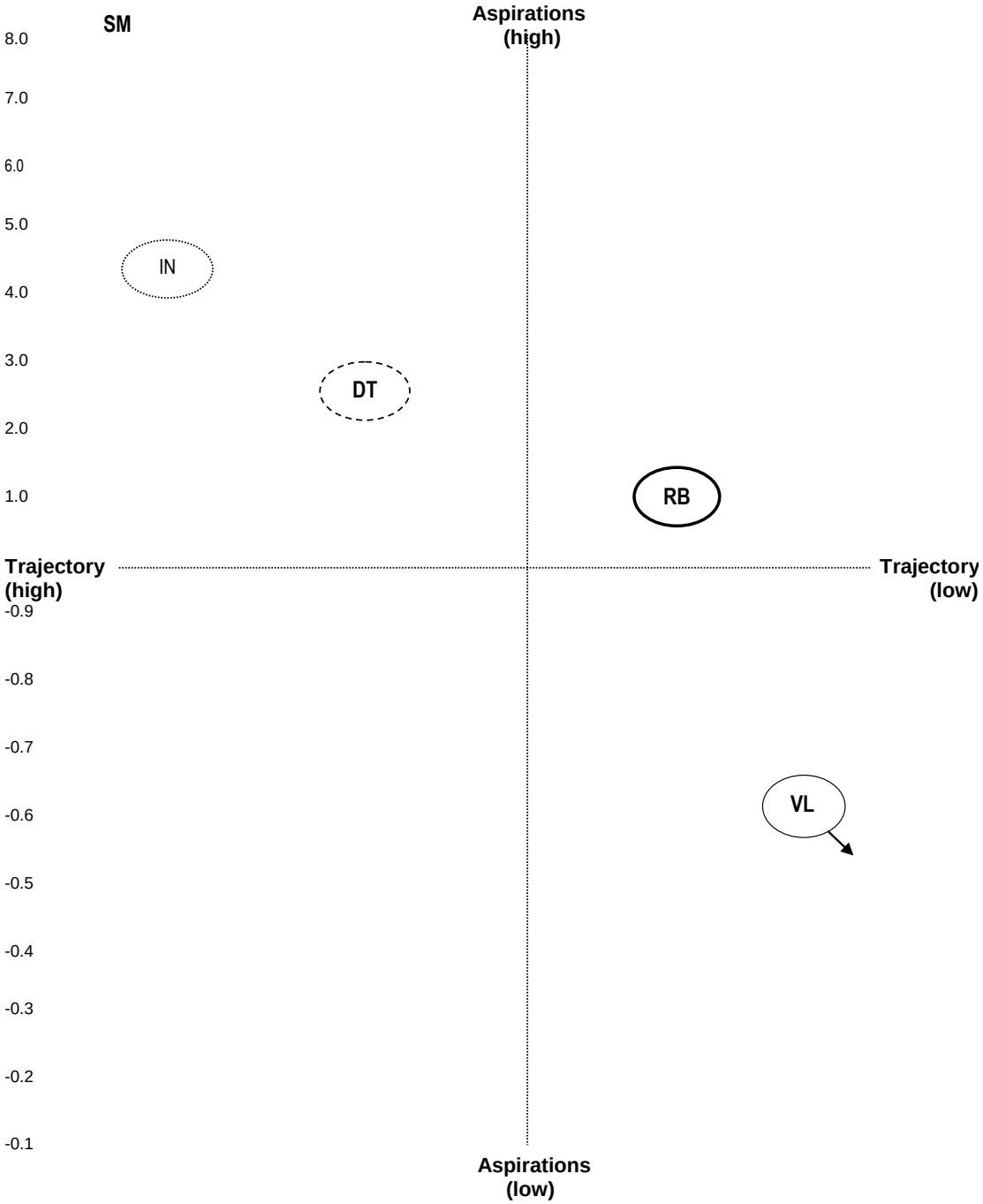
In this graph the vertical direction represents the aspirations level and the horizontal their trajectory. To locate each student in relation to the other's aspirations levels I used the ratio of aspirations that each student possesses. The ratios as a scale appear in the left side of the graph. The highest ratios are at the top of the graph and vice versa. The arrows signify students who dropped their studies out. Student from the *College* or C-+ F+ educational code are not in a circle to reduce the amount of signs the graph contains and thus to facilitate its reading and internalization. The upper-left quadrant of the graph points that the interconnections very high aspirations' levels-flexible schooling's pedagogic codes-high trajectory replicate in student **SM** who studied in the *College* educational code C- F+- that is similar to that of the university.

At the middle of the left quadrant is **IN** who studied in a flexible pedagogic code, had fair aspirations accomplishing very good overall performance. At the bottom of the upper left and right quadrant are other students. One is **DT** who had high aspirations and studied in a semi-flexible rigid educational process and did finish the degree programme. Other type of student is **RB** who had low aspirations, studied in much closed high school pedagogic code and delayed their trajectory lengthy. The other type of student is **VL** who studied in a high school with closed educational process, had very low aspirations levels and dropped studies out.

Summary

After all the foregoing I am able to explain why a student dropped out or advanced in the architecture programme: students who accomplished very good performance held high aspirations levels that were fostered by their previous schools flexible approach, along with her/his family encouragement to read and to study. Students with low verbal

Figure 5.21 Location of students in relation to their aspirations' level and trajectory.



communication who held high aspirations level and number that studied in a similar previous pedagogic process to that of the university accomplishing very good and good trajectory were: **SM** and **DT**. **IN** had better verbal communication than the previous students, studied high school in an educational code similar to that of the university, had high aspirations levels and performed very well. IN's trajectory replicates **SM's** who studied in a *College* or high school with flexible-rigid educational process (C- F-+).

DT high school semi-flexible rigid context (C-+ F+) replicates the above finding. In fact the classification component of that school that is similar to that of the university points out that it builds high aspirations level in students. This drove her to pursue her goal of becoming an architect despite her limited material and symbolic resources. The similarity of the classification component of IN's high school educational codes, the *College* and the CENTRE with that of the UMXS architecture programme in relation to the students' excellent, very good and good overall performance is important to remark. It points out the crucial role that the previous schools educational codes played in the students' success in their tertiary studies. The slow and cut trajectory of the student who was exposed to the C+ F+ pedagogic code of high school called *prepa* corroborates this assertion: **VL** dropped her studies out.

Similar support of my inference was provided by student **RB**. RB studied high school in a pedagogic process with more control on their learning although with much relaxed pace than that of the UMXS that is very different framing component. RB also experienced a much closed classification component in high school to that followed at the UMXS. RB had low aspirations levels and delayed his trajectory. Overall these findings enabled me to respond to my research problem of students' confusion, passive rejections to task and disrupting behaviours in the classroom: these are more frequent and acute in students who studied in educational process different to the one followed at the UMXS architecture programme. In the next chapter I present the students as case studies. I provide more testimonies that led me to define their orientations. I also contrast my analysis with their corroborations or denial to my interpretations of their responses. I will also present their views concerning the evaluation process and their idea of a good architect.

Chapter six

Five 'telling' cases

Introduction

In this chapter I present five participants as case studies. A purpose of this task is to re-think my classification of the students by the interconnection of their high school's educational codes, their orientations, aspirations and performance. First I present the respondents' answers to the main operationalizing questions with my interpretative analysis. I shall analyse further the results presented in the last chapter using the students' corroboration of my interpretation to their responses. During the process I shall point the students' regulative principles (codes) for learning. Then I will draw the categories of students' responses. I shall present a graph derived from students' suggestions to improve the teaching-learning process in the architecture programme. This graph includes suggestions by non-selected participants of what a good architect should be.

Second I shall make succinct the responses to the basic research questions What are the students' cultural capital (competence)? What are the orientations to learning and meaning that the students acquire? What are the students' desires, goals and hopes (aspirations)? What are their grades (performance)? What is the relationship between the concepts these questions contain? Afterwards based upon the data obtained from the last chapter with that arisen in this chapter I will attempt to answer the question: What are the hidden principles (codes or expectations) of learning that the students acquire? Then I will be in the position to answer the question: What categories of students do grasp what codes (expectations or frames of meaning)? Where possible, I will mark the theoretical proposition to which my exposition relates.

I shall also make succinct my answers to the explanatory research questions: Why students are dissatisfied with pedagogic practices of the architecture programme? How a student from low social background interacting within an institution of a society acquires, develops and uses hidden regulative principles? How a student interacting within an architecture programme of a flexible educational system of a traditional society develops certain aspirations? I will develop a chart that represents the structure generating students' codes. In other words I will move from the individual action of a student to interaction between them and the different contexts in which they live. I will provide more students' testimony that led me to infer what the participants tried to hide. As in the previous

chapter I mark in colour the students' sentences and phrases to remark their voices. Those in bold indicate that a participant raised her/his voice.

In chapter five I demonstrated that a student's good overall performance is stimulated or constraint by how similar or different was his or her previous educational process to that of the UMXS architecture programme. There is evidence that the more akin the high school*'s* pedagogic process to that of the architecture programme the better the students' performance. I demonstrated that for a student to accomplish very good performance she or he has to see learning as an idealistic interaction. To put it in other words the student has to have high aspirations levels. In the last section of chapter five I demonstrated that students with a few economic and little cultural capital had high aspirations while those with low aspirations dropped their studies out. I also demonstrated that students with a few economic capital and fair cultural capital have higher aspirations than those with more material resources. These latter students attained very good to excellent performance.

I also put forward that the student with (+) economic capital and (+) cultural capital who had high aspirations performed well: **IN**. **VL** with similar qualities but very low aspirations dropped her studies out. I pointed out that VL was accomplishing very good performance despite her previous pedagogic code was different to that of the architecture programme. My interpretation of her responses in two interviews combined with observations in the classroom led me to infer that her dysfunctional behaviour combined with her annoy for the architecture programme's ambiguous pedagogy interfered with her faint aspiration of becoming an architect. A student different to VL is **DT**. DT studied high school in a similar pedagogic code to that of architecture programme, had very little capital volume, little cultural capital with scarce lexis although had high aspirations that drive her to accomplish a good trajectory.

I also demonstrated that a student with low aspirations had (+) economic capital with (-) cultural capital. This student was **RB** who delayed his trajectory. I demonstrated that a student's low aspiration level coincides with his or her particularistic-instrumental orientations to meaning and learning and difficulties advancing and completing their studies in a flexible-rigid programme. By contrast students with particularistic-idealistic orientations are more eager to finish their higher studies in an educational context C-F+. This is clear for those with high aspirations level. Students with particularistic meanings but with lower aspirations may drop studies out, switch programme or university. In this chapter six I shall corroborate or negate these findings analysing in detail the participants' responses as well as their interpretation of my results summary.

An educational research purpose for using a student's corroboration of my interpretative analysis of her/his responses was to keep the interviewee acquainted with the research and its outcomes (Bayliss, 2007 citing Radnor 1994). I only present three participants' corroborations since the other three who responded to my request are not part of the five selected participants. The limited responses to my brief was generated by the summary I sent to the students, which included her/his repetitive and ungrammatical utterances that might have made the respondent to feel foolish, as some researchers point (Baylis, 2007 citing Riley, 1990, p. 25). Next I present the five cases that represent the main high schools origins and language orientations prevalent in the architecture programme.

Vivian (VL)

I said in chapter five that **VL** had (+) cultural capital, (+-) economic capital with particularistic-instrumental orientations. VL's last quality is important in order to understand her educational trajectory; it points out that she was oriented to herself, to money and to means to approach learning more than to adapt to the pedagogic principle of multidisciplinary work she found in this university. One also has to remember that her high school studies in a closed pedagogic process that transmits subjects isolated from the contexts with its people tends to form students less tolerant to diverse points of view. Let me present VL's responses in detail.

When I asked **VL** Would you like to tell us about your interests, your tastes and your goals? She answered: '*Well here mainly what I want to do is to finish my degree. What I like to do is going out with my friends and with my boyfriend*'. Afterawhile I asked VL Where do you think you would be once you finish your studies? She answered: *"Well, I would like to have something certain before finishing and not to wait until the end for searching', then to continue practising my profession and to follow my personal plans….*". I prompt: 'The uni where you studied has job bursaries'; VL said: '*Yes but in reality that is like to attract the attention since a few work in that, in fact there is a programme The micro-enterprise'.* For the question How do you imagine as an architect? VL said '*To me I would like doing constructions of great magnitude such as hospitals, museums, buildings, housing-dwellings no, that no*' [C+].

VL's answers indicated to me she was more concerned with things than with people. With regard to the similarities and differences between her high school and that of the university VL said '*Well I liked it* [her high school] *because I feel that I learnt and now for instance fellows students that come from, well of V or VI module are seeing things that I already saw in the prepa like form and colour, plans and things like that* '. VL added '*I feel that here they are already a bit more liberal here everyone is responsible*

of their attitudes and of their works and what they do with their life by contrast in the high school not like they have a bit of tolerance with us here they teach us a bit more how to work and not to be looking for a ***mark***' [C-]. These testimonies show that VL understood the university's regulative and instructional pedagogic principles.

After finishing high school **VL** was awarded a Diploma as Technician in Decorative Design that seemed to encourage her to study architecture because '*there aren't spaces to work on decorating*'. However VL also said that '…*in reality err I was never interested on studying architecture*'. I subtly encouraged her to repeat what she had said about her decision of studying architecture as an option to compensate the lack of jobs as Decorative Designer and she said '*Yes, one because I like it, err another because err now I know what I'm going to do that I'm not going to get into other things that do not have to do anything with my career that I know what I am going to study because I know what I'm going to do*' [C++]. Thus, whilst **VL** said she was never interested in studying architecture she said she liked it. The second part of **VL's** answer was so ambiguous it suggested that she was trying to hide something about her decision of enrolling at the university to pursue a professional degree as an architect.

Hence these answers were implicit that is with more particularistic meanings than the previous. **VL** thought that the teaching-learning process in the university was '*Fine because I like the ambience with my fellow students. We all get along together, I think we are compatible so far even when we are of different courses and have different opinions*'. Yet, for VL team work on researching the '*Diffusion of science and technology generated by universities towards different social sectors*' was not easy to develop because some members did not work due to '*a thousand things that they had to do -excuses*' [C+]. Nevertheless VL thought that team works was '*alright because it teaches us to work in a team and also to learn about others' points of views not only to keep one's own point of view and the experiences* { } *that we had and are having with our team yes is useful for us to learn and to improve the situation*' [C-].

VL said she felt in this university '*Ahh I'm fine. What it happens is that I was studying in a university then I already well*'. I prompt: Public University? '*No, it was a private*'. I prompt again: The educational system was similar to..? '*No, nothing to see* [colloquial expression equivalent to 'not at all'] *here it is…there it was like in the high school a lot of work a lot of things and here not here it is more one's responsibility*'. Before enrolling to study architecture VL had studied '*Engineering and Computing Systems*' from which she dropped out. She said that she dropped out '*One because it didn't attract much my attention in reality I didn't know what I wanted to study also my decision of studying*

here architecture I did know what I was going to do'. I requested her to explain what she meant by knowing what to do but she elaborated on her decision of dropping her studies on computing systems.

I interviewed **VL** for the second time in February 2005. VL was in module VI at that time. For the question What do you plan to do once you finish your studies? VL said: '*Professionally? Professionally… sometimes yes, I I am scared many times I feel that women are very much limited in this profession I feel that I am going to finish don't know in an office as a draftswomen or as a house wife because there is not much acceptance to women in architecture but err yes I would like I aspire to be in a construction and all that'*. VL's answer was interesting. First she said that she did not continue her studies on Interiors Decorating because she thought that there were not enough jobs; second she said that similar situation occurs for female architects.

In my experience of more than twenty five years as a practising architect I have seen more female architects proportionally represented than men when they are enrolled for this professional degree. I asked **VL** again her plans for the future with the question: What do you think you are going to do once you finish your studies? Her answer was: '*Mm well before that everything I want to work in what the profession is, I want to be focused on what I'm going to do when I finish and when I finish, well to keep going on that to keep working on architecture*' [C+}. I was not able to find VL for the 3rd interview. Latter on I realised that VL dropped studies out in module VIII after had received an S mark and had failed module VII four times. I tried to contact her by telephone to find out what she was doing at that time but nobody answered on the number I received from the UMXS office records.

It was not hard to perceive in **VL's** testimonies a tendency to divert the conversation or unwillingness to cooperate. A clear example of this was her question '*How buildings?*' that she asked me responding to my question about the type of buildings she was interested in designing. It is worth remembering that **VL** liked to pass shoe catalogues to her classmates. She also used to be late for class and then asked questions to her peers regarding the teaching process interrupting the class and their classmates' attention. These behaviours point out VL's interest on making money, as well as on disrupting the learning process. Bearing in mind that she was not in favour of the 'modular system' these behaviours can also be interpreted as a sign of her loyalty to teachers who disagree with the interdisciplinary process of researching social problems while being sympathetic on teaching 'subjects'.

VL very good performance in six of the seven modules she attended led me to bracket my inference that even when the learning process she was exposed to at high school

was different to that of the university it did not influence her performance in the architecture programme. I also bore in mind that **VL's** average mark in high school is one the highest among all the participants: 8.8. Yet one should remember what Bernstein suggested that a learning processes of the closed type that VL followed in high school, shape students with fewer acceptances to diversity and ambiguity. In other words a closed pedagogic process furnishes in students low aspirations. Thus, it is likely that VL drop out was a result of her low aspirations that outnumbered her high ones.

This **VL's** quality mixed with her tendency to lose her temper led her to take abrupt decisions. **VL** might have got upset due to a poor mark (S) she received. This event combined with her dislike of working within the ambiguity she found in the pedagogic practices of the architecture programme. Thus, VL's uncertain professional goals that were secondary to her private ones, the ambiguity of the architecture programme flexible learning process, mediated by her desire for money with tendency to get upset led her to decide to drop out of the architecture programme. In other words VL's rational way of seeing interactions and challenges built by her high school's closed pedagogic process in interplay with her perceptions of the social system's conventional expectations drove her to change her priorities.

In brief **VL** is a case for which neither Bernstein's nor Bourdieu's theories can account fully for her cut educational trajectory since she had good verbal communication with enough material means to satisfy basic needs. Let me present **DT**, a student with different social and educational background, less verbal elaboration than VL although with better educational trajectory to that of VL.

Diane (DT)

I said in chapter five that **DT** had (-) cultural capital, (-) economic capital with limited lexis that point to particularistic-idealistic orientations DT's average grade in high school was one of the two highest among all the participants: 8.8; the other was VL. Let me go over DT´s responses in detail. When I asked **DT** for the first time Would you like to tell us about your interests, your tastes and your goals? She answered: "*Well err I likee whaaat what is construction of well buildings, of houses…I like seeing the big constructions that there are in Mexico*". For the question What do you plan to do once you finish your studies? **DT** responded '*Well…..to perform well and to help as I say again with the problems that society has*' [C-]. DT was considering to work '*…perhaps in construction for the same that I don't know much about it as I continue studying I will decide it*'.

When I asked **DT** How do you imagine as an architect? she said: ''*Mm mm I think not only to make plans about houses constructions but to help society so that there is a benefit*' [C-]. I prompted about the benefits DT was thinking about and she said '*I think mainly sources of employment thaaat the people who works in construction I don't say only the architects but also the workers who help are err like like society see them like the worst I don't know I think not they are so so great as an architect; they help a lot I would like to generate more jobs to help this people*' [C-]. **DT's** orientations in the first interview were more towards people than to things. DT answered with more universalistic than particularistic meanings.

I interviewed **DT** for the second time on February 2005 in an empty classroom. At that time she was in module VI. For the question What do you plan to do once you finish your studies? DT responded: '*Err I'd like to continue studying*' [C-]. I prompted: 'Any subject in particular?' '*Mm I have not thought about that still but I do want to continue studying'* [C+]. DT said she imagined as an architect '*How do I imagine? Err I think solving community's problems no?*' I asked in what type of buildings? '*From dwellings, schools, buildings*' DT also said she would like to work '*Projecting*', '*from people without resources to try to improve the city but I would like to work in a province*'. Whilst DT's answers showed limited grammar elements, often wrongly used, she was informative, clearly oriented to people and her development.

DT said she felt fine in the UMXS '*Although yes sometimes it is difficult' 'to design, to project', 'sometimes one like err..one gives an idea and one thinks that it's alright and latter one arrives to the teacher and starts to say things that well that if there are changes that one has to do, but there are times that one cannot get away with that*' [C+]. DT said that she liked classes where '*they talked us about the sensibility one has to have to transmit architecture to who dwells in it*'. After several prompts regarding design process and questions from DT she elaborated saying '*What it has attracted more my attention is when we start to project that err that for example mm how can I say that we start to see the analogous building, latter we do the architectonic program, latter it comes the sudden exam and then it comes what is the process to finish the project err I think that this last part is what I like more because you realise how hard is to project and the aid that teachers give you*''.

DT disagreed with some Design teachers' way of reviewing the project because '*The teacher said "I want you to do this and this is what is going to be done" when we present new ideas he like said "no"* [in terms of what?] *design* [the form, function and everything?] *uhu of everything no? That I didn't like it because instead that one well one oneself starts to have ideas, the teacher got closer and did not allow to*'. DT was

not completely pleased with some evaluations she received. In module V she was given B for what she said that '*the teacher* [Design professor CR/f/40s] *did not arrive to give to us the evaluation, when I saw that the grading list were given they had already the marks but I think that the marks that I had in the other supports they were not for getting B I could have got MB*' [C-].

I asked her how she had felt with that mark. **DT** said: '*As I say the way the teacher marked the others I feel that….that err I deserved MB…I was upset*'. By contrast DT accepted that the S she was given in module IV was '*Alright. I did not know anything it was like starting from the beginning*'. DT talked again about the difficulties of convincing the Design teachers to accept her design ideas. I interviewed **DT** for the third time in January 2007. DT was in module VIII, the second module we worked together in Representation and Design. Her answers of the third interview tend to be more bound by the meso-context than those of the previous interviews. I decided to set her orientations as particularistic-idealistic or C+ F-. DT was one of the three students with less verbal fluency. Whilst this characteristic of her could suggest that she would not finish her studies she managed to finish them.

DT's particularistic responses in the second and third interview suggest that she had learned the architecture programme staff's dysfunctional principle of hiding one's ideas. Her ambiguous verbal communication also means that she was trying to protect herself from a possible transmission of her information to other teachers who could be unsympathetic of her points of view and thus fail her or put her under pressure. Even when I stressed at the beginning of the interview that everything she wanted to say was confidential and if she wished I would not record the interview, she was not confident about me. I also said to her that she should feel free to criticise me as her teacher, for what I assured her that I will accept it thoughtfully. DT smiled slightly while she was nodding.

DT's responded in the third interview that besides knowledge she learnt in the architecture programme '*responsibility because you have to learn to…too...hand the works in at the time they are asked that you have to leave other things for being hereee to hand the assignments in for all that*'. I encouraged her to continue talking about it for what she said: '*Mm…that you must be honest with yourself no*?' I prompted: 'How is this?' '*For example that there are times that one isss seeing things that one does not believe that one did not push to have them…mmm tolerance* [C-]. I said 'Tolerance? Towards? How?' *For instance when you are doing works with your fellows students no?*'

DT was about to move in to the rural town she was born in Central Mexico when I requested her to read my summary of her responses. DT had stepped into my office to request me to include her in a research team as part of her social service when I took the opportunity to ask her how she felt now that she had finished her studies in architecture. She said '*fine*' but suddenly she added '*although I think I mistaken the profession*'. The presence of other classmates and the seriousness of her comment took me by surprise and did not follow her comment. A few days later I e-mailed her the summary. The following lines are her text; the final line is a motto she attaches to her messages. The categories I found in the sentences or phrases appear in brackets. After these I set the reasons for my choice of the categories.

Hello, thanks for send it to me but I could not open it because it seems that is in a much actual version and I have 2004, [C-] *if you can send it in that version I would appreciate it...* [C-] *You be well!*

"*All passions are good when one masters them, and all are bad when they slave us*". [C+-]

I received the following after I sent her the file in the version she requested:

Date: Fri, 16 May 2008 16:18:09 -0500

Hello, thank you very much for send it to me.

Well I read it already and I am in agreement with all I only want to mention something that in some phrases [C+] *like it is a bit bad the writing,* [C+-] *that would be all.*

Thanks and that you are well.

As with the other respondents to who I sent my summary **DT** agreed with my interpretations of her orientations and aspirations. In her first answer DT was succinct whilst in the second she was vague. Whilst in her second e-mail she attempted to criticise my summary's syntaxes she did not point out which sentences were 'bad writing' and which ones were deficiently structured. This could be considered a contradictory assessment of DT as if the brief was badly structured, the meaning of the intent message may be other or different as to what the sender intended and to what DT interpreted. Thus why was she in agreement with it? Bearing in mind DT's competence to design it is possible that she understood my message. She was not clear in her criticism due to the main principle that operated in the architecture programme: the **deferential code**.

This tacit norm still restricted her to criticise openly a colleague who is older than her and was her teacher. I draw this interpretation recalling that **DT** changed her analysis of architectural styles because it did not please the coordinator and Design teacher. Thus, in anticipation, I can respond to one of the research questions by telling that a

student with (-) cultural and economic capital, particularistic-idealistic orientations, with more high than low aspirations accepts the hierarchical-deferential code in order to pass the module. As **DT** said, and I corroborated with the university records, she was near to be excluded from the university. With the passing of time DT understood and accepted the deferential code when it was necessary to avoid the violence of being failed. DT's high aspirations mediated between her disappointments of being failed a course and the decision of dropping out.

DT's case strongly suggests that high aspirations in combination with an understanding of the prevalent codes within the context act as controllers of emotions such as anger, sadness, depression and/or anxiety. These states otherwise may have forced her to drop studies out –as **VL** did. **DT's** accomplishment challenges Bourdieu's argument that students in disadvantaged social positioning drop studies out because the university with the social system devalue their aspirations of becoming a qualified professional. On the other hand, DT's delayed trajectory supports Bourdieu's contention that universities ignore students' social background and cut their trajectories. If one observes DT's trajectory in the architecture programme (chapter 5: 176) one can see that she repeated a module several times. Therefore how did **DT** manage to advance in the architecture programme if she had little capital volume with limited grammar elements? DT replicates Chombart de Lauwe's suggestions that inherent qualities of a person drive her/him to act in accordance with her/his goals and hopes. Next I present acquirer **IN** who studied in private schools.

Ines (IN)

I said in chapter five that **IN** had (+) capital volume relative to all of the participants (but MP). I also said that **IN's** conversations were mostly explicit, bound to the three main contexts; she was more oriented to particularistic-idealistic meanings and learning than other orientations. Let me present IN's responses in detail. IN was attending a class in module I when I requested her teacher to allow me to talk to her briefly. I said to IN that when she had time I would like to interview her for my research on education. She said that she would like it too, she went back to her classroom and came back to be interviewed. We talked in an empty classroom. When I asked **IN** Would you like to tell us about your interests, your tastes and your goals? she answered: '*Well, my idea was to study psychology but for something strange I got into architecture* [laugh] *err well I don't know here I am due to things of life because I even didn't study the subjects that I should take. I did the exam and I stood so I think this way is my path* [laugh]. *I was told to get into area one I liked fashion design and somehow I related it and since I wanted to study interiors design to know the spaces because is something creative and I think that architecture is something a way of casting the ideas that one's has and as in*

interiors design one has to study the space and it has to do with everything to latter decorate'.

For the question How do you imagine as an architect? **IN** said: '*Err well I don't know I want to learn all what I can and what can be done* [laugh]'. In her answer IN shows again tendency to co-operate that points to less macro-context bound meaning. I interviewed **IN** for the second time in the gardens of the architecture programme's building. It was January 2005 when IN was in module VI. For the question What do you plan to do once you finish your studies? IN said: '*My Mom wants me to design her house, that I* [have] *it built but I really doubt it* [laugh] *because finishing the degree programme I want to travel, to work for a while, to do something and then to get away at least a month to travel and later I shall see if I do it or I don't*'.

IN also said that she was planning to join the firm of '*architect Juan Sordo Magdaleno* [m/60s] *in the area of interiors design… but I don't know if it can be done…as an architect*'. I identified again **IN** with particularistic-idealistic orientations to meaning and learning showing a range of possibilities. Whilst she was bound to her contexts, she was informative, oriented to cooperation [C- F-]. This verbal elaboration would predict a successful educational trajectory from a Bernsteinian perspective. IN was looking for a job when I contacted her on the telephone to request her to critique my summary regarding her answers. We agreed to exchange correspondence by e-mail. The following are her e-mails:

14 April 2008 22:29

Hello Professor:

Apologies for answering to you until now but I was a bit busy, but well, I have given me the time to read the document and it seems everything all right. [C+] *I thank you that you had given me the opportunity to express and to remember that different stages in that you interviewed me.* [C-] *I would only like to make a comment: The thing is that the comment about the design and comfort of architecture's* [programme] *building, don't like it really I don't remember* [C-] *the way I said it but I found it lacking comfort and design.* [C -+].

I would like to see the final version of this document. Thank you very much.

Regards

Ines

Whilst **IN** said '*the document*' '*seems everything all right*' she rephrased her response concerning the classroom and building's design from '*it's pleasant its form…different*

from the others here' to '*I find it lack of comfort and design*'. It is likely that IN modified her response due to my summary that implied she had given a non-explicit description regarding the building's design, for instance its lack of comfort. Thus IN's utterances changed from a criterion of abstract designing to that of comfort that implies users' use of space. Since the concept comfort links other such as user's body and rooms temperatures, or concepts of a lower order, is less ambiguous than 'pleasant'. Yet she used the word '*design'* in a vague manner. This is why I assigned a C-+ category to her last answer.

The above **IN's** response represents the pattern I found in her answers that, on one hand, were little focused on persons, while on the other, showed her concern about authority and her career related to contemporary change. While IN's corroboration showed different degree of explicitness her sentences were informative. Her answers also show interest with different subjects. I inferred her concern with authority when she adjusted her answer to my area of research as I am considered in the architecture programme community to be an advocate of passive design. Before closing her corroboration IN requested to see '*the final version of the document*'. This request means that she was concerned with her third interview answers about her disappointment with her design teacher.

Notice that **IN** did not comment regarding the concepts that describe her orientations. She also did not mention anything concerning my point that her level of aspirations played an important role in her accomplishments despite that she had as a priority interior design. IN's search for a job supports my suggestion that she tends to be realistic while her goals are high. IN's orientations as particularistic-idealistic remain. Nowadays **IN** and her partner EaS are practising together. In 2012 I ran into IN and EaS in a Bank of a small town in Central Mexico. They told me they had moved to this town, where they had started their independent practice designing houses. That is IN was fulfilling her aspiration of being independent.

Before closing up **IN's** case it is worth comparing her qualities against that of **VL** who was in similar social positioning although the latter had less explicit language with very low aspirations. A meaningful difference between them is VL's instrumental orientations to learning and that she dropped out of studies. These similarities and differences coincide with the fact that VL studied high school in a closed pedagogic process whilst IN in a much flexible one. I move now to present **RB**, a student who studied high school in a much closed pedagogic process to that of **IN** and a bit more to that of **DT** and **VL**.

Ray (RB)

I said in the last chapter that **RB** had cultural capital (-) with economic capital (+) that results in capital volume high: CV (+). RB's social positioning was higher in relation to most of the other participants but **IN**. RB's high school's curriculum and norms was a much closed educational process or C++ F+. I also said that RB is a case that replicates Bernstein's suggestions that students with limited verbal communications would struggle to advance in a pedagogic process of the integrated type. Let me go over RB's information. It was June, 2003 when I interviewed him for the first time in one of the university campus gardens. RB was in module I at that time. For the question Would you like to tell us about your interests, your tastes and your goals? he answered: '*Sure yes I'm a new member of the school err …I'm going for the architecture course anddd…I don't* ***know*** *I hope that it is pleasant our stance here and a lot of knowledge about it*' [C+].

I prompted: would you like to tell us about your experiences here in the university? **RB** continued: '*They have been good the first module has been quite good trying to be mmm better investigator, trying of err to find better methods for teaching and err and that is! Trying to focus a bit more in the degree*' [C-]. RB thought that researching as a part of his learning was '*a new method that has just been recently inaugurated in the university a new method of of teaching and learning that in the first module where they teach us to try to be better investigators for latter to focus on the degree*'. RB also liked '*selling different products*' and driving his car to get to the university. RB had worked as electrician assistant '*more than anything else to know seeing how it was inside the works*'.

With regard to his previous schools **RB** said: '*Err primary, secondary and high school* ***public*** *err name of the schools err* [he recalled three schools names]. RB said that the teaching at high school level was '*very good, had very good teachers who studied in UAM, UNAM several institutions*'. He also said that '*At the prepa was a technical degree focused on design and construction*'. Regarding his primary, secondary and high school's pedagogic process RB said '*Um, the three are governed by the SEP* [acronym for Ministry of Education] *they carry a schooling system and very different to this university withhh fixed times, exams already defined to certain time and with people that as inspectors that is you are not not not free as with the liberty that you are here in the* [university]' [C-].

I prompted: There were not students' presentations?' RB said: '*There were no expositions there were no conferences there were not round tables where we could analyse there were not that style of system*'. RB's comments reinforced my analysis of

his high school's curriculum and norms that I defined as much closed educational process or C++ F+ in Bernstein's signs. For the question How do you imagine as an architect? **RB** said: '*I imagine aaa very very practical architect very disciplined and with with facility of of of having people by my side and and to try to be the best to try of of of….having a very good project and finish it and and to keep going*' [C+]. For the question What do you plan to do once you finish your studies? **RB** said: '*To start to work, to start from from from I foresee to start to work well before I finish my degree and focus to my degree with architects I have various proposals of various friends that are architects whose fathers are architects that help us to start to focus on the degree to start on works although they are not economically well paid or or I don't know but the teaching that give you is very valuable*'.

These testimonies are examples of **RB's** awkward language that is particularistic-instrumental meanings (C+ F+) or bound by his micro and macro contexts. RB showed a limited range of possibilities; he was little informative, while oriented to contemporary change with a focus on his career (knowledge as money). This verbal elaboration would predict a struggling educational trajectory. It was October 2005 when I interviewed RB for the second time. He was in module V which represented a delay of one trimester. He said he had been absent from the university because his family had some problems due to an accident of his brother. For the question How do you imagine as an architect? RB answered: '*I think I still have a lot to learn but* [C-]*..I feel that I carry very good basis of the degree of the university and I hope to follow my path as it must be as I have planned and I hope that in the future…not only these knowledge that I obtained in the course not only staying like that but that I have opportunities to realise construction works I have as every architect has always wanted to have his own style and to develop it and to be recognized worldwide* [C+] *and to help* [C-] *and to obtain the needs* ***as really it is for this that we are no****? to to develop the needs of the others* [C++] *within our concepts our ideas*'.

Immediately after I asked **RB** What do you plan to do once you finish your studies? RB said: '*I think after in actuality not only we stay up to the university I think there is still remains a lot for learning and studying* [C-] *I think that after the university I have to specialise on something more concrete of what I want* [C+] *and keep going, keep learning, visiting, traveling,* [C-] *search some job in which I can develop as an architect and to start to build, that is what I really like most, what I want to do no?*' [C+]. In these testimonies I still found context-bound responses influenced by the meso and macro context mixed with less bound responses, more open to possibilities than in the first interview. In the third interview RB's answers were four times more oriented to particularistic than to

universalistic meanings; three of these were strongly bound by his contexts [C+ F+ meanings].

RB's cumbersome speaking with limited grammar elements coincide with his low aspirations that were more than his high ones. RB finished his tertiary studies in five more terms than the minimum established officially. This strongly suggests that besides his limited verbal communication, the learning pace set in the university, that was faster than what he experienced at high school, limited him to understand issues. RB was the student with the less lexis of all the students along with **DT** (and GA). These acquirers' qualities coincide with the fact that DT struggled to advance in the architecture degree programme (and GA dropped out). Yet, DT who studied in high school with weaker pedagogic code had more high than low aspirations and managed to finish the degree programme. I turn now to present student **SM** who studied high school in a more flexible process than that of which RB was exposed to in high school.

Samuel (SM)

I said in chapter five that SM had cultural capital (-) with economic capital (-). SM's average grading in high school was above the mean: 8.1. **SM's** responses were more oriented to particularistic-idealistic learning and meaning than universalistic-idealistic or instrumental. These qualities changed as he experienced the architecture programme pedagogic practices; they were mainly implicit, tending to be more bound to the meso-context. Let me present SM's responses in detail. It was January 2003 when I talked with **SM** for the first time in an empty classroom. When I asked him Would you like to tell us about your interests, your tastes and your goals? he answered: '*I have just enrolled in this university to the first semester err I chose to study architecture because I like to make models I have a new idea to make new creations about new structures err either err bridges, hospitals, to make a **new** structure that is to be creative*' [C-].

SM said that he had enrolled in this university because '*Err it stays quite close to me apart from this it has a new model, a model that is since 1973 I have understood, that is very good it makes us to be critics besides of being critics it carries a system that in the first three trimesters they don't base their program but to study society and that is what attracted my attention*'. These SM's answers' meanings were more universalistic-idealistic than particularistic [C-]. With regard to his previous schools' teaching approach **SM** said was '*the conventional*'. With regard to the similarities and differences between his high school and that of the UMXSy SM said that '*Err the difference is that for example the traditional system implants You what You* [SM used the pronoun 'Usted' which is a formal way to address to a person] *have to know they say 'You know what..' they set and index and this is what we have to know and and*

they give us readings and there it is already solved then they implant us a way of knowing and here really they give us readings but here they opennn to us aaa they give us they make us to have an idea that not all what this book says is certain and that we have the possibility of getting to investigate other book and get in and say 'You know this is not certain' 'Why?' Because this is this and this, and to have a critical point thing that in in well in the sessions of the traditional system ***no*** *because one stay with that book*' [C-].

When I asked **SM** How do you imagine as an architect? he said: '*Well in fact since little* (sic) *when I was six years old I had notion that I was going to be either an architect or a civil engineer because I have made bridges that is what attracted my attention err since then I showed an interest on making models and apart from this also a great interest for mathematics'*. In all responses above SM showed a range of possibilities and interests; whilst his speech was neither fluent nor rich SM was informative and his meanings were little bound to his contexts [C-]. **SM** said that in this university he felt '*Reallyy…I feel at the same time satisfied and at the same time not becauseee there are sometimes themes that I would like to approach very deep but there are sometimes that it is not possible for the question of time then well I think that* [C-] *errr ….errr to this degree there should cover a bit more of time at least five years to start,* [C-] *apart from that I feel that the system of social evaluation that we are working now should be seen at the end of the degree becausee is very good it seems to me very good*' [C+].

In the above response although **SM** did not finish his last ambiguous suggestion, he was again informative as well as heuristic. Even when SM was beginning module I he already had insight of how hard it was to learn by means of a multidisciplinary approach. When I asked SM *What do you plan to do once you finish your studies?* he answered '*Well my objectivee is not to err really to finish that is to form a system of work butt….* [C+] *to get deeplyyy my specialty I don't think to stay only with a bachelors' degree I think to keep going to get a diploma in mathematics, physics err if it is possible to get a Masters depending on my possibilities or if it is possible to get a Doctorate*' [C-]. This **SM's** response that shows his interest to pursue post-graduate studies while he bore in mind his limited resources, also shows his orientations were not bound by his contexts.

I interviewed **SM** for the second time in January 2005. At that time he was in module VI. SM was advancing very well that is on time and with excellent marks. For the question What do you plan to do once you finish your studies? SM said: '*Well I think to continue studying a Masters, a Masters and if it is possible perhaps also something more*'. Then I asked him: In what do you plan to work once you finish your studies? SM

answered: '*Errr don't know I think that with respect to time and depending on my performance and seeing my peers' performance it better I would like to make a construction firm between* [C+] *various school fellows, I like very much more than anything else to* ***design*** *the err the the to design in accordance with the needs of err the the user*' [C-]. **SM** said that in the architecture programme he felt '*Well fine, calm, is a degree that as it is said since the beginning is a full-time course there are days on which we have much free time and other days that definitely are very…very hard*'.

SM suggested that to improve teaching in the architecture programme the time duration should be extended '*I say that to make a little bit longer the trimesters for example August vacations are very long they are almost two months so I say that it could be taken out a month and distributed to the trimesters* [C-] *for the same that in a trimester it cannot be seen all a whole complete project in fact what the teachers do is to send us to recuperation to finish the work in the vacations period for the same that it does not suffice the time*'. I asked **SM** how he imagined as an architect and he said: *'Err well I imagine as an architect err to be self-critical, err reasonable in a construction andd…I like to think about what the needs are and not…go for the simple that is...a simple architecture without… without so much rhythm without so much movement something more abs abst abstract'.* I requested SM to define reasonable architecture and he found difficulties to recall his ideas for which he finally said: *'something that is human that satisfies the needs of who is living to a hundred percent'.*

I interviewed **SM** for the third time on February 2007 when he was in module XII –the last module of the course. SM finished his tertiary studies in accordance with the minimum time duration officially established. SM's marks in the university were much better than his average marks of the high school. SM was already an architect at the time when he was going to meet me to talk about my summary but '*a rain storm*' stopped him -and I- to comply with the appointment. At that time SM was working for a construction company located in Mexico City. I e-mailed him to suggest him to e-mail me back his comments. The following are his e-mails.

2 May 2008 01:26

Hello good afternoon Arch. Pantoja, I hope you are marvelous [C+]*, look today I showed up for the meeting that we had for the interview, but I did not see you, perhaps due to the rain, well we're in touch,* [C-] *and I send you a warm regard.*[C+] *bye.*

5 May 2008 23:25:04

Hello Arch. Pantoja, I hope you are very well, Excuse me I had not had time to go over your messages, [C-] *look we better do the* following, tell me some day *of next week to*

do the interview, I presume it will be in the university, only that I can't on Wednesday as I have a meeting at work, we are in touch [C-].

I send you a warm greeting. [C+] *Thanks*.

6 May 2008 00:59

Hello Arch. Pantoja, it seems to me more suitable this Thursday at 6.30, [C-] *I presume it will be in the University* [C-] *just confirm to me the place please,* [C-] *We are in touch,* [C-] *regards.*

I send you a warm greeting, [C+] *bye.*

In the 02-05-08 response **SM** used the adjective '*marvellous'* which has been introduced by American t. v. series into the Mexican context in everyday conversation. Then SM said '*we're in touch*' which suggest he is open to cooperate while implicitly apologises for having not presented to the appointment. He closed his message using an official form [C+]. In the 05-05-08 response SM was informative, proposing actions, requesting clear directions [C-]. In this 05-05-08 response, with orthographical mistakes (not in cursive), SM shared experiences [C-] while closed with a sense of respect for me as an authority [C+]. In his last e-mail SM was clear and explicit whilst still respectful. Unfortunately SM did not let me know his views concerning my summary. This would have been interesting since he was one of the students who grasped the purpose of this university's pedagogic principle of working with real problems –one of his highest aspirations.

I perceived that **SM** agreed to meet me because he wanted to discuss my summary, but at the moment of the appointment he decided to withdraw. In my view he was constraint by the **hierarchical code** that repressed him of expressing freely. Nevertheless, I can say that since SM was working, that was one of his plans for his future, indicates that he was following his goals in a realistic manner that is, conscious of the hurdles that his limited material and symbolic resources set upon his highest aspirations of designing beautiful buildings. Thus the particularistic-idealistic orientations I discovered in SM while interacting within the educational context of this flexible–rigid architectural programme remain. SM is a case who clearly challenges Bourdieu's and Bernstein's arguments that socially disadvantaged students struggle to advance in a school with flexible educational process due the hidden pedagogy since he accomplished a very good trajectory in the architecture programme.

Before closing up **SM** case it is worthwhile to compare it against **RB**. While SM was in lower social positioning to that of RB's SM advanced much better in the architecture programme. This coincides with the fact that SM studied high school in a more similar

pedagogic process to that of the architecture programme than where RB studied. SM's better trajectory also coincides with his less ambiguous language that conveyed more idealistic meanings to learning than RB's. In fact SM's initial language orientations indicated tendency to universalistic meanings. During the process of relating the students' qualities as factors that influence their actions in the classroom, I continued searching their regulative principles (codes) for learning. All the information and processes presented gave me insight of students' codes for interaction and learning.

That is I am in the position to describe a structure, or a system of rules and resources in each one of the students that they use to learn in a flexible-rigid pedagogic process. In order to understand the codes I found it is basic to remember that the architecture programme as the meso-context of this research is inserted within a restrictive macro-context. That is the participants' socialization out of the classroom conveys the exchange of perceptions concerning the term development such as other teachers' pedagogy with hidden rules as well as the unappealing expectations their country provide to them. In short the five selected students' codes are one and at the same time the result of their other fellows' students' realisation of the hidden principles transmitted in the classroom in interconnection with their nation dominant cultural principles.

Notice that once one has found the students' codes one should relate them to their aspirations levels to be able to find a student's maxims[29] that would provide further explanations as to why some students dropped studies; others delayed their trajectory and/or accomplished a very good one. The task of finding a student's maxim is out of the scope of this thesis. In the following sections I make explicit the responses to my explanatory research questions;

What are the hidden principles (codes) of learning that the students acquire?

Due to her humble social background including her high school's closed pedagogic code **DT** had to adapt to the open social interactions of the architecture programme. This interacting process drove DT to carry a mobile phone even when she had scarce material means to satisfy basic needs. Since **DT** did not have boyfriend or an intimate friend she responded to her biological libido by attaching to the sociological libido which looks for getting possessions. A part of this interacting process that develops within students is

[29] I suggest this following Kant's second proposition for finding a human's principle for action (1785: 26). Marcuse, following Freud and inspired by Hegel among others, set this principle in clearer way telling that a human becomes a human being only by transforming her/his "instinctive aspirations" and "values" from the principle of pleasure to the principle of reality. Following the principle of reality a human being develops the function of "the reason: learning to prove reality, to distinguish between good and bad, truth and false, useful and pernicious" (1953: 27-29).

becoming a code set by students themselves. Its main tacit motto is 'join us against teachers'. The type of teacher students are against is the unpunctual, non-committed, authoritarian and intolerant –as **DT**, **IN** and **SM** mentioned to have had in the architecture programme.

In other words to adapt to a social setting is for the purpose of adhering to an identity through similar behavior and personality. It is facilitated by the flexibility of the discourse's expressive order, as well as the pedagogic practices' diversity of codes that produces concerns in them. This adaptation also stems from teachers' need of selecting and controlling the students. When a student perceives that a teacher tells off or fail certain student, he/she modifies their actions to prevent the selection. DT followed the **deferential code**. I realised this code in her in Design sessions. When she was presenting to the class a 'post-modernist architect's work she said '*his buildings have irregular and/or curved forms and they function*' but she realised the coordinator looked slightly altered, to which she changed her words to '*and they did not work well!*'

By contrast **DT** did not follow the **dysfunctional code** or that of not to collaborate with the learning process by disrupting team work. I also inferred **SM's** rejection to the dysfunctional code in his criticism towards unpunctual and disorganised teachers. He proved to act in accordance to his principle by using the free time the project revisions provided him to finish his social service as well as the degree on time. I inferred **IN** non-acceptance of the dysfunctional code in her interpretation of the university flexible approach to learn that '...*make us like always try to find and not to depend on the teachers to get new knowledge..*'. **VL** did manifest the dysfunctional code in the classroom. She exhibited it by getting late often, talking to fellow students to persuade them to join her on criticising classroom activities.

VL used her good verbal communication to express to her peers her disagreement with the pedagogic process of Technologies that followed the principle of interdisciplinary work centred on the students. This action of her also manifested her acceptance of the **delaying code** i.e. avoiding or rejecting the integration of knowledge through multidisciplinary work. Whilst VL studied high school in a collection educational code type, she understood the disagreements within the staff concerning the multi-disciplinary, flexible pedagogic approach usefulness. She took upon herself the opposition to this principle by disrupting the Design classes in the classroom.

VL's behaviour suggested that she was also following the notion of 'obtain a reward without effort'. Within the macro-context of this research this notion has become a goal to pursue that I call the 'immediate satisfaction'. I also drew this interpretation from **VL's** contradiction of becoming '*a house-wife or a draftswoman*'. VL's former comment

rather than a worry about her future expressed as '*I fear that* [...]' was a projection of her intimate interests. In Mexico these types of orientation is still common in some men and women who prefer to get married, set the woman to be on charge of house duties and receive money from their husbands than to pursue a professional degree. Yet, VL's decision of dropping studies was mediated by emotions such as annoy that was perceptible during the interviews.

It is also possible that VL's tendency to become a house-wife was generated by religious precepts. In some strata of Mexican society the saying 'to get married is for betterment' still applies both to men and to women. For women living in small cities and towns, marriage is still foreseen as a must for their future, even if they are in favourable social position and/or allowed to pursue professional studies. I include now other characteristics of architectural profession, as well as of Mexican culture that are in the process of becoming codes. From the former source one discovers the "professional illness"[30] in responses such as '*to put an advertisement to offer advices on decoration'* as well as '*…if they accept me*'. These responses implied that the students were not certain of having the capability of performing well either in a job interview and/or in the job itself.

Students gradually absorbed the notion that as architects would face difficulties to find a job, to express them and to reach fulfilment. This is a situation that sociologist Gutman described and architect Lewis intuit (Ch. 2: 3) about architectural practice with its limited rewards. This stems from the **historical code** that appeared centuries ago. I hinted it in Chapter two following Historian Perez-Gomez research on architecture and science. This historical code in ancient time orientated architects towards a patron whilst in contemporary times guides them to jobs disguised as unemployment. The historical code is powerful since it is engraved in people's skin, tissue, organs and actions that generate other codes. It is like an orchard that produces the same fruits with the same taste through centuries –until the land is exhausted.

Among generated codes the **hierarchical** and the **authoritarian code** are interesting. Both the hierarchical and the authoritarian codes are based on tradition; they encode the frequently told phrase 'it has always been like that' (Boudon and Bourricaud, 1982: 38). Within the architectural context, the hierarchical and the authoritative codes are the generators and have been generated by this profession's illness. Nowadays this illness of the profession is internalized by the students from teachers' comments that there is scarcity of jobs in the market, that design and construction companies accept generally students from private universities. Whilst teacher's comments about the possibilities of

[30] In setting these codes I have directed my empirical findings to Adorno's idea of the groups' "professional illness" that, being dependent or economically weak, manifest in their "jargon" an "aspiration" to reach "the spirit which according to society's division of labour is their realm of activity" (1964: 18).

students insertion in the professional and social field depend on the country's economy cycles which is interdependent with the world's economy to some extent is right, a teacher who express so misses making explicit to students two points.

First, the educational process students follow at the UMXS precisely tries to enable them to address problems like that by working in teams with multidisciplinary views. Second the problem of a student's insertion in the professional and social field is not because of students are not competent but because of a social division of labour that concentrates in a few people the means of producing well-being and creates jobs as disguised unemployment. This last issue is interesting because in the architecture programme the modifications to the pedagogic discourse are generally based upon the notion that 'students should be prepared to access to the jobs they will find outside the university'. This notion is a contradiction.

First if there is a scarcity of jobs one should not prepare students for those jobs. Second instead of teaching students by listening, taking notes and answer exams, teachers of the architecture programme should prepare students to address the problems that as professionals will have to face. A chief problem a student will face as a practicing architect is to communicate clearly with persons from different educational levels and backgrounds along with professionals from other fields. Besides, whilst a teacher's comments of the above type might have the intention of raising student's awareness, it may not apply to every student. Yet since a teacher's image is relevant for students, her/his voice carries a powerful message. Teachers' comments about architectural practice's uncertainties disorients a student that in his/her speak appears as '*if they accept me without experience*' or '*if I'm not well feedback*'.

In the architecture programme there are teachers that frequently mention as strategy to avoid the perils of architectural practise to change of degree programme. Instead of this ambiguous suggestion teachers ought to suggest to students searching for a profession that will fulfil her/his hope of self-expression for creativeness. These types of teachers ought to enable students to identify that profession or job. That is the »insertion socio-professionnelle des jeunes» is a multi-level complex process not privative of architectural practise but of many professions as studies point out (Allard and Ouellette, 1995 http://www.carrierologie.uqam.ca/index.html). In other words it is right that "there is no way out of the game" (Bourdieu, 1984a: 166-167; 1997). It is also right what a student said that some teachers fear that students become '*future competitors*'.

Thus, a number of tacit principles in the architecture programme has as a referent Mexico's bureaucratic class of this era whose own referent is Mexico's political regime of the near past called "Mexico's Second Empire" (Duncan, 1998: 250). The niche this

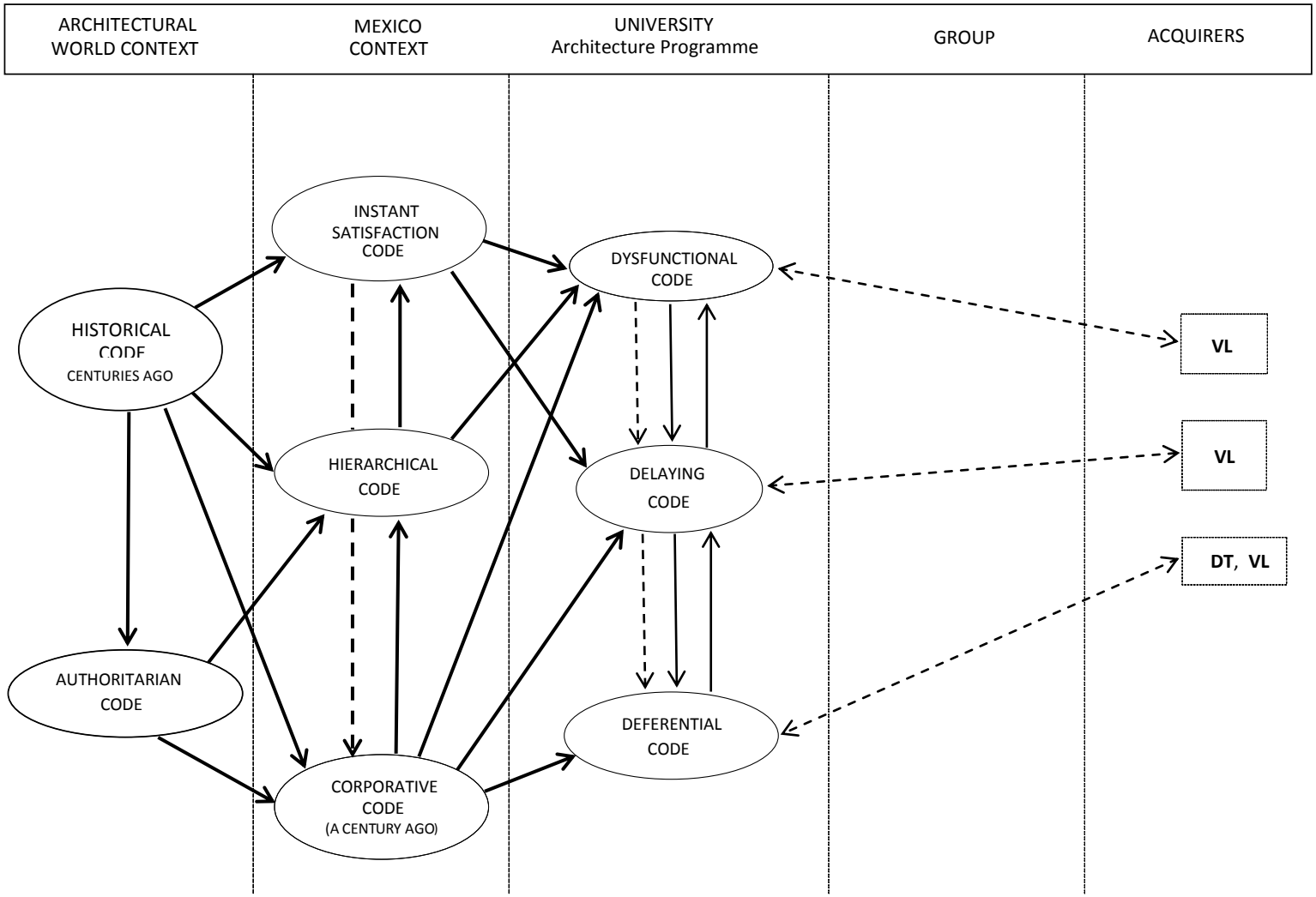
regime carved for Mexico's opinionated class is still dwell by its contemporaries. The contemporaries' embodied actions approach solutions to its problems beginning with ambiguous statements like 'to the lack of jobs we will create more jobs'. They also herald limited strategies like 'to our scarcity of food staples we will import them'. For this Mexico's group, solutions to the country's problems can be found by looking for overseas advices and support without even attempted to understand deeply and broadly problems like the lack of jobs for graduated students.

During these process, and in order to get political and financial support, this Mexico's class accords and permits labour and commercial transactions out of norms; this is the hierarchical code in the form of the authoritarian code -not the authoritative- generating the dysfunctional code. Thus, this dysfunctional code stems from the **corporative code**. This is the principle of a state infrastructural power which is capable to permeate social life, to radiate out from the centre and penetrate society, most prominently administration, education, and the means of transportation and communication. In other words this type of State is grounded in elite interest that employ "logistical techniques," and in social networks (vom Hau, 2007: 2 citing Mann, 1984, 1993).

The corporative code is full of symbols, rituals and codes. In Mexico the corporative principle was publicised in the administration of former president V. Fox (2000-2006) using his notion that every Mexican could have her/his own shop or a small firm as his government would channel funds for that purpose (Ornelas, 2001: 115 citing *La Jornada*, February 20th, 2001:16; Garcia and Tapia, 2006: 192). The codes I found can be seen in figure 6.1 that represents its connection forming what can be considered the generative structure of them. I represent this structure in relation to the contexts that enclose students' embodied actions: the macro, meso and micro contexts. I set these in the long box at the top of the chart. I represent the micro context with the word 'group', as well as, 'acquirers' as two categories link by the codes students follow.

I drew the ellipses forming vertical rows which correspond to the different generating contexts. The arrows link a generating code with its generated codes. For example, within the codes of Mexico's context (macro) the 'instant satisfaction' code is generated by the hierarchical and corporative codes. It is also generated by the historical code of the largest context or that of architectural world. I draw this code keeping in mind Historians' conceptions about architectural education throughout my empirical analysis. I suggest that the arrows' thickness represents the degree of bearing upon each code. The codes are like needles put on a student's body not to sooth, but to control. Dot line arrows point codes generated by another code of the same context. Double arrows mean that

Figure 6.1 Structure of the regulative principles of architectural students while interacting in the flexible - rigid programme



acquirers follow the code pointing to them which in turn generate or reproduce the specific code. Notice that the students' codes discovered ought to be link with their aspirations level if one wants to identify their maxims i. e. an action paired with its motivation, that govern their interacting while learning[31]. With this last remark I move into the final classification of students based upon their subjective experiences and objective conditions linked with their official performance.

Categories of students' responses

The rigorous analysis undertook enabled me to propose an empirical classification of the participants' responses. The classification was drawn on the basis of constructing the groups as homogeneous as possible differentiating between them as much as possible. I drew the classes firstly linking their aspirations level with their performance and secondly linking their orientations with their overall performance. I present the final students classification in tables 6.1 to 6.3.

Table 6.1 Categories of students based upon the interaction of their aspirations level with their overall trajectory in a flexible-rigid (C- F-+) architecture programme.

	(+) PERFORMANCE (-)			
	CATEGORY	**TYPE**	**GROUP**	**SUB-GROUP**
(+) ASPIRATIONS LEVEL (-)	**ASPIRERS**			
	Accomplished	**Vigorous**	**Confused**	**Droppers**
	SM, IN			
	Unprejudiced			
		DT		
	Ambitious			
			RB	**VL**

[31] In Kant's concepts a person's maxim is the subjective principle of action; it contains the practical rule that determines the reason in accordance with the person's conditions (many times the ignorance or also the orientations of himself); it is then a principle in accordance to which a person acts (1785: 42).

Students' suggestions to improve the pedagogic discourse and its practices

The processes of analysis and the classificatory task above presented enabled me to construct a diagram for the analysis and reconstruction of the pedagogic discourse that

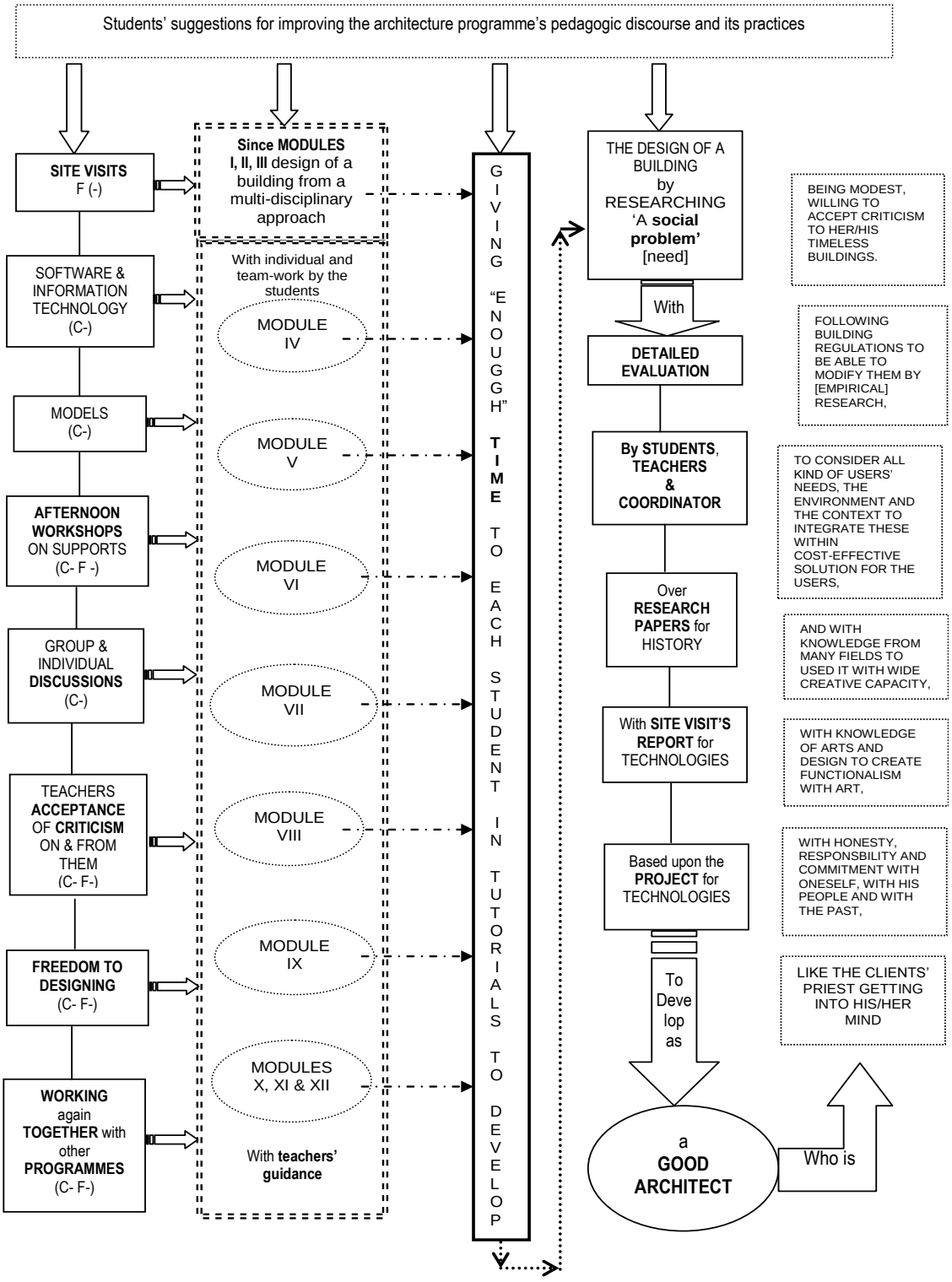
Table 6.2 and 6.3 Categories of students based upon the interconnections of their orientations with their performance and capital volume in a flexible-rigid (C- F-+) architecture programme.

	(+) PERFORMANCE (-)			
	CATEGORY	**TYPE**	**GROUP**	**SUB-GROUP**
(+) ASPIRATIONS LEVEL (-)	**Universalistic-idealistic**			
	Accomplished	**Vigorous**	**Confused**	**Droppers**
	Universalistic-instrumental			
	Particularistic-idealistic			
	SM, IN	**DT**		
	Particularistic-instrumental			
			RB	**VL**

	(+) PERFORMANCE (-) (+) ASPIRATIONS (-)			
	CATEGORY	**TYPE**	**GROUP**	**SUB-GROUP**
	CAPITAL VOLUME MORE			
	Ingenious	**Vigorous**	**Confused**	**Droppers**
	IN		**RB**	**VL**
	CAPITAL VOLUME MEDIUM			
	CAPITAL VOLUME LOW			
	SM	**DT**		

the students were exposed to. The diagram figure 6.2 shows is based upon the students' views in relation with the theories I used. Note that in the diagram's left side, in the squares that contain the students' suggestions, I have classified them in terms of

Figure 6.2 Actions to improve USMX architecture programme's pedagogy.



their openness or flexibility using the signs C–+ F-+. I considered that all of the students' suggestions were flexible regarding space and time. I have bold a number of words of the students' suggestions to emphasise their importance. Following the participants' suggestions I considered that the actions proposed should be applied in all the modules; this is represented by the horizontal arrows linking from the left to the right the suggestions with the twelve modules. The diagram's arrows guide the reader from the students' suggestions or the new part of the pedagogy, to the pacing of tutorials and to the products to evaluate. The final output of the process should be a 'good architect', notion that I describe using students' words in the last column of boxes. A good architect is in simple terms what the students strive for. The shaping of a good architect is, in my view, the clearest idea that the architecture programme should aim for in its pedagogic discourse and its pedagogic practices.

As a result of all the above inference process I have answered the question What categories of students do grasp these codes (interpretative frameworks)? Ambitious-dropper **VL** followed the dysfunctional and delaying code. This student opposed the multi-disciplinary student centered approach. By contrast aspirers-accomplished students **SM** and **IN** did not follow the two former codes. They adapted themselves to a flexible-rigid educational process. **SM** manifested his rejection to the two former codes by being on time to classes. The interpretations I have described, along with the analysis I undertook in chapters five and six is enabling me to answer the explanatory research question Why students are dissatisfied with pedagogic practices of the architecture programme?

Architectural students who are sympathetic with the multi-disciplinary student centred approach, for instance **SM** and **IN** are dissatisfied with the pedagogic practices because they see that teachers do not follow this principle. They also perceive that teachers abuse of their freedom to teach and do not present to classes or are late. **IN** was disappointed with the evaluations she received that did not point out her design deficiencies. **IN** and **SM** were unpleased with their teachers that qualified them as incapable of designing but without giving them explicit reasons. Another source of dissatisfaction, for instance to **DT**, was her teachers' restrictions to develop her design ideas. **VL**, a student dissatisfied with the application of the multi-disciplinary process, was in favour of the schooling system.

The analytical process that I followed has enabled me to answer the research question How do the students acquire, develop and use certain codes? I suggest that students acquire cultural codes in the UMXS architecture programme as an intra-process or internalisation of explicit and tacit messages from the different contexts where they interact following the historical code. This code is transmitted through generations of students of architecture who became teachers of architecture, as well as students who, as practitioners of architecture transmit it to

his/her children, clients, users and colleagues. This process is not only cognitive; it involves these agents' body's movement in time-space. The intra-process is linked to the prevalent principles from the macro-context, mainly that of instant satisfaction, that control their embodied actions.

Summary

The detailed analysis I undertook demonstrated that students **SM**, **IN** and **DT** who studied in similar pedagogic process to that of the university context had particularistic-idealistic orientations to meaning and learning. This coincided with their high aspirations levels, as well as their excellent, very good and good performance. **SM** and **DT**, but **IN**, had little capital volume with fair cultural capital. Students **VL** and **RB** who studied high school in different and very different educational process to that of the university had opposite qualities to that of SM, IN and DT. VL and RB dropped out and delayed their studies. Students who answered my request to validate or negate my interpretations were **IN**, **SM**, and **DT**. In these students my definition of their qualities is highly certain. To receive feedback from **DT** was of particular significance to me even when she agreed completely with my interpretation of her answers.

I see **DT** feedback as a proof of trying to overcome her uncommon lack of lexis and shyness that her disadvantaged social positioning fostered in her. The process of corroboration allowed me to see that she had realised that her disadvantaged objective conditions seemed to separate her from her high aspirations of becoming a practising architect. The fact that her social condition did not restrict her to accomplish at high school very good performance and at the architecture programme a good one proves the usefulness of the aspiration concept to explain why a student in disadvantaged social positioning with little lexis accomplished good performance in an educational context with ambiguous communication and hidden pedagogy.

The participants' plans to work for a firm follow the historical code of the architectural profession, meaning to rely on people with monetary resources. This architects' dependency constraint his or her striving for self-expression by the entrepreneur's notions concerning architecture, as well as by her/his plans for revenue. However, for students with very little capital volume to foresee engagement in a firm should not be considered a contradiction as they need a job to acquire money to buy food, clothing and enjoyment. Students use codes depending on the specific situation they experience. Student **DT** was a clear example since she did not follow the dysfunctional code but had to follow the deferential code when she foresaw her marks were in jeopardy because she had opposed the design teacher's view about architectural forms. The next chapter is the concluding section. I discuss here the

findings in relation to the theories used, with research in the field of education as well as the limitations of this thesis research.

Chapter seven

Towards a multidisciplinary approach to the learning-teaching of architecture

Introduction

My sixteen years of experience teaching within the UMXS architecture programme team allowed me to see a variety ways of learning and interactions in the classroom. In some students there was an observable lack of interaction and cooperation in class, a delay with deadlines and a sense of confusion due to the undefined curriculum areas of study. The educational process the participants experienced, allowed them to skip classes, postpone deadlines and finish their studies in ten years. However, the same process controlled their design ideas, gave them unclear evaluations and pressurised them to finish their projects in eleven weeks. This divergent pedagogic process was a problem worth investigating using theories coming from outside of the field of architectural design.

The purpose of the empirical research was to explain the students' dissatisfaction with the university's teaching approach of student-centred work focused around real problems. Additionally, students expressed concern about aspects of the flexible-rigid architecture programme. The aim was to show how the students' previous educational experiences, their social background and expectations for their future within Mexico, shapes their aspirations and affects their willingness to either complete or drop out of their course of study. Negative macro-level social developments in Mexico exert a profound effect upon people's ability to pursue such extended courses of study. The participants' interaction within these contexts generates in them cultural codes or tacit principles that govern their actions.

Therefore my final goal was to find, from the students' views, their cultural principles (codes) for learning. The factors above mentioned were compared with grade outcomes within the course in order to assess their combined impact. In this concluding chapter I summarise the contribution of this thesis. I will point out a method and data gathering techniques I could have used to conduct the research giving arguments as to why I did not use them. Then I will explore the constraints and limitations of my main findings, suggesting issues to follow in future research.

The method as prerequisite and product

A first contribution of this thesis is the method I used. In this thesis' research I used Bourdieu's concept of capital volume with his graph of social space as research tool to

locate the participants' social positioning (objective conditions). I defined each student's mid-level schools' educational codes that shaped their orientations to learning and meaning (subjective experiences), using Bernstein's constructs. I related the participants' position in the social space with her/his orientations to learning and meaning and with their previous educational codes to find interconnections of these factors. Since Bernstein suggested that an open pedagogy raises aspirations of the many (1975: 53; 1996: 99; 1997: 67) pointing out that his theory needed another language to explain what his theory could not reveal even through empirical research I searched for the students' aspirations.

Bernstein's implicit suggestion of including the aspirations concept coincided with Pierre Bourdieu's contention that the labour market along with the universities deflates students' aspirations (subjective experiences) because as the time passes the diplomas they confer are less valuable. These circumstances might discourage students in disadvantaged social positioning to finish their professional studies. The fact that Bernstein, Bourdieu and researchers used the concept of aspirations suggested that it has the quality of "systematic import" that sociological concepts ought to have (Rose, 1982: 40). Thus I used the concepts of aspirations to comprehend the objectivity and "subjectivity (creative potential)" of students to avoid relativism as a result of an "operationalist position" (Hamilton, in Helen Simons, 1980: 85; Blalock, 1969: 8-9).

To use the aspiration concept I proposed levels of aspirations. This element enabled me to keep the concept attributes of clarity and openness to be used with other theories, as well as to avoid "extreme operationism" (Rose, op cit: 40) since I did not measure those of the participants. In addition I used the students' marks and years to complete their studies as evidence of their overall performance to link with my theoretical concepts. In using students' overall performance I was relying in "multiple indicators" that lead to a stronger position to reach internal validity (Rose, op cit: 41). In understanding this interconnection of subjective experiences (orientations, aspirations, codes) with objective factors (educational background, social status, school marks and messages from mass communication), I followed an inductive-deductive approach including the insights my teaching experience in educational contexts with different pedagogic codes prompted in the process of interpretations[32].

In addition, I listen to the interviewees' answers again and again, reading at the same time the transcripts, remembering the participants' features, bodily expressions as if searching their true answer. I took this process as an epistemological principle to be sensitive to this

[32] Lacey acknowledges that Hume meticulous examination of our deductive and inductive way of thinking led him to claim that these "were far less powerful than we assumed" (1976: 94).

thesis' research context flexible pedagogic approach with strong power relations. In other words by linking rationality and "arationality" in my analytical process I attempted to reach the highest levels of learning research (Dreyfus and Dreyfus, 1986: 36 cited by Flyvbjerg, 2001: 22-24). Then, if science is a circle which begins overcoming our fixed and determined thoughts by recognizing two moments: that of the knowledge and that of the **objective negation** related to the knowledge which turns itself over its beginning transforming its concepts only at the end of the circle (Hegel, 1807: 24-25), I reached science's end of the circle with the participants' corroboration of my interpretations. The use of this technique was a product of the scholars I followed and, at the same time, a product of my research. Next I discuss these findings in relation to the concepts of code, classification and framing that enabled me to find regulative principles within the participant students.

Discussion of findings in relation to the theories used

My analysis in the last chapter corroborated what I have demonstrated in Chapter five: that aspirers-accomplished students **SM** and **IN** were dissatisfied with pedagogic practices of the architecture programme. These students did not follow pernicious codes but adapted to the tacit rules of the architecture programme. Aspirers **SM** and **IN** studied the *prepa* in a pedagogic process similar to that of the UMXS. I also showed that unprejudiced-vigorous **DT's** fair aspirations compensate her lack of language elaboration as well as basic knowledge of design and construction procedures to develop a good overall performance. DT also did not follow pernicious codes in the classroom. By contrast ambitious student **VL**, who studied in a collection educational process or different to the university, followed pernicious codes and dropped studies even when she had obtained very good grades.

As I mentioned in chapter five, in the network I applied to analyse student's language, I split the categories ambiguous/implicit that Bernstein's strategy network contains. I did this because there is a meaningful difference between the two concepts. Ambiguous can refer to a specific context[33] or to a personal interest. Implicit answers indicates the person is focused on himself or herself, while the answer try to hide a doubt, a feeling, frustration, anger, disappointment, joy, etc. The implicit answers result from an interaction with a person in higher social position than that of the speaker. Perhaps more meaningful is that the implicit answers contain the lack of interaction with a meaningful person. It is in the implicit answers where one can find the cultural codes, the contradictions.

[33] Ambiguous is not the same as vagueness as an ambiguous term can be quite precise in each of its meanings (Lacey, 1986: 5). Implicit is a word for relations between propositions or statement from which "we can infer the truth of a proposition or a proposition from something else" (Ibid: 102).

My definition of the participants' orientations based upon Bernstein's constructs was possible due to my use of Professor Halliday's language functions as instrumental, regulatory, personal, interactional, heuristic, imaginative and informative. These categories enabled me to classify the students' speech in a clearer way than with the solely use of Bernstein's categories, networks and grammatical indicators. With this basic theoretic-methodological adjustment and the rigorous analysis developed, I found that Bernstein's idea that "context-independent meanings are linguistically explicit" (1971: 14, 197, 242) did not replicate consistently in my empirical data. I found that **VL's** speech was mostly explicit though it was bound by their interpersonal, instructional and/or regulative contexts.

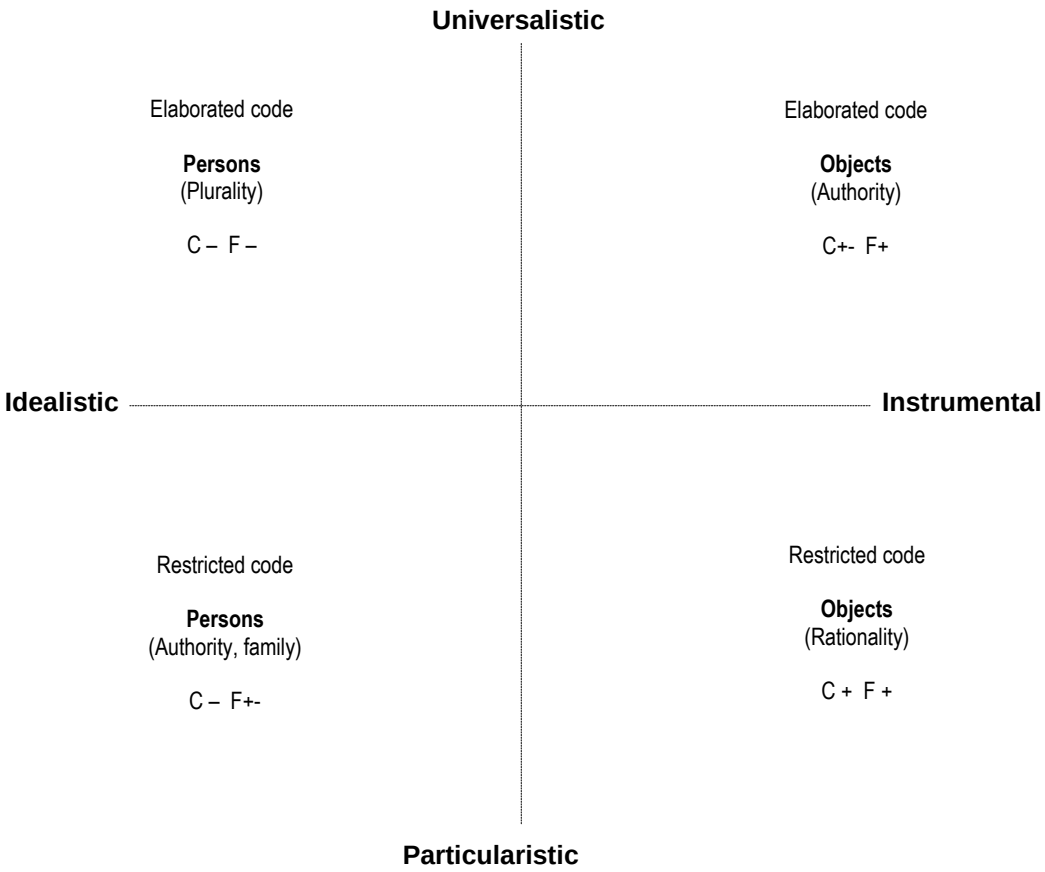
In addition of using Halliday's language functions to define each student's orientations and codes I integrated Bernstein's diagrams, which are represented in different ways and with different elements in his books. I gathered the main concepts in the basic diagram to integrate people's interests and orientations with the correspondent code. Then I was able to relate these categories with my networks data to find students' verbal meanings as elaborated or restricted with its realizations as context independent with universalistic meaning or the opposite, context dependent with particularistic meanings in connection with its social controls. My resulting diagram (figure 7.1) is mainly based on Bernstein's "semantic structure" diagram (1971: 248).

Since the term "restricted"[34] fits well within the context of Mexico, I kept the concept for both lower quadrants. In these quadrants I located students more bound by their contexts regardless their speech was explicit, implicit or vague. This result is important to remark as it challenges Bernstein's argument that a student with explicit speech would be less tied to their contexts. I discover this challenge to Bernstein's idea from the analysis of student **VL** whose speech was explicit yet bound by her contexts. This student focusing in objects more than in persons is understandable since they have been living in a macro context that its chief message is 'open your own business', 'go to the disco'. To make matters worse, these students have been living in a meso-context where their most important teachers, or those of design, control their ideas.

Whilst my analysis of the architecture programme curriculum suggested that the students were interacting within the university flexible-rigid context (C – F+-), in the participants' views, they were experiencing a rigid-flexible-rigid pedagogic process (C+ F+-). It is important to repeat that the specific composition of the participants' previous pedagogic code is a factor

[34] This term means "**controlled** especially by law" (Longman Contemporary Dictionary of English, 1989: 945. Emphasis is mine). Bernstein's critics who ignore his elaborations on this concept's meanings should notice this in relation to the specific context they are observing.

Figure 7.1 Re-contextualization of Bernstein's codes from students' orientations to meanings and learning in a flexible-rigid architecture programme.



that furnishes specific orientations to learning and meaning, their aspirations levels, their codes and their performance. The framing component is an element that impinges upon students' trajectory. Ambitious-confused **RB** who studied in a C++ F+ mid-level educational context is evidence of this element effects on his performance since he needed more trimesters than those of the C-+ F+ context to complete their degree.

However, **RB** needed less time to finish his studies than students who were in similar comfortable social positioning to his but studied in a C+ F+ context or collection code. Student **VL's** cut trajectory is an extreme example of how a previous pedagogic process with different framing component to that of the university delay a student's learning. In VL case, her high school's close classification component or C+ was also different to that of the UMXS, in addition to a more relaxed framing component, or F-, in the terms' duration of six months. VL's and RB's trajectory points out that of the elements comprising the framing component the terms' duration is a crucial one. This fact supports Bernstein's principle that the regulative discourse is the dominant discourse (1996: 28).

It is important to remark the usefulness of Bernstein's concept of framing to point time as a factor that influences a student's pace of learning. Yet, within the Mexican context, the signs

(+) and (-) contain opposed meanings in terms of the duration of a term. Whilst in Bernstein theory the sign (+) of the collection code points to a fast pace of learning, in the Mexican context a collection code process last six months which is a relaxed pace of learning or (-). The opposite applies to the integrated code type sign of (-). My analysis using Bernstein's constructs in relation to those of the sociology of aspirations, point out that within a flexible-rigid educational context, aspirers-accomplished students including those far from power, who studied high school in a process similar to the open kind, tend to possess virtuous cultural principles. By contrast ambitious-accomplished and vigorous students in a nearer position to power use pernicious codes and have low aspirations.

My empirical data has shown that for students far from power their highest aspirations of designing great works of architecture, to help people, changed as priority at the end of their studies. The flexible-rigid educational process led them to become realistic. For students relatively near to power their aspirations remained the same. These results replicate Bernstein's insights that an open educational process raises aspirations of the many, since students coming from a flexible pedagogic process and enrolling in a flexible-restricted educational process (C- F+-) held high aspirations. I can extend Bernstein's idea saying that in a pedagogic context like that of the UMXS architecture programme students who enrolled with high aspirations levels with the passing of time, that is, with their exposure to the socialising learning process, organised their goals and hopes in accordance with their resources.

Students with little capital set their goals as a series of steps to culminate in obtaining a professional degree or travelling abroad for the purpose of doing post-professional studies. By this I mean students tend to become realistic while they kept their search for fulfilment. My above findings also enabled me to make explicit Bourdieu's generalization that the new educational system "with its complicated trajectories" fosters in students "aspirations that do not correspond with their possibilities" (1964: 28; 1979: 154; 1984: 165; 1984b: 167; 1997: 51): pedagogic codes of the flexible type C- F+- raise aspirations. With continue exposure to this type of pedagogic process students learn to prioritise their goals in relation to their resources. Bourdieu implicitly suggested that students with higher capital volume do not develop aspirations as higher as those of students with lower capital volume (1989: 7; 1976: 144, 355).

My research results replicate Bourdieu's idea: students in favourable social position hope to work as their father or with him. These types of students delayed their trajectory for years. I found that students with lower capital volume performed better than their counterparts. My results precise Bourdieu's argument pointing out that the level of a student's aspiration is

fostered by a pedagogic code C- F+- since most students who studied high school in this educational process held high aspirations. **IN** with higher level of cultural capital having studied in a very flexible or C-+ F- process is another case that supports this specific finding. The low aspirations of VL who studied in a C+ F+ educational code are differently evidence of the role an educational code plays in shaping a student's views. This finding suggests researching Bernstein's suggestion that a teacher-centred, close pedagogy develops "aspirations of *the few*" (1975: 53; 1996: 99; 1997: 67) in order to find interconnections between these levels of the social world.

My results support Chombart de Lauwe's idea, as well as researchers on the field of aspirations and expectations, that aspirations drive people to act; for example students **DT** and **SM** who finished their tertiary studies with good and excellent performance even when they had limited material resources and limited language. Whilst these students held low aspirations like using a mobile phone, working as draftsmen or attending technologies courses, they kept as a high priority becoming an architect. This finding also supports the idea that the aspirations multiply influenced by the social structure's transformations (Chombart de Lauwe 1969: 22-23), phenomenon that is manifesting in Mexico since the seventies (Bojalil, 1981: 323; Lopez, 2000: 3-4). Mexico's social structure offers blur expectations to architectural students in the form of low paid jobs, working overtime without salary and without yearly bonus.

Students with low aspirations who perceive this situation, for example **VL** dropped her studies out. That is the dark expectations of Mexico's social system with that of architectural practice, in addition to the specific cultural capital of students as furnished by their previous educational codes in interconnection with those of their families, act as filters of experience to build in them low or high aspirations. These inner properties in connection to their emotions that are stirred by their everyday living act as mediators of their decisions. Their decisions will depend to a great extent of the level of their aspirations in relation to their resources; the higher the aspirations the more the student will follow her/his goal of becoming a professional. All the above point out that Bernstein's theory is flexible enough to enable the participants to announce themselves (1996: 129, 108).

Bernstein's constructs (internal language) enable me to construct the tacit, while the sociology of aspirations' concepts (external language of description) enabled me to make explicit in a non-circular way the principles "tacitly constructed" (Bernstein, 1996: 136)[35]. I

[35] This suggests that Bernstein was following Hegel in that every notion is mediated by others, therefore one cannot find the true reason of a being but having all the motives as mediated activity (Larroyo, 1997: 72 in Hegel, 1817: 72).

integrated the sociology of aspirations concepts to present the analysis of students' responses not only in a non-circular way but also to make my findings akin to the participants' responses. This task would have been incomplete if I had not used at the same time concepts and research tools from the theory of social contextualization. Bourdieu's concepts of cultural capital enabled me to discover students' degree of satisfaction with basic needs[36]. Let me discuss next the findings already presented in relation to researchers working in the field of education.

Discussion of findings in relation to research

Let me start this section by repeating that student **VL** dropped her studies out at the university whilst **DT** accomplished good overall performance. A quality that differentiates these students is their aspirations levels that in DT were high whilst those of VL were low. This result coincides with researchers' contention that to approach holistically the understanding of a student's learning, her/his "motivations" or "incentives" is a factor that influence them more than her/his social background, as well as other factors (Girod, op cit: 65; Illeris, 2007: 95). Then, if the chief pedagogic objective of UMXS is working with "real problems", assessment tasks should reflect the "real learning outcomes" as scholars focused on the evaluation issue have stated (for instance Biggs and Tang, 2008: 34). Considering that **DT** and **IN** perceived some evaluations as unfair this part of the architecture programme education process needs to be revised.

Research in art and design evaluation have argued that teachers' assessment in the form of explanatory texts or "signifiers such as ability" may be deceiving (Atkinson, 2001: 104). These modes of assessment are based upon teachers' observations of the students' drawings as "ideas of perception and optical truth" and on the "discourse through which" the teacher interprets the drawing which itself determines the meaning of the drawing the teacher seeks in the student's ability or in the drawing (Ibid.). But if the discourses on which teachers based their interpretations to assess student's designs are closed, their evaluations and marks will be restricted. In the architecture programme's pedagogic practices due to the term's eleven weeks duration coordinators and teachers fail students -sometimes all the class- without going over the projects.

Failing a student without going over their works is one of the worst strategies a teacher can follow for assessing students. Such an attitude undermines their inner properties like their aspirations, as well as, their capabilities for self-expression and practical

[36] That is if I had kept only Bernstein's point of view my interpretations would remain abstract and dogmatic; if I had stocked to Chombart de Lauwe's (antitheses), skepticism shall arise. Therefore it was necessary to make objective the participants' codes and aspirations by including a third point of view (synthesis): Bourdieu's ideas on the problem of educational institutions deflation of students' aspirations for self-expression.

experiences. This teachers' strategy generates tension within students, which opposes the process of creativity. A student cannot be at ease if they are forced to follow a teacher's design ideas. "Take away the opportunities, encouragement or rewards, and we will take away the creativity" (Sternberg, 2007: 3) should be considered a negative principle of the teaching-learning process, particularly within the context of architectural education. I suggest here that evaluation of a creative work within a flexible educational context should be "suspended until ideas are well developed"; then there could be self-evaluation in the form of discussion and communication of ideas and "through assessment of the final creative product by the teacher" (Jones, 1972: 31).

It leaves space to assess not only the assimilation of contents and abilities the curriculum sets but also other educational components like practical wisdom or experiential knowledge and cooperation (Illeris, 2007: 27). The participants' idea on the evaluations as feedbacks is basic to increase the opportunities of learning and reduced inequalities in the classroom. The participants viewed the teachers' deadlines not encompassing those set by the eleven weeks duration. Students saw the process lethargic at the beginning but stressful at the end of the trimester. Certainly another cause for the uneven learning pace is that students tend to postpone tasks for socialising. In my view this student's action is due to her/his awareness that the UMXS norms allow them to finish the degree programme in ten years. I inferred this delaying strategy from student Ambitious-confused **RB**.

The students' suggestion of extending the terms' duration provide replications with Bernstein's notion that "there is always pressure to weakening that framing" (Bernstein, 1996: 30). Thus, the problem of evaluating UMXS architectural students' learning fairly and clearly should take examine if the term's eleven weeks duration is short or enough to reach the pedagogic objectives of working with real problems from a multi-disciplinary perspective. It was interesting to find that aspirer-accomplished **SM** was unsatisfied with the evaluations he received even when their marks were of the highest. When I contrasted their responses with their school records and library loans to compare it with their answers I found that this participant did follow the UMXS principle of researching. The above students' suggestions are important to consider for implementation.

To open the criteria of evaluation, as well as, the time length of learning is connected to the students' possible unparalleled development of their formal level of education with their real level or actual knowledge, since this is a problem seldom address (Girod, 1990: 9). I realise this is an issue worth investigating when I compared the participants' grades from high school with their qualities I discovered. It was clear that students **VL** who had the higher average marks in comparison to the other participants, but **DT**, had studied high school in a

collection code type where the six terms last five months and complete them in three years. By contrast, all the other participants had lower average marks from high school. This was also evident in students from the semi-integrated educational code of the *College* where they had to finish their studies in two years or less[37]. To put it in other words the greater the frequency of using a kind of knowledge the "less impact oblivescence" has in a student (Girod, op cit: 66; Illeris, 2007: 15).

Worth repeating is that **IN** wanted the evaluations '*To be clearer*'; she complained about a teacher who did not give her reasons of her design's deficiencies but simply said she was '*unfit for designing, without apprenticeship*'. Considering that in the Mexican context a criticism and a complaint to a person in a higher rank is rare, these testimonies are examples of the usefulness of projective techniques. Hence, I can say that the participants' calm answers to crucial topics like their works' assessment suggest they are persons open to understand diverse views and ambiguity. This replicates Bernstein's idea that weak classification codes shape diverse whilst confronting views (1977: 96). The capability of managing ambiguity and diversity is important for the UMXS architecture programme's effectiveness since it has been postulated by scholars working on the role of creativity in education, as one of five premises to facilitate students' creativeness (Schachtel, 1959 cited by Kneller, 1965: 36; Coleman, 1960 and Rogers in Anderson, 1959: 72; Cropley, 1992:15, 24; Csikszentmihalyi, 1992: 8, 23; Bandura, 1997 cited by Kim, 2007: xi; Thorne, 2007: 19, 134; Haste, 2008: 98-99).

In other researchers' words every pattern of thought or behaviour, is governed by its set of rules, or codes, either learned or innate. At the same time, it possesses certain flexibility, so that it can react openly to new experiences (Kneller, 1965: 42-43). Furthermore, the creative act, by connecting previously unrelated dimensions of experience, enables a student to attain "a higher level of mental evolution" (Kneller, op cit cites Koestler, 1962: 96). Fundamentalism, the opposite attitudes to tolerance to diversity, is which does not attempt to recognize oneself in the other, perhaps because to accept the others one has to start negating oneself (Lévi-Strauss, 1972: 12 citing Rousseau; Haste, op cit). In the UMXS architecture programme's discourse and practices a student's creativeness is seldom mentioned.

The concept creative points to a basic quality an architectural student should acquire and use –if he/she does not possess it. In this thesis I used the concept creator following Bernstein's contention that in a pedagogic process where framing is flexible, the student may be label "creative, interactive, attempting to make her or his own mark; that is the labels are selected as a function of the framing" (1996: 28). Bernstein's theory provides as referent for

[37] http://www.bachilleratosead.net/sitio/html/indh04.html [accessed 25-06-2012].

creativeness the degree of explicitness and less bound to the local contexts that a social agent can show through language. Those with explicit, less bound by the immediate contexts can be called creators. This criterion could complete that of researchers on creativeness who hold that a person's degree of creativeness can be identified by their tolerance to ambiguity, diversity –that is by their flexibility to accept others' views.

From my empirical work I can say that for students the marks they receive are crucial. This is especially important for the student who needs money as this situation can increase their state of tension. Tensions within a student are important to avoid if the highest purpose of evaluation is to promote creativeness (Kneller, 1965: 33-34, 99-98). Therefore the teachers' process of evaluation should leave open the selection of the pace and sequence to students. This openness might foster the interplay of the parts involved in the processes of evaluation creating a "kind of suspension of the evaluation, of the arbitrary" (Salmon, 1988: 82). The pattern I found that students with high aspirations level accomplished better marks and trajectory than students with low aspirations level, suggests usefulness of the concept of aspirations to predict students' performance. A reverse inference was not found.

Bernstein's concept of code as a regulative principle tacitly acquired was very useful to understand students' unexpected actions, particularly in the classroom. Following this concept I was able to understand, for example student **VL's** disrupting behaviour during classes due to engagement with the staff's pernicious code of neglecting multidisciplinary research. I was also able to understand **DT's** changing of architectural preferences to please the tacit order of the Design teacher. Identifying these elements in a student during classroom practices, may enable one to predict virtuous or pernicious actions in the learning-teaching process. To discover students' codes in their language was more difficult; even more difficult than to find their orientations and aspirations. One can perceive a student tacit regulative principle by observing their actions in the classroom in connection to their previous educational codes and their marks.

The students' goals of expressing their ideas should be allowed even if they are out of building regulations or norms. The norms, indeed, should be discussed by teachers with the students within a framework from a multiplicity of branches of knowledge and views. The purpose of facilitating this is to open the students' interpretive frameworks, to shift from one discourse to another. Or to put the same purpose in another way: to experience boundaries (Bernstein, op cit: 7) to perturb the contradictions, the dogmas and taboos of the codes and the *doxa* (Bourdieu, 1974: 101; 1979: 471). One should ask Why is it that some researchers, for instance rational choice theorists, ignore the divergent nature of young generations' biological and psychological needs to that of society's needs?

Recent research has shown that "among rational choice theorists (for instance Murphy, 1981; Boudon, 1974; Breen and Goldthorpe, 1997) there is disagreement concerning an agent's social class" as a factor conditioning their behaviour in education (Sullivan: 2003: 17, 273). In her in-breath longitudinal enquiry Sullivan argued that instead of theorizing about what might count as a rational motivation for an action, it may be more useful to analyse agents' motivations empirically (Sullivan, 2003: 271-290). This researcher's suggestion provides support to the nature of my thesis. Dealing with secondary comprehensive school students Sullivan found that "the association between students' parents' qualifications, social class and attitudes to education is small, and disappeared once GCSE performance was controlled for" (Ibid: 282).

Sullivan's result coincides with mine that students in disadvantaged social positioning accomplished very good overall performance. I pointed out that their accomplishment was mainly due to her/his experience in a previous educational code similar to that of the university along with their high aspirations. My research differs with that of Sullivan in that I did not define the participants' social class but I located them in Bourdieu's graph of social space. The difficulty of defining empirically social class because the processes of industrialisation and urbanization transform and transport the indicators from a group to another, has been acknowledge by researchers working in the Mexican context, for example Gonzalez (1965, 2001) and Boltvinik (2006). With these remarks I close this section. In the next section I discuss the limitations of my research as well as my findings in relation to the techniques I used.

Limitations of the research

Bourdieu's contention that one should not seek agents' social class but their position in the space of struggles to acquire material and symbolic needs, encouraged me to use his graph representing the social space of positions. Bourdieu's diagram enabled me to relate the participants' parents' studies, jobs and family composition as basic indicators of their possible location in the social space[38]. To represent the participants in the social space it was necessary to take into account their parents' dwelling as own or rented as well as the neighbourhood's economic strata. Regarding the measurement of the participant students' cultural capital my approach resembles that of Nobel and Davies (2009) in that I applied a simple score for each element composing the different forms of capital.

A difficult indicator to measuring students' cultural capital was their 'readings' because some students were uncomfortable with accepting they did not read. An example of this

[38] As Bourdieu said citing Saussure the diagram 'present simultaneous complications in several 'dimensions' (1979: 126).

type of answer is that of **SM**: '*twice a week in addition to what is coming with the course Conocimiento y Sociedad something about math or physics for not to forget them*'. A technique that I should have followed more to overcome the ambiguity of the participants' responses regarding their readings is the funnel approach. Due to the interview's length and that the participants' preferences were commented at the end of the interview there was no more time available to apply it. Nevertheless the use of sentence completion questionnaires allowed me to compare their verbal answers with that they wrote.

The use of open techniques was not unproblematic since a number of the students participants did not complete the sentences, did not agree to be interviewed again or/and did not return the questionnaire. This was the case of **VL's** responses which limited my analysis' thoroughness. The low rate of questionnaires returned might have been due to its length which required more than thirty minutes to fill it in. I could have avoided this if I had pilot the open questionnaire that I provided to the participants. I discovered this drawback of my questionnaires from research addressing the issue of questionnaires' length of time needed to complete it (Noble and Davies, 2009: 591-605). The researchers designed one "taking only 15 minutes to complete" "which may have applications in other contexts" (ibid: 594, 599). To overcome the implicit control that my questionnaire's length imposed over the participants students I could have let them to answer it at home.

Whilst my questionnaires is shorter than what the researchers designed, mine was open since it included sections concerning the students' views of the contents, techniques of teaching and evaluation they received in the architecture programme. Yet two concepts I should have included is found in Noble and Davies' question 14 "Which of the following have you heard your parents (adults you live with) discuss?" The words 'parents' and 'discuss' might have encouraged my participants to recall their parents' interests, as well as their own concerning the arts, books, science, current affairs and music. The point here to make is that in order to avoid spurious correlation between theoretical concepts and empirical indicators one has to use clear concepts that, lead one to construct a chain of lower level concepts, as well as, to translate the empirical language to that of the theoretical language –as scholars have pointed out (Rose, 1982: 13, 40- 41).

In addition one has to adopt previous researchers' operationalization and measurement techniques of the concepts used (Ibid.) This is why I used Professor Halliday's language functions as instrumental, regulatory, personal, interactional, heuristic, imaginative and informative (Bernstein, 1974: 360). However, since my case study strategy may be considered with limited validity and possibilities to "scientific generalisation" (Yin, 1994: 10 cites Kennedy, 1976), I also applied the process of respondents' corroborations of my

interpretations to give more rigour to my analysis. In doing this I was following a number of scholars' idea that one can generalise from a case study (for instance Yin, 1994: 30; Brown and Dowling, 1999: 145; Flyvbjerg, 2001: 7 1-75 in agreement with Giddens, 1984: 328;).

The technique participants' corroboration was partially successful due to some extent to the participants' limited time available, as well as, difficulties to reach them. Respondent validation technique was not totally useful due to my summary's format which included "unpolished nuances of the spoken word, repetitive and ungrammatical", which might have "made the respondent feel foolish"[39]. In presenting my summary to the respondents exactly in the way they spoke, my writing was not friendly for them. Researchers who plan to use this data gathering process ought to follow Bayliss' proposition of trying two or three different type of transcriptions to explore which one may be less discouraging. However the fact that my participants were a small number, combined with the absence of a comparison to a students' cohort in different pedagogic code imply that the results of my investigation could only be generalizable to architecture students studying in a flexible-rigid programme within a restrictive social system.

All the above issues and remarks confirm that to be able to explain a student's embodied actions the method has to be relational and comparative: previous educational codes-social positioning-orientations-aspirations' level, leading to find their contradictions (codes). The agents' codes as mediators of their choices are not straightforward since there are other elements, for example their emotions, that interfere with the person's decisions. A case that illustrates this social agent's subjective process was **VL**. Shall **VL** return to the architecture programme as AV did after more than fifteen years of having dropped professional studies out? Student AV, a house-wife and mother of two children who accomplished a very good trajectory in the UMXS architecture programme suggests that obtaining a professional degree in architecture is a latent aspiration that last long. Next I summarise the previous sections.

Summary

In a flexible-rigid pedagogic context within in a restrictive macro-context, if a researcher wants to explain a student's actions the method has to be relational: social positioning-previous educational codes-orientations-aspirations' level -leading to find their contradictions (codes). These are only some of the interconnected factors that influence students' learning

[39] (Bayliss, 2007: 3 www.faeexmdev.plymouth.ac.uk/.../Tinkering%20with%20Transcriptions.doc [accessed 11-09-09]).

since it is a complex phenomenon that evolves over time. In order to be able to explain one has to understand first. In understanding the complex interaction of subjective experiences and objective conditions of living one has to use inductive-deductive reasoning and experience during the analytical process to develop insights from the individuals' speech and actions. The problem of students' dissatisfaction with the student-centred, flexible pedagogic approach is in first instance due to the difference of their mid-level schools' pedagogic codes with that of the UMXS architecture programme.

The UMXS architecture programme students' dissatisfaction is also linked to the short term with long sessions' time duration, as well as, the teachers' ambiguous evaluations with its implicit impediments on students accomplishing their goals to self-expression or creativity. Regardless of their social positioning, students who studied the high school level in an educational process with their codes' classification component clearly separated have low aspirations level. This quality, combined with pernicious regulative cultural principles they encountered in the architecture programme, drove them to delay their trajectory or to drop their studies out. In the type of contexts above mentioned who held high aspirations, see themselves limited to reach their goals of self-expression, of becoming an architect, of obtaining by themselves the goods they need.

The university students' educational and professional aspirations as expression of their creativity should be allowed in the classroom. I put forward that in students' views:

I. The architecture programme's socialisation is effective to transmit to the students a realistic view of architecture as a complex social practice.
II. Teachers ought to learn to be open to ambiguity and divergent thought as expressed in building's forms, materials and understanding of architectural issues by bracketing evaluations of students' works[40].
III. It is important to consider that excellent marks may not match with actual learning.

In the context of architectural education students with cultural capital foster high aspirations that in turn lead them to learn. This element enables them to fight their inner conflicts leading to keep as a priority their goal of becoming a professional. To measure the cultural capital with indicators the school system does not recognise: books read, knowledge of films, play theatre and works of art are useful to have a broader view of their experiences and intentional learning. Students hope to find honesty and fairness from her/his teachers. Honesty in complying with what the office responsible for the planning and time schedules

[40]As Kant suggested the value of an action's product is not the product in itself but rather how the person felt while carrying out the action gives value to the product, being to feel "happy" an "universal tendency to will" though frequently an "organised being" chooses their reason instead of their instincts to reach their interests (1785: 22-26).

of groups sets. Hope to be given judicious feedbacks, rigorous overviews of works and fair marks. Hope as a concept is worth to be researched from fields of knowledge other than architecture and sociology of education in the future. One should remember that “Hope fires a neuron” (Thorne, 2007: 94 citing Gilbert, 2002).

Suggestions for future research

The problem of students’ dissatisfaction with the student-centred, flexible pedagogic approach is in first instance due to the difference of their high schools’ pedagogic codes with that of the university’s architecture programme. This phenomenon could be investigated in future research that compares architectural students of the UMX’s campuses. In the Northern campus the curriculum is based upon compulsory and optional subjects linked to each other; it is a variation of the C+ F+ educational code. The degree of students’ acceptance of the educational process, the terms’ duration and type of evaluations could be investigated using the same techniques I applied in this research. A cohort with nine to twelve participants could be formed by students of the first modules selected by their previous educational context.

Three main types of educational contexts could be considered: flexible-rigid, rigid and constraining (C- F-+, C+ F+ and C++ F+). The students’ degree of verbal elaboration could be a first indicator of their creativity. Group discussion could be a data gathering technique to be included once patterns of interconnection in the contents, techniques of teaching and learning, as well as the evaluations have been detected. Bearing in mind that a respondent can hide her/his opinions, as well as, that this characteristic is frequent within the Mexican context, video recording of the participants’ actions and of their participation in the group’s discussion ought to be included. The purpose is to detect gestures, body movements to connect with their words use to get insight of the participants’ responses faithfulness. The use of this technique demands the acceptance by the participants to be tape recorded.

Another future research could compare this Mexican university’s architectural students with students of the Architectural Association of London, UK. Whilst in the Mexican context this comparison is considered ‘unnecessary because British students are more advanced’, the comparison could bring about clear answers to the issues of the terms’ length, as well as to the evaluations indicators to be compared with those of the Mexican university. “Having been founded in 1847” and “opened as a day school in 1901”[41] the AA has more experience working with a flexible scheme than the UMXS architecture programme. The AA’s architectural school terms last three months and the students

[41] http://www.aaschool.ac.uk/AALIFE/BEDFORDSQUARE/ [accessed 26-06-12].

obtain the Diploma after four years of full-time work. These durations are shorter and similar to that of the Mexican university.

An important difference between these institutions is the AA's Intermediate School pedagogy links "approaches to material, craft and techniques of fabrication" with "cultural and social issues" in "places around the world" with "courses in history and theory, technical and media studies as well as professional practice"[42] that the UMXS architecture programme neither includes nor specifies. Notice that the AA's learning techniques resemble those that the participants in this thesis' research suggested. The AA school's objective of "Students begin to form their own architectural identities and personalities through a diverse range of design ideas, agendas and interests" (Ibid.) has resonance with the Mexican university's architecture programme concept "*objeto de transformacion*"; this concept implies that "students themselves" could produce "knowledge through the study of problems taken from his own real context" (Villareal, 1974: 7).

A basic problem in the UMXS architecture programme is that the above pedagogic objective is not followed -as I have shown from the participants' perspectives. This supports the possible usefulness of comparing the two schools pedagogic practices from the students' views. Once the interconnection of the British students' previous educational codes with their orientations and with their views of the pedagogy they experienced is defined, the patterns of interconnection can be compared against those of the Mexican students. I did not follow this comparison because Mexican students live with their parents whilst British students live within the university campus or with their partner. I thought that this cultural difference between the students' would bring contrasting results that may not be feasible to link with future applications.

A major difficulty I considered on using the comparative approach in this thesis research was the application of the same research design with its data gathering techniques to the British architectural students. For instance the second interview that entails the pass of time as a factor to include in the identification of students' perceptions would require a great deal of field work coordination with the AA school staff and authorities, as well as with that of the Mexican university. Similar obstacle would set the application of observational techniques, which if were solved through "negotiation" (Rose, 1982: 112) with the AA authorities, the observations would be of the marginal type. Indeed these obstacles implied that of significant monetary resources.

[42] http://www.aaschool.ac.uk/STUDY/UNDERGRADUATE/undergraduate.php [accessed 26-06-12].

The enabling of the students' self-expression leading to reach fulfilment requires that future research integrates concepts from other fields of knowledge to that of architecture and sociology of education. The thrust of this suggestion is to enable architectural students to research with concepts from humanistic disciplines leading to developing a comprehensive humanistic science-art grounded on their views. Possible fields of knowledge to be included are: neuroscience, psychology and anthropology. The former can be useful for addressing the issues of emotions and creativity, particularly the work of Antonio Damasio (Damasio, 1994 cited by Haste, 2008: 101-103; Illeris, 2007: 14).The latter field in fact has been a hidden guide within the architecture programme's curriculum and bibliography, for instance E. T. White "The hidden dimension".

Indeed scholars like Douglas and Geertz's concepts, that inspired Bernstein and encouraged me on developing this thesis, may be useful for enabling students (and teachers) of architecture to reveal the particularities of their experiences and learning in connection to that of the cultures where they interact. As Douglas and Geertz's concepts are less abstract than that of the two main theories I used in this thesis research, their principles may be easier to grasp for students and teachers of architecture interested on understanding culture and one self's actions. Culture as a "series of control mechanisms – plans, receipts, formulas, rules, instructions- or cultural programmes to order" humans' conduct (Geertz, 1973: 51-52) is an example of their concepts' clarity and broad scope.

An issue architectural students and academics should research is the role of our **body** as a medium and impediment to learn. Participants brought up implicitly this issue when they suggested '*site visits*' as one of the activities for learning. Whilst their intention was mainly '*to go out of the classroom*' '*to see how things are made*', site visits conveys walking through the site using all their senses to contrast what they have learnt in the classroom with the processes of building. Site visits also test students' body resistance to physical effort. Recent research interested on the role of our body as a medium to learn used Bernstein's notion of "device" (Evans, Davies and Rich, 2000: 391).

These researchers and other have suggested that to break with the disjunction generated by the *cogito ergo sum* we inherited centuries ago and to bring back the union body/mind in our everyday experiences we should use the "body device" to "give attention to the biological dimensions of embodiment" (Ibid.; Illeris, 2007: 9-10) as a factor impinging upon the way we learn. The concept of body in concern should be understood as "'a moving, thinking, feeling, pulsing, *lived* body mindful, intentional site of on-going experience, a spontaneous synthesis of powers, and the very basis of our understanding of the world'" (Merleau-Ponty, 1962 cited by Williams, 2006, 10 cited by Evans, Davies and Rich, op cit:

400).

This concept of body is not the perfect or fashionable body looking for “utilitarian pleasures, ‘illicit enjoyments’, self-gratification and avoidance of pain” the global society portrays through its “idols”; it is rather a complement to our five senses (Sacks, 2007: 47 cited by Evans, Davies and Rich, 2000: 400). The point is that the rational mode of thinking is inadequate for comprehending the total spectrum of human activity if it does not include the context, practice, trial and error, experience and bodily sensation (Flyvbjerg, 2001: 23; Bourdieu, 1979: 101). Hence, I suggest with Nietzsche, that “physiological enlighten and interpretation, before, and above psychology” should be included in the primary task of explaining “human’s will and activities in order to start eliminating reason’s mistakes rectified in language” (1887: 51-62).

Recommendations for practice and policies

In a tertiary education level such as that of the UMXS where the pedagogy is more flexible than that of the previous levels, students face more difficulties to understand the hidden pedagogy of teachers. Hence, these students should receive more attention in the classroom than students coming from the *College*, or from other similar flexible pedagogic processes. Students from very different pedagogic process, i. e. with very strong insulation of subjects focused on technical matters and monitored every day, may not require more attention that is, more time with them, since the participants in this thesis research did not drop their studies out. These suggestions imply to identify students’ educational background as a practice and policy to implement in the UMXS architecture programme.

Another practice to follow in the UMXS architecture programme is to be acquainted with students’ marks of previous school. Teachers could consider that 7.3 average marks as the threshold indicator of a good trajectory. Teachers should also consider that students with marks below 7.3 who studied in a different pedagogic code to that of the university are prone to drop their studies out. Teachers should interact more with this type of students. It should also be considered the opposite type of student, or who studied in a different pedagogic code to that of the university, most likely a female one, with an average mark in high school above 8.0 might drop studies out if she does not see compliance with building regulations, is given low marks, or/and has low aspirations.

Teachers should ponder that a student’s precious capital and/or aspiration are their marks. Hence teachers should practice to bracket their judgements concerning students’ projects. They should rather encourage students to describe their projects giving reasons

for the solutions to problems found. Teachers should also consider that a student's objective conditions reflected by their humble physical appearance, speaking tune and strong or weak casual assurance are not to be used as indicators of probable performance. Whilst these objective aspects of a student are more likely to point to an aspirer-accomplish student, it is not consistent as there are students with these characteristics that tend to follow pernicious principles for interacting and communication.

In a creative educational process teachers should seek students' interests, orientations and realisations in order to facilitate the students to express it and not only to see their realizations of designing. By encouraging them to write and tell their goals, hopes and fears teachers could foster a student's search for fulfilment. This task conveys to aid the student to understand her/himself. I suggest that releasing student's tension may lead to clarification and broadening of architectural concepts, principles, techniques and ethos of the profession. To accomplish this goal is necessary to apply it over time with cooperative works from all the participants involved in the process.

Regarding the term and sessions' time duration as a factor enabling or constraining student's creativity it should be considered that the three hours duration assigned nowadays tend to make tedious the sessions, particularly those dealing with discursive more than experimental or hands on activities. An Aspirer-confused and Ambitious-vigorous students' suggestion of assigning evening time for the supports –or for the issues students choose to work, seem plausible. The suggestion seems feasible to implement as it conveys not to increase the term's number of weeks duration while it would provide more hours of study. Whilst this proposition implies more hidden control of the students, it offers to them alternative activities, for example to research, or to visit museums, exhibitions and construction works.

Afternoon activities should be set as 'optional' to give students freedom of choice. This modality of students' activities should include diverse courses of software, ITC learning to the arts. Among arts, sculpture, painting, music and photography should be considered basic since these involve students' body-mind connection. In brief students should be seen as researchers of architecture, of the construction of its body of knowledge and of the understanding of human interactions. This last action should be conducted within the realm of teaching-learning architecture and its practising. Finally, if the primary difficulties on assessing the university's architecture programme educational benefits on students is the lack of understanding what the benefits are and should be my research has produced insights to the problem.

I have suggested, based upon students' views, that the UMXS educational process enables students to have a realistic view of their educational, cultural and professional aspirations and prospects. Students adapt their priorities to their material resources selecting as a higher one to advance in the architecture programme even if they have to hold their need for self-expression. Conversely I have highlighted that the programme's paces of learning to designing do not encompass the times duration set by the university's legislation. That is there is time constraint for developing students' self-expression, creativity. This last problem should be researched, refined and tested with an experimental group in the different programmes of the university's Design Faculty. Then cost-benefit analysis could be performed to assess students' and teachers' satisfaction, performance, creativity levels accomplished and money spent.

Significance of the study

In this thesis I used two leading social theories' concepts and constructs to explain the participants' dissatisfaction with the flexible-rigid pedagogic process as a result of the combined action of their objective conditions with their subjective experiences. I integrated to the two theories' concepts those of the sociology of aspirations that enabled me to explain the UMXS architecture programme educational problem in a non-circular way. In so doing I made specific a part of the theory of social contextualization and expanded that of educational codes. In methodological terms my inclusion of Paul-Henry Chombart de Lauwe's theory of aspirations is a contribution to address the problem of operationalizing Bernstein's constructs. It could be said that it is also a contribution to the process of integrating knowledge from neighbour fields to that of the sociology of education.

Another significance of my investigation was the use of Bourdieu's social space graph as a tool to locate the students and identify their positions to reach material and symbolic means that is, their possibilities to satisfy basic needs as a factor impinging on their actions towards learning and on their performance. Another contribution of my research was the use of Bernstein's constructs to understand and define the participants' orientations to meaning and learning. My study has demonstrated that regardless of their social positioning, students who studied high school in an educational process with different classification and framing components to that of the UMXS architecture programme had difficulties to finish the degree programme. This is particularly clear if they hold low aspirations level. This quality, combined with pernicious regulative cultural principles they encountered in the architecture programme, drove some students to delay their trajectory or to drop their studies out.

These findings demonstrate the usefulness of the aspirations concepts to find students' inherent properties as generators of their actions within an educational context. These findings also prove the usefulness of Bernstein's concepts of classification and framing to make explicit educational process with its transmission of specific views towards learning and meanings. These concepts also enabled me to show that, in the type of contexts above mentioned, where the principle of multidisciplinary work centred on students working with concrete problems ought to be applied, whilst students in disadvantaged social positioning tend to have unrealistic goals, they managed to accomplish excellent, very good trajectory or good trajectory. This is of practical relevance for teachers to avoid misjudgements about students while supporting them with patience and acceptance of ambiguous expressions.

Another significance of my research was the inclusion of the participants' interpretation of my analysis. This technique allowed those who responded to my summary to speak out their voices further. In the light of what research within the sociology of education and theories of creativity argue and what the aspirers-accomplished students suggested, the term's duration should be extended. What would the students' community and staff tell about it? Would the university's budget permit it? Finally, if the university should provide the conditions and rights to critical understanding, new possibilities, inclusion and participation to be democratic (Bernstein, 1996: 7; Russell, 1926: 13-14) the university students' educational and professional aspirations as expression of their creativeness should be allowed in the classroom regardless of their social status.

It remains true that a multidisciplinary approach focused on solving problems shapes students, regardless of their social status, with a more open view and acceptance of the difficulties of the learning process than a single approach which encourages students to reproduce solutions. The multidisciplinary approach, that kind of teaching most participants in this thesis research aspired to received, has been since Vitruvius' times a stand point for the teaching of architects. Vitruvius pointed out that "all studies have a common bond of union and intercourse with one another" and "a liberal education forms, as it were, a single body made up of these members"; "therefore, who from tender years receive instruction in the various forms of learning, recognize an intercourse between all studies, and so they more readily comprehend them all" (Vitruvius cited by Morgan, 1914: 10-11). Furthermore, the knowledge that architects should acquire "is the child of practice and theory" (Ibid: 5). It remains important Vitruvius' metaphor that "architects who rely only upon theory and scholarship are obviously hunting the shadow, not the substance" (Ibid.).

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Appendices

Pilot Work

The first interview was to a graduated who now teaches design in the architecture programme [PQ/m+50]. The interviewee was interested in the questions and seemed comfortable to speak freely. Yet, the open character of the questions, mainly the first five questions, was intriguing for him. It seemed he could not recall the distant past or 27 years ago. In accordance with the interviewee the questions were "*too general*". But as a part of his answers were directed towards deficiencies of the area of technologies, area to which he is not attached to, it could be said that he was using the interview to define his political position in the space of the Department's architecture programme. For example he tried to find reasons for the lack of '*appreciation to architects' works*' that '*society in general shows*' and that in part is originated in the universities by architects who '*touch superficially*' important contents such as '*site's works administration and catalogues of tasks*', instead of trying to recall his memories as an architectural student.

The above interpretation was affirmed after I interviewed two other graduated since these cases' responses were more focused on the question itself. Two of them belong to a generation of the late seventies [HA/m], [CM/m] and the other one to generation '84 [CMe/m]. For all of them it was not difficult to bring back some of their experiences lived in the architecture programme. CMe seemed bias in favour of the educational process since he repeat that '*the system was fine*' whilst he often directed the talk to external events such as Mexico's currency devaluation. To CMe the first module '*was tedious and out of architecture's concerns that is designing*'. By contrast, he frequently said the educational '*process of the programme was fine we learnt a lot but when it happened the peso's devaluation*.' [laugh]. I requested him to elaborate on that connection but his comments were divergent again from the matter we were dealing with, that is his opinions and views of the pedagogic practices he experienced. He tried to talk about them at the end of his verbal reports telling '*anyhow the teaching was very good we learnt much*'.

HA recalled as a lived experience the first modules that were like '*a shock, a confrontation with this university teaching system above all because I came from an institution, the Technological (Politecnico) through the Vocational, where the rational aspect is like much more directed one learns through the professors' teachings applying that teaching almost literal, and this university's system, above all the interdivisional trunk, the flexibility that gives you the principle of readings, comments, conclusions, analysis it was not anything that we work much in the Vocational no? then this freedom that gave you and to some*

extent commitment that one has to face the working dynamics and one has to solve it, conveyed an important change because one was accustom to study in other way, we had other habits…'.

Whilst HA response to his experience at the beginning of his studies was explicit, when I asked him his views concerning 'the Technologies supports and Design teaching' he was quite ambiguous, leading the talk again to the university pedagogic principle of working with real problems, suggesting this was seldom seen in the architecture programme. In the view of HA the process of **evaluation** is an issue worth studying of the educational process at the architecture programme as the criteria to evaluate students was not know by the students '*and if one is to evaluate so positively and so negatively and you link it with the fact that one is young, in the processes of growing up, that also generated insecurities*'. This comment lead me to specify it in the questionnaire the factual question Could you tell us your opinion about the evaluations?

CM referred to the pedagogic process of this university as '*autodidactismo'* that '*was not very clear to me things that were not well understood like the TID [module I or common trunk] this self-teaching I still do not understand, well I do understand it and I practice it but...*'. When I ask CM his opinions concerning 'the Technologies supports and Design teaching sessions' he responded asking '*Like two distinct things supports and Design?*' [Yes] '*Uhum well it has not changed much err the Design workshop as the chief course, the activity that guides the rest and the supports as its name says as such and nowadays a bit estranged, though there were exceptions I also had professors who, for example, could give structures and Design at the same time which was ideal for what was intent*'. Teacher CM was, on one hand, implicitly telling that when he studied Design and supports were link or interrelated by means of only one teacher teaching these and, on the other hand, he was implicitly telling that '*nowadays'* these two areas of knowledge do not work with the common goal of projecting a building. CM also suggested studying carefully the criteria to evaluate students 'better' since it can be 'a source of inequalities'.

The interview to a practicing architect took place at her home-office. The architect answered also easily the questions as if her memories were vivid. Regarding the university's model she recalled "*…it was a system out of the normal";* the *"first module was about everything, the next one was more focused to the career*". She pointed out that "*it was difficult at the beginning because one came from a traditional system* [1.0] *at the university the teacher was a coordinator and the* [3.0] *subjects as autodidactic work* [3.0]*;* ***team work was a good thing, it had helped me a lot in my job duties*****"** (emphasis of the researcher). Thus all graduates interviewed acknowledged to be pleased with their

experiences at this university whilst they coincided that the first modules' pedagogic practices were quite different to what they had experienced at the *prepa*. All they accepted that what they learnt in the modular system have been useful for them in their present job. Regarding the type of questions posed in the interviews to all the graduated the open character of some of the questions was intriguing despite of which three of them elaborated extensively.

It is important to remember that these graduated studied at the inception of the university (1974) that is when the curriculum had just been set. All they, but CM, studied the previous level of instruction, or '*prepa',* in schools of the collection code type (C+ F+). The later fact might explain their non-conformability with the university modular system multi-disciplinary work at the beginning of their studies. PQ studied in private schools run by Jesuits the *prepa* and the basic levels of instruction. Nowadays he is pursuing a doctorate overseas. HA studied in a Vocational or technical middle level school. CM studied in the *Colegio de Ciencias y Humanidades,* a State fund middle level school (attached to the largest university of Mexico or UNAM) that can be considered with a C-+ F+- educational code.

Teachers CM and HA obtained post-graduate degrees from an American and a Mexican university, both in the area of restoration. CM is pursuing his Doctorate in Restoration from the other campus of this university in cooperation with the University of York. The practising architect has devoted her time to sustain her office. This activity has been an enjoyment to her. So far she has not followed post-graduate courses. She has been to Europe once although she could hardly recall the name of one painter of her delight. It is worth mentioning that for these graduated students of architecture their aspiration of becoming an architect stems from childhood. At some moment in their life this goal suddenly appeared -including the students belonging to families without architects.

Interviews to students who had worked with me were carried out in classrooms unoccupied. Although it was foreseen that in these spaces there could be interruptions it was considered that the 'emptiness' could give confidence to students. For these, as it happened with graduated, the broadness of some questions was also surprising which required me to prompt. I tried to prompt without bringing to the interview the issue of the modular system "validity". In one case the interviewee brought suddenly the issue about. Her assertion was straightforward: "*I don't like the modular system*" [AP/f]. In another interview it was mentioned that there is a big difference between the 'modular system' and the previous school's system [IM/f]. These interviews lead me to pose the next question as a factual question necessary to keep in the researcher's mind and prompt if the

interviewee did not touch the point 'Do you find any differences between the teaching process at the UAM-X and your previous school's process?' This question appears in bold in the interview guide.

At the beginning of the pilot work I realized that the issue of alienation was not being considered in relation to the students' stance at this university. I was missing this point because the prompts did not appear in the topic guide and because I was concentrated in detecting students' expectations and aspirations and any other issue the interviewee was spontaneously trying to tell. The prompts were included, in bold, in the final topic guide. To investigate the issue of alienation in the final topic-guide I introduced question 7: What emotions produce in you, how you feel, remembering the designs and the 'supports' sessions? with the prompts: "normlessness, powerless, meaningless, without social and economic force" (Rose, 1984: 39) posed in a positive assessment. This question appears in bold in the same topic guide.

The intention of studying the possible students' alienation was derived from earlier informal talks with several students. In these talks it was common to hear '*…sometimes I feel like in the middle of nowhere*'. At the moment of the topic guide's elaboration the first concept I took to highlight this students' situation was "alienation". Alienation is not a proper word to guide this research as the word is almost inherently indeterminate. Furthermore if one considers alienation in the sense of estrangement from society and the world, it would be misleading since the students, the social groups they belong to, and the institution are interpenetrating subjects. Nevertheless from the pilot stage we confirmed that our initial intuition about the students' sense of confusion, and lack of inclusiveness, was an issue to ponder related to the school origin of students. We also identify the issue of identity as a probable construct to research.

In January 2003 I interviewed four students of module I. The interviews took place in the gardens and open spaces of the university during the days of registration. There were no direct interruptions despite of the places and the term's beginning active atmosphere. Three male students and one female were interviewed. Their ages ranged from 21 to 24 years. The three male studied high school in the *Colegio de Bachilleres*. The educational process of this middle level school is semi-flexible (C+- F+-) that is to some extent its educational process is similar to that of the USMX. For all the male students their primary and secondary studies were in the conventional mode. The female student [JG/f/21] studied the 12 years of basic, secondary, and pre-professional education in a private school with collection code educational process (C+ F+).

It might be fair to tell that of these four interviewees only one found the questions incomplete or too open. In spite of this as soon as I prompted he [ER/m] continued talking with assurance. In terms of the interview's duration and quality there was a clear difference between the four students. The three students from *Bachilleres* spoke largely (near to forty minutes) and calmly. This is worth noticing since one of the *Colegio de Bachilleres* pedagogic principles is work centered on students approaching problems with a multidisciplinary views which includes "Social Sciences, Language-Communication and Methodology"(http://www.cbachilleres.edu.mx/cbportal/index.php?option=com_content&view=article&id=48&Itemid=81). This educational process might foster students' ability to communicate verbally. It seemed these three students had also developed their ability to recall and to express their ideas fluently and with confidence though this perception should be tentative.

Nevertheless it is important to notice that the three of them were even able to refer to an architect's works, recalling their architectural preferences or interests even when they had just begun their studies of architecture. ER, to whom several of the questions seemed incomplete or very open, expressed himself a great deal. He talked about his experiences as a draftsman in the "*sort of office*" he and his brother is running nowadays; he said one of his goals is to make it bigger. Similarly JV/m/21 told about his present duties as a grocery store clerk and as key maker. He let me know his intention of becoming "*one of the best architects –not only of the country but at the international level….taking the basis of other architects but always every one with its own style, with its own way of creating the things since the style is that which defines a person as good or bad, and I want to have a very good style*".

JG/21/f responses, who was exposed to the collection code process in the *prepa* contrast with JV's account as she talked less and quietly. JG responded several of the questions with short responses and the prompts with yes or not. She does not have any architectural work of her preference. She does not know in which area of architecture will work, although she expects to use what she studied and "*to devote herself to her* [profession]". She hopes that as an architect she can be beneficial to humankind. In short it is possible to tell that to JG her reduced cultural capital constraints her to communicate better. At this point it is not feasible to tell if this contrast is also due to genre differences or any other objective properties. Yet as JG "*…almost..*" does not read due to "*…lack of time*", it could be a factor for her constraint ability to communicate verbally. This habit was reflected in her lack of interest towards art works. It is also possible to tell that her parents' low educational capital of only the primary and secondary school has also played a role in her development.

In terms of the students' educational background as a factor FP is a different case since he had studied five terms at the university before enrolling in the architecture programme. He mentioned that an architect should worry about the needs of people in terms of "*spaces where to live*" and not to think so much about the budget to build "*housing units*". He is interested on designing sports facilities "*because they are needed for people.*" He would like to be an "*honourable person who helps the community*" as soon as he obtains his first degree. ER working duties and experiences, along with his enthusiasm for reading is aiding him to express verbally. It would not be misleading to tell that to JV his job's duties that put him in contact with other persons are facilitating his development to communicate his ideas and awareness.

Of the four students only FP was familiar with the pedagogy at this university and with the architectural programme's content as he had studied the three terms of the common trunk, and two terms of the programme in veterinary before enrolling in the programme of architecture. He left veterinary because he realized that it *"was not satisfying*"; he acknowledged that he "*was a bit confused* [as] both [programmes] *were appealing to."* him. He said that in the first trimester at this university is "*quite disconcerting because one carries that of the primary, secondary, and the prepa*". FP decided to become an architect after a year of quitting from veterinary. When he registered for the admission exam in the internet, he also looked at the programme's information. This seemed "*quite complete*" to him. Yet, in his view there are a few similarities between *Bachilleres* and the university.

The three other students decided to enroll at this university because a relative and/or a friend recommended it to them, and because the campus is near to their house. To all of them it takes 20 to 30' to get to the university by bus. Two of the students, ER and FP, were aware that to follow an architecture programme is demanding. While JV recognized not be familiar with the programme's content and pedagogy, he mentioned that "*…everything depends on how one takes the things, if one thinks it is going to be boring and tedious, then it will be so..*". Clearly he was talking about the dispositions necessary to advance in the studies. JG did not give a statement of what she thinks is to study architecture. She answered the prompts concerning the possible teaching techniques she will be given, the processes, and evaluations with "*no, no, no*". Concerning the relationships with the professors she said: "*As far as I understood the professor is not anymore a person who seats behind a desk…*".

Transcriptions of students' social background

RB/m: *"Estee lugar México D. F. el de 23 de febrero del 82* [Schools and type of teaching where you studied before? And if they are public or private] *Ehh primaria, secundaria y*

preparatoria ***públicas*** *ehh nombre de las escuelas primaria Mujeres Insurgentes estee secundaria Nicolás Copérnico y preparatoria ehh CETIS # 2 (*RB had said before that the teaching he received in the *prepa* level was 'very good, had good teachers who studied in the UAM, UNAM several institutions' and the 'learning was very good…'; he also said that what he studied at the *prepa* was as a vocational degree focused on design and construction). [The educational techniques were different to this Uni?] *Sí eh las tres están reglamentadas con las SEP llevan un sistema escolarizado y muy distinto a la UAM-X conn horas fijas exámenes ya destinados a tal hora yy con gente que como prefectos o sea no no no estás libre como con la libertad que tienes aquí en la Uni* [There were not student's presentations?] *No había exposiciones no había conferencias no había mesas redondas dónde podíamos analizar no había ese estilo del sistema* [Any religion and if you practice it?] *Católica* [Status?] *Single* [Your parents' studies?] *Eh mi papá terminó dos carreras administración de empresas y economía y mi mamá desafortunadamente hasta la preparatoria nada más se quedó* [Do they both work?] *Ehh.. si un mi mamá es trabaja en comercio y mi papá estee trabaja.. en la Secretaría de Agricultura y eh esteee es ¿cómo seeee? de este estudió es administrador de una empresa* [In any section of the Secretary?] *No aparte en otra empresa trabaja de administrador de una empresa* [Where were your parents born?] *Mi mamá nació en el estado de Michoacán en un pueblito llamado Huetamo mi papá nació en el estado de Veracruz en el pueblo de Tlacotalpan* [Status of them?] *Casados* [Do you live together?] *Si vivimos juntos* [These are all the questions I appreciate very much your time would you like to add anything else?] *Pues para todos los compañeros que vamos para arquitectura que le hechemos ganas yyy estee y aaportar nuevas ideas sobre esto yy más imaginación más creatividad y este..... y terminar no? estamos aquí para ser arquitectos y adelante.*

Whilst **RB** studied all the previous levels in State schools. His educational background is above the average since he has got his Diploma as technician in design and construction. His father got two professional degrees and his mother studied '*unfortunately only the prepa'*. He said that he is not interested in the arts of which could be cinema. He said that he has little time to read that he has 'not the habit' and when he has free time he practices football or other sports. RB has worked as an electrician assistant *'more than anything else to know seeing how it was inside de works*'. RB talked parsimoniously and extensively without voice intonation and tune; his clothing looked plain and conventional while he wears an ear ring and his bear growth which gave him a little bohemian resemblance. It could be said that his talk was explicit while it was sometimes tautological and sometimes lack conjunctions. Bearing in mind the above said he could be considered with low cultural capital: CC (-). His average grading in the *prepa* was on the average: 7.7. Drawing from his comments in the second interview that he drives a car to get to the university, a journey which last five minutes, that he is a member of a sports center, that he works selling '*different products*', that he lives in a middle class neighborhood (close to the UAM-X), that he is the younger of four children and all his brothers also work, he could be considered with high economic capital: EC (+). As a result of all the above said it can be said that his capital volume is plus: CV (+).

IÑ/f: *"Estee aquí en el D.F. el 28 de octubre del 83* [Your home address?] *Estee vivo enn Balboa # 808 en la Portales* [Schoools and type of teaching where you studied? And if they were public or private] *La primariaa fue privada se llama las Naciones Unidas luego estuve bueno es que me fui a León Guanajuato a vivir estuve tres años allá medio año estuve en una escuela que se llama Manantial luego dos años en el Cumbres Instituto Cumbres de León luego regresé a la misma primaria [laugh] luego me fui al { } un añoo luego a otro que se llama { } que ya no quise [laugh] y luego me fui a una que se llama Logos y ahí estuve el tercero de secundaria y los tres años de prepa* [All of them public or private?] *Este todo fue privado* [The education system was...?] *El tradicional* [Do you have any religión and if you practice it?] *Estee pues creo en Dios pero no así como religión no no practico nada de nada* [Status?] *Soltera [laugh]* [Your parents' studies?]

Estudios? Hasta la licenciatura los dos. [What did they study?] *Este mi mamá es Psicóloga y mi papá es Contador Público* [Do they both work?] *Sí sí* [In what do they work?] *Mi mamá tiene un estee… pues una oficina donde tiene su consultorio y su oficinaaa y estee yy da cursos y muchas cosas y mi papá es el que lleva toda la contabilidad de la empresa de mi* ***mamá*** [Place of birth of them?] *Igual aquí en el Distrito Federal* [Brothers, sisters..?] *Tengo una hermana gemela y un hermano cinco años más grande que yo yo tengo diecinueve años [laugh]* [How do you commute to the Uni?] *Estee en* ***pesero*** [How long does it take you to get here?] *Como de cuarenta a cuarenta y cinco minutos* [Well these are all the questions camarade I thank you very much for your time and err would you like to add anything else before finishing?] *[Laughing] No estoy bien [laugh]*.

IN studied all the previous levels in private schools. Her father and her mother got professional degrees in accounting and psychology. IÑ has a twin sister who studies psychology (also at this Uni) and an older brother who is about to obtain his degree in accounting. IÑ said she does not '*truly know much about it* [architecture] *I am here due to destiny's chances, but if there are a building which attracts my attention I don't know..in a trip I saw some Haciendas which did not have roof were very bad and jeezz to see all that was like well something cool*'. She said she likes very much music '*but the music which the youth listen right? Well everything about everything while it interests me much the sculptures and all that*'. IÑ said she reads once in a while '*tending to drop the reading if it does not interest me*'; she said she likes music and painting although she could not tell any example. In her free time she likes '*going out with my friends* [laugh]*' and 'listening music I like it a lot, if it is possible to do some sports also football and….tennis I would like to but I don't have the means*'. IÑ talked with fluency, extensively although not always explicitly while frequently laughed; her voice's tune sounded with the intonation of the affluent class of México elongating the words often, her clothing looked neat, with little body adornment and wearing makeup -an appearance that resembles that of a conventional person. Considering all this it could be said that her cultural capital is low: CC (-). Her average grading in the *prepa* was: 7.0 which are the lowest of this cohort. Considering that IÑ lives in a middle middle-class neighborhood of Mexico City, that her past schools were private, that her mother has her own professional practice and that her father works for her mother, IÑ could be considered with fair economic capital: EC (±). Drawing from all the above information it could be said that IÑ capital volume is plus: CV (+).

VL/f: *"Ehhh México D. F. el 1o.de agosto de 1984* [Primary and secondary schools where you studied before?] *Ehh primaria Ingeniero Roberto Gallegos secundariaa este diurna 194 la prepa en el CETIS 2* [Schooling or open type sytem?] *Escolarizado* [Public the three of them right?] *Mhmm* [Religión?] *Católica* [Do you practice it?] *Si* [Status?] *Soltera* [Your parents' studies?] *¿Estudios de mi papá y mi mamá? mi papá la secundaria terminada mi mamáa eh licenciatura terminada* [Do they both work?] *Si* [What do they do? Could you tell us?] *En la SEP mi mamá es profesora deee no bueno ella es coordinadora de una secundaria técnica y mi papá profesor de educación física* [Place of birth of them?] *Ehhh de mi mamáa es Zihuatanejo Guerrero mi papáa Acapulco Guerrero* [Status of them?] *¿De mis papás? Casados* [Do you have brothers, sisters?] *Si dos una de 15 años y otro deee tres* [Your home address and how do you commute to the Uni?] *Enn pesero…dos dos peseros* [How long does it take to get here?] *Como 45 minutos* [Could you tell us your home address?] *Es Reforma 309 (nueveee) edificio G departamento 6 colonia Granjas Estrella ¿Código postal también?* [District?] *Iztapalapa* [This is it fellow I thank you very much would you like adding anything else to end?] *No nada.*

VL studied the previous schooling levels in state schools which follow the traditional education system and got a diploma as technician in decorative design. Her father studied up to Secondary School and her mother got a bachelor degree in education. VL said she has '*much time to read*' being her preferred author '*García Marquez*' among writers. She said that she paints oil canvas and likes Botero as he makes '*effects a bit of interesting*'. At the very first question of the interview VL said: '*What I want now is to finish my degree, I like going out with my friends and my boy-friend*', which is her favourite activity to spend her free time. She said she does not '*know in reality much about architecture*' while '[in the classes] *are seeing things that I have already seen in the prepa'* like '*form and colour and things like that*'. VL talked fast, particularly during the section of her relatives and personal information, with concise answers and explicitly. Her voice's tune sound with a little intonation trying to resemble that of the affluent class, her clothing looked neat and fancy, with ear rings, rings and full makeup (an appearance that resembles that of an executive). It could be said that her cultural capital is fair: CC (±). Her average grading in the *prepa* was one of the two highest: 8.8. Considering the above said, that she lives in a low middle-class District of Mexico City, that her past schools were public, and that she has two younger brothers VL could be considered with fair economic capital: EC (±). Drawing from all the above information it could be said that VL capital volume is plus: CV (+)

SM/m: *"18 de marzo de 1984.* [Where were you born?] *En Tacamaztlán Puebla* [Could you tell us your home address?] *A 15 minutos de la Uni sobre el periférico* [Could you tell us what were your primary, secondary and post-secondary schools and if they were public or private?] *Primaria aquí fue pública secundaria en la Técnica # 66 que están en la unidad habitacional Niños Héroes INFONAVIT* [Did they follow the conventional education system?] *Si el convencional* [Religion? And if you practice it] *Estee pues yo realmente no no soy muy apegado a la religión* [Status?] *Soltero* […..Studies of your dad and mom?] *Ehh mamá primaria papá secundaria nada más* [Do they both work?] *Papá como almacenista de una compañía de máquinas* [And your Mom does not work?] *No ahora sí que está en la casa* [Status?] *Casados* [Where were they born?] *Ehhh ellos estee Puebla* [Both of them?] *Si ambos* [Do you have any brothers, sisters?] *Si tengo cinco hermanos* [Men all them?] *Noo un hombre mayor y cuatro mujeres* [...These would be all the questions fellow Samuel I thank you very much for your time, I do not know if you would like to add anything else before finishing this interview?] *Pues nada que me parece bastante bien que se estén hacienda estas entrevistas yo creo que se puede { } yo creo que es una buena forma de integrarse también a la institución.*

SM studied all the previous education levels in State schools. His mother studied primary and his father up to the secondary level. They both were born in a State of Central Mexico. SM has an elder brother and four sisters younger than him. SM acknowledged that '*one of the problems I have is that I do not know much about the arts although I like to create things or something new*'. He said that he has time to read '*twice a week in addition to what is coming with the course Society and Knowledge (*Conocimiento *y* Sociedad*) something about math or physics for not to forget them*'. SM '*almost'* does not like architects' works, he likes '*the structure that the UPN has and the Angel de la Independencia'.* SM uses his free time to do exercise *'like sit ups, pushups errr in fact football*' or to go out with his family. SM talked slowly, like trying to find the words to be explicit with voice without intonation or elongating some words, his clothing looked plain, almost shining, without any body adornment and his short hair perfectly combed resembling a soldier's type hair cut. Considering all this it could be said that SM cultural capital is low: CC (-).This does not coincide with his average grading in high school which was above the average: 8.1. Drawing from all the above said, that his past schools stand in the outskirts of México City, that his father is the only one who provides income and that he has five siblings, he could be considered with little economic capital: EC (-).

Considering all the above information it could be said that SM capital volume is little: CV (-).

DT/f: *"Nací el cinco de enero de 1985 en Huejotzingo Puebla.* [Schools where you studied before?] *Estudiée en la primaria Ignacio Ramírez quedaa en los Reyes La Paz estudiéee la secundaria enn la secundaria Técnica No. Cinco en Nezahualcoyotl yyyy el bachillerato lo estudié en el Colegio de Estudios Científicos y Tecnológicos del Estado de México en Nezahualcoyotl* [The three of them public right?] *Sí* [The three followed the system of listening to teachers, taking notes and doing homework right?] *Sí* [Do you have any religion?] *Si soy católica* [Do you practice it?] *Si* [Status?] *Soy soltera* [Studies of your parents?] *Mi papá únicamente estudióo hasta la secundariaa y es comerciante mi maamá no tiene ningún estudio y se dedica al hogar* [Where were they born?] *Mi papá nació en Huejotzingo Puebla y mi mamá nació enn Oaxaca* [Status of your parents?] *Ehhh ¿Estado civil?* [yes] *Están casados porr la iglesia únicamente por lo civil no* [These are all the questions fellow I don't know if you like asking me any or adding something?] *No* [Thank you very much for your time in one or two modules from now I have to interview you again I hope you would let talk to you around here] *Si y ojalá yo esté mejor preparada para poderle contestar y responder a sus preguntas.*

DT studied all the previous periods in State schools which follow the traditional education system. Her father studied up to the secondary level and sells groceries for living; her mother did not study at all and is a house wife. DT is an only child and was born in a State of central Mexico where his father was born; she lives in a semi-rural urban area at the East of the Metropolitan zone of Mexico City. DT studied the *prepa* in the area for the degree in computing systems which did not *'help me very much in the entrance exam which ask us about art and so on*'. DT said that she likes paintings that '*handles the environment*', that she does not have time to read apart from the academics and in her free time she likes drawing, knitting and playing the mandolin. Regarding her preferences for works of architecture she said that she likes '*a lot*' the building of the architecture programme, that she does not know who built it but she likes it since it seems '*innovative very different to the others*' '*err likee it uses well the space it has*', '*it is not the same the aisles are not the traditional*'. DT talked mainly with short sentences, slightly accentuating the final word of each sentence and elongating some words trying to mimic the affluent classes' tune. She was shy at the beginning of the interview and sounded less timid as it progressed. Whilst she sometimes had difficulties to find the words to describe her opinions or experiences, it could be said that the questions were sometimes too open for her since she asked to rephrase the question or for more details. It was less difficult for her to talk concerning her tastes in which she was explicit as well as in her personal information. DT clothing looked humble and plain; she did not wear any body's adornment. Considering all this it could be said that DT cultural capital is little: CC (-). By contrast her average grading in the previous level was one of the two highest of this cohort: 8.8. Considering all this and that where she lives obliges her to commute for one hour and a half to reach the university, that her past schools location is in semi-rural-urban areas and her parents occupations, she could be considered with little economic capital: EC (-) . Similarly it could be said that DT capital volume is little: CV (-).

An approach to measure students' cultural capital

To construct the students' capital volume I measured the students' educational and socio-cultural capital with a simple scale. In terms of the **educational capital** I assigned a unit (1) for each scholar year of study beginning to count from primary instruction up to where each person had reached in January 2007. A representation of this part of a trajectory in

the Mexican context would be: six years of primary, three years of secondary, three years of high school and five years, or four as in the university case, of tertiary studies. These years sum up a total of seventeen (17) units. If they have followed graduate studies it will give two units for a Master and four units for a Ph. D. [(17+2+4) = 23].

To add to the students' educational capital I also considered any diploma a student had received as technician or skill worker. This accomplishment would give one unit [24] since the acquiring of this recognition has been acknowledged in other contexts as increasing the students' future employment opportunities (Cherkahoui, 1986: 110). Their studies at the university were included with a value of one (1) for each module. I considered the highest point of the scale as 25 units for practical purpose. Since the scale had to be used also for the parents' educational capital and some of them might have not followed studies at all, the scale lowest point was set as zero. The average number of years studied was considered to be the result of following a professional degree. Thus, the scale I used to determine and named the ranges of educational capital is as follows:

25-21	Highest
20-18	High-Low
17-12	Average
11-07	Low
06-01	Very-Low
00	Poor

To construct their cultural capital, and as an observation to a characteristic of the cultural context, it was considered the students' fondness for reading as a chief indicator. I asked them to recall the title of any book they have read to have more information of this quality of them. To open the number of indicators of their cultural capital I considered their answers regarding knowledge of paintings and painters, visits to museums, theatre or cinema. I assigned one unit if they answered clearly with yes to the question or 0.5 if it was not decisive the answer. To add to these objective characteristics of the students, or cultural capital, I counted their parents' studies. To assign to the parents' studies a number I used the above mentioned rationale.

For the definition of the participants' social capital I considered if the parents were employed or not; if they were employed I considered the possible systems of social connections as well as the income that each type of job could provide to the parents and to the students. I also considered the prestige the occupation could bring to the family. In terms of the former, the father who is unemployed was given zero, who is retired 1, who is

a worker 2, who is a merchant 3, a teacher and most professions but doctors and lawyers 3, an employee 2, a public servant and a professor have 4 units each, a corporation manager, a doctor and a lawyer 5. With respect to the prestige these occupations can bring, I decided that those who were unemployed adds zero, a retiree, a worker, a merchant are 1, a teacher 3 units -since they seem to be well respected by people- an employee 2, a public servant, a politician or a bureaucrat adds zero since these occupations are not respected by Mexican people.

I gave a unit (1) to the mother or father who does the housework since this is a hard job and because this role is praised in Mexican society. For the same purpose I added a unit if students are attached to any association other than the university. For example a student's parents who have followed professional studies and go to a club will give a total of 17 (father) + 17 (mother) + 1= 35. To approach a definition of the students' symbolic capital I decided to take into account their "casual assurance" (Bourdieu, 1974b) since this kind of capital seems to be, in certain professions, an asset for the possessor (Ibid). To express in figures the students' casual assurance, understanding by this his or her appearance of relaxation while interacting. I decided to give one units to who clearly shows it, 0.5 units to who has it less and cero to the opposite person. I applied this criteria to measure their verbal fluency and verbal coherence.

I also used students' pronunciation as an indicator of their social background to compare it with my analysis results. The use of this element stems from the intriguing experience that a number of participant students forcibly pronounced the words elongating the last vowels or consonants trying to resemble the pronunciation of the well to do. I also took as indicators of students' objective conditions their clothing, cleanness and body adornment. The two former as not tidy garments would suggest non favourable social background. Finally, to define the participants' social positioning in terms of their economic capital I used their parents' jobs in relation to Bourdieu's graph of the different professions position in the social space. The assessment of each participant's socio-cultural capital appears in the tables which are at the end of this section.

Once I defined the students' capital volume I positioned their initials in Bourdieu's graph. This graph enabled me, and hopefully the reader, to get insight of the social distances between them as a result of the differences and similarities generated in a first moment by their capital volume and in a second moment by their cultural and economic capital.

Participant Name	Participant Capital Volume
June 17, 2003	
RB/m	
	Educational Capital 14 + 1 + 1 = **16**
	Symbolic Capital Casual assurance + verbal fluency+ Verbal coherence: 1+ zero + 1 = **2**
	Cultural Capital Father: 17 Mother: 9 = **26**
	Socio-economic capital Father: 4 Mother: 2 Parents' Prestige: 2 Club: 1**= 9**
C. V.	**53**

Participant Name	Participant Capital Volume
July 01, 2003	
IÑ/f	
	Educational Capital 15 + zero + 1 = **16**
	Symbolic Capital Casual assurance + verbal fluency+ Verbal coherence: zero+1+1 = **2**
	Cultural Capital No reads, no museum visits. Father: 17 Mother: 17 = **34**
	Socio-economic capital Father: 2 Mother: 4 Parents' Prestige: 3 Club: zero **= 9**
C. V.	**57**

Participant Name	Participant Capital Volume
July 16, 2003	
VL/f	
	Educational Capital 6+3+3+1+ 2 = **15**
	Symbolic Capital Casual assurance + verbal fluency + Verbal coherence: 1+1+1 = **3**
	Cultural Capital Reads, paints: 1. Father: 6 Mother: 17 = **23**
	Socio-economic capital Father: 3 Mother: 3 Parents' Prestige: 3 Club: zero **= 9**
C. V.	**50**

July, 2003	
SM/m	
	Educational Capital 6+3+3+2 = **14**
	Symbolic Capital Casual assurance, verbal fluency, v. coherence: 1+1+zero = **2**
	Cultural Capital Reads; problem ignores arts. Father: 9 Mother: 6 = **15**
	Socio-economic capital Father: 1 Mother: zero Parents' Prestige: 2; Club: zero **= 3**
C. V.	**34**

Participant Name	**Participant Capital Volume**
July**,** 2003	
DT/f	
	Educational Capital 6+3+3+1+ 2 = **15** average
	Symbolic Capital Casual assurance, verbal fluency, v. coherence: zero + zero + 1 = **1**
	Cultural Capital No reads, no museum visits. Father: 9 Mother: zero = **9**
	Socio-economic capital Father: 1 Mother: 1 Parents' Prestige: 2; Club: zero: **= 4**
C. V.	**29**

The observational techniques setting

The classroom I worked with the participants was in the brand new building of the Design Faculty (designed by a former student of this university's architecture programme). The classroom for the Design sessions was the same for the Theory sessions. The room was a square 8 by 6 meters with a long, floor to ceiling window facing the north-west, a concrete wall to the north where a whiteboard was hanging on a wall, a white ceramic hollow block wall to the south and a white ceramic hollow block wall with a high window next to the interior hallway of the building. The furniture was of rectangular wooden tables with steel legs and wooden chairs. Both were a bit disappointing to students (and to teachers) who expected drawing tables, which are suitable to extend the drawing plans.

The students' expected conduct was to pay attention, interact and question. I defined verbal communication clarity as the fluency of words and sentences they formed to express their ideas or to answer any question. In terms of cognitive and design skill issues

I took into account what it is called basic design concepts or, site location, orientation and form in relation to the local climate; program: room dimensions based on the proposed list, short circulation, interrelations in accordance with spaces' activities and regulations. I register events for the students' participants once a week for the three months duration of the module and whenever some uncommon situation aroused. After the sessions two and a half to three hour long I wrote down in a notebook comments for each student in relation to the issues register in the photocopy of the list and regarding their personality. In the module VI group, when I observed **VL**, OG, PR and GA, the coordinator started the term by telling the students the norms they would follow in the classroom: no smoking, no eating and no mobiles. No mention was made concerning attendance. The coordinator [RV/m/50s] also pointed out 'how bad it was that most students did not commit to their profession'. This seemed to me a big generalization. The coordinator's design goals for modules VI and VII were general: 'to develop a project of some magnitude like a clinic, library, school or any other similar'. This teacher decided that the project to be developed would be a fast-food restaurant with capacity for fifty tables. The project would be developed in three stages of design: a) collecting bibliographic information about restaurants, b) develop a list of rooms and furniture the restaurant would need and c) drawing sketches and plans.

During the talk to define the term's activities and goals students requested permission to visiting the facilities of an already functioning restaurant. The main purpose of this visit would be to gather concrete information and to talk to the personnel. The coordinator agreed and accepted a student's suggestion of visiting a restaurant where she was working, which was almost five times smaller than what had been planned to be designed. This coordinator's decision with his trembling voice, his frequent improvisations for the sessions' tasks and his abrupt orders to the students for behaving made me realised that my colleague was affected physically and emotionally. In module VII the project was designing a middle level school. The working process set out by the coordinator was the same as the previous. In this module the coordinator's confusion was mixed with disorder of the design process stages.

This coordinator's state of confusion coincided with a number of students missing sessions, noise in the classroom; delay with more tasks and not to comply with assignments. The disorder reached a point that made the coordinator lose his temper ordering that the noisy students -one of which was the one who suggested the restaurant to visit- to leave the studio. This order was not obeyed by the student. There was much tension all term due to the coordinators' orders and the students' non acceptance of them.

At the end of term the coordinator decided to fail all students without having reviewed their works. I disagreed with this decision suggesting to the coordinator going over the projects carefully and evaluating them in terms of the accomplishment of basic criteria.

I also suggested that we, the teachers, should consider the students' development in comparison to the one acquired in the previous module. The coordinator agreed and only four students failed the module. For the next term the coordinator was assigned to other group, but not as a coordinator. It is likely that the students' evaluation of him was not favourable. The class coordinator complained to the programme's coordinator telling him that I had influenced the students. He wrote me a letter asking questions concerning techniques of teaching and steps to follow in the design process I had suggested previously. He did not tell me directly his suspicions concerning my influence over the students.

Observations conducted in module VII to IX

The coordinator's goals for module VII were 'to design a Hospital-clinic extension' in accordance with the official health Institution's design guidelines and Mexican norms (NOM). This project of a Hospital extension had been requested by the coordinator of the Secretary of Public Health (SSA) of the South-Western State of Guerrero. Hence the project can be considered an object of design suitable to approach a concrete issue as a 'real problem'. For module VIII the general objective was similar, although in this module the project was a Haemodialysis Clinic for a private owner. The coordinator's (who holds a Ph. D. in architecture focused on the design of hospitals) introductory talks for the course were about how the personnel of a hospital carry out their tasks, where they stay and go during the working hours and what furniture and instruments they use.

The term seemed promising for the students; we had to travel to the hospital location and stayed there overnight. The students and I travelled in an old university's bus which worked well for the seven hour journey. At the hospital to be renovated we met the group's coordinator who had arranged a meeting with a number of the hospital personnel, medical and administrative staff. We listened to the hospital director, a number of nurses, doctors and workers of the maintenance office telling us their needs related to their duties, the building lay out, its degree of comfort (or bio-climatic performance in architectural terms) and furniture required. Then we were allowed to explore the building's premises guided by the head of maintenance, who provided the students with a blueprint of the old general plan of the hospital.

After while the coordinator assigned students to survey the plot and all the buildings included as part of the hospital. The main purpose was to gather basic data like room dimensions, furniture, doors and window´s locations and size, as well as installation controls, pipes and cable locations. This colossal amount of information of the actual hospital's layout was necessary to be in the position to develop the project extension. However the coordinator forgot to provide the students with surveying equipment to accomplish this task accurately. The students worked in groups. Each group was assigned to survey one section of the hospital complex. Most of student groups did it by taking pictures of the premises with their mobile phones or digital cameras. After having supper in the hospital's dinner room, we lodged in a comfortable, quiet, sparkling hotel. The students turn their rooms upside down as they organised a 'social night'; by this I mean talking, drinking and listening to music.

The next day, at the hospital location, the coordinator and I stressed to the students the importance of developing as accurately as possible the surveying and to check the measuring. We told them this not only to stress the importance of the basic data, but also because the students seemed either reluctant to carry out the task, or had done it quickly. Notice they did not make any opposing comments regarding this activity. It could be that the students had realised the area was quite big to be surveyed with only tape measure, but none of them complained about it. We returned to the hotel to check-out; this was delayed due to complaints from the receptionist because 'a number of towels had disappeared'. The towels were found under mattresses which had been turn and tossed on the floor. After having had supper with the hospital's Director, we returned to Mexico City. The coordinator offered four seats in his van to the students; some of them accepted.

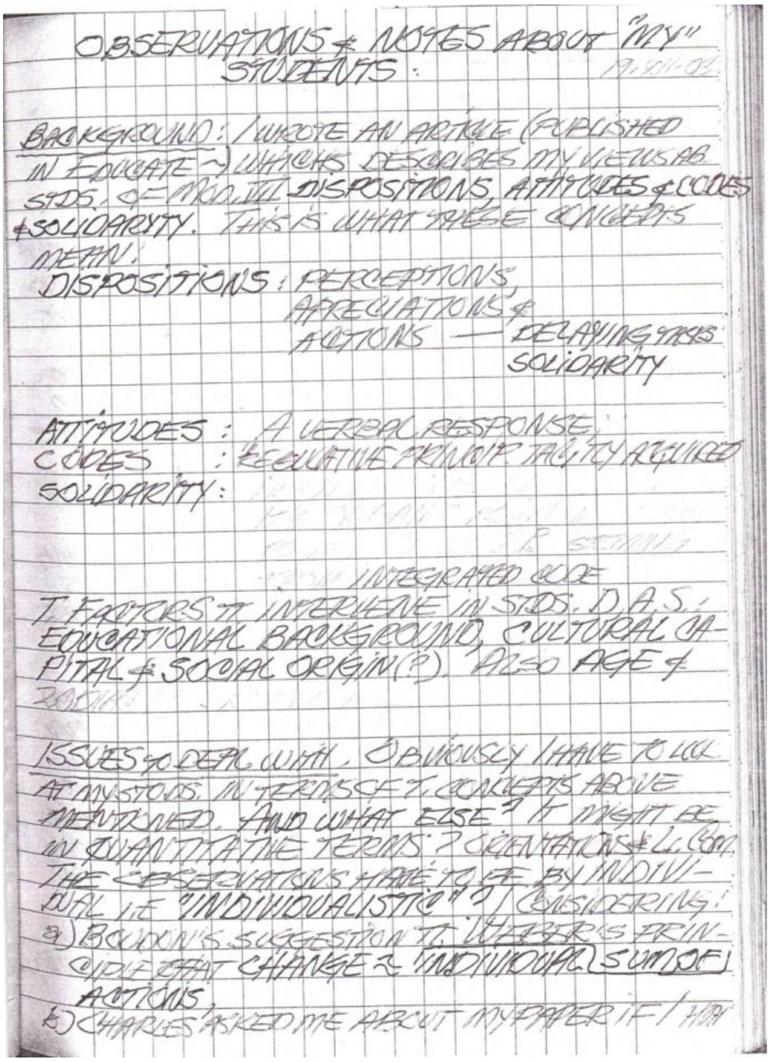
When the students presented the survey of the hospital in the design studio the buildings did not fit the plan. In fact the plan's dimensions did not close as a surface. The coordinator said that the next visit to the hospital would serve as a chance to check this matter. A number of students suggested returning before the next scheduled visit to verify the survey. Their offer to return was accepted and three students went back to Guerrero to survey the hospital site again. The distances students obtained helped a little to plot the buildings in the plan; there were still spaces that did not fit though. During the process of designing the coordinator tended to over emphasize structural regulations due to the fact that the location was in an area prone to earthquakes.

The coordinator considered that regular squares or rectangles were the most suitable shapes for the buildings to be added. Everyone was surprised by the coordinator's

recommendations because he had brought to the studio an annual report of the SSA built hospitals that showed buildings with curved facades, step roofs, inclined walls, bright colours, etc. The coordinator's notion regarding 'the most suitable form for the building' was not a suggestion but an imposition since each student who presented an irregular form plan was obliged to change it to a square or a rectangle. To make matters worse when one of the buildings to be extended did not fit in the designated of the lay out, the coordinator decided to use space of green areas. This decision required ignoring building regulations. The coordinator's decisions and attitude disappointed the students who had identified themselves with him. His decisions also discouraged some students who like to propose irregular, semi-circular or not commonly seen forms.

Observations field notes

The following scanned notes are examples of those I made in a diary.



OBSERVATIONS & NOTES ABOUT "MY" STUDENTS:

BACKGROUND: I WROTE AN ARTICLE (PUBLISHED IN EDUCATE ~) WHICH DESCRIBES MY VIEWS AB. STDS. OF MOD. III DISPOSITIONS, ATTITUDES & CODES & SOLIDARITY. THIS IS WHAT THESE CONCEPTS MEAN:

DISPOSITIONS: PERCEPTIONS, APPRECIATIONS & ACTIONS — DELAYING TASKS, SOLIDARITY

ATTITUDES: A VERBAL RESPONSE.

CODES: [illegible]

SOLIDARITY: [illegible]

INTEGRATED CODE

T. FACTORS T. INTERVENE IN STDS. D.A.S.: EDUCATIONAL BACKGROUND, CULTURAL CAPITAL & SOCIAL ORIGIN(?). ALSO AGE & [illegible]

ISSUES TO DEAL WITH. OBVIOUSLY I HAVE TO LOOK AT MY STDS. IN TERMS OF T. CONCEPTS ABOVE MENTIONED. AND WHAT ELSE? IT MIGHT BE IN QUANTITATIVE TERMS? ORIENTATIONS & L. COM. THE OBSERVATIONS HAVE TO BE BY INDIVIDUAL i.e. "INDIVIDUALISTIC"? I CONSIDERING:

a) BOUDON'S SUGGESTION T. WEBER'S PRINCIPLE THAT CHANGE = INDIVIDUAL SUM OF ACTIONS,

b) CHARLES ASKED ME ABOUT MY PAPER IF I [illegible]

ANALYZED STDS. CHANGES & BEHAVIOUR INDIVIDUALLY.

c) A LONGITUDINAL STUDY DEALS W/ INDIVIDUAL DEVELOPMENT

FIRST NOTES: FIRST PERIOD OF OBSERVATIONS

IT WAS IN MODULE IV (SEPT-DEC 2003). T. TERM STARTED W/ 22 STDS. OF THESE TWO QUIT T. COURSE, ONE AT T. BEGINNING: TORRES O. LYZET, & T. OTHER IN T. 2ND THIRD: CASTRO MEDINA MIGUEL ANGEL. ONE MORE STD. DROP OUT DUE TO AN ACCIDENT TT. IMPAIRED HIS MENTAL HEALTH: ARELLANO ARZATE DIEGO. ANOTHER QUIT T. COURSE FOR A WHILE & CAME BACK FOR "RECUPERATION": AGUILAR PERAGA GUADALUPE. I AM GOING TO START TO REGISTER MY OBSERVATIONS W/ THESE STDS. [SHALL I CONTACT T. FIRST THREE?]

GA ______ IS A QUIET STUDENT, PROBABLY FM. MIDDLE LOW S.C. I DID NOT REMEMBER HER ED. BK. & DID NOT ASK 'R AB. T. OTHER "PERSONAL FACTORS" & TRAJECTORY. SHE HAD DIFFICULTIES TO REPRESENT T. BASIC CONCEPTS OF DESIGNING: SITING (LOCATION, ORIENTATION, FORM), CIRCULATIONS, INTERREL[illegible] [illegible]) [illegible]. SHE USED TO MISS SESSIONS, SOMETIMES IN FOLLOWING DATES

IS DIFFERENT THAN D.T. HE WAS COMMUNICATIVE & ACTIVE PARTICIPANT. PROBABLY FM. MIDDLE HIGH CLASS W/ GOOD COMMUNICATIVE SKILLS HE SEEMED INTEGRATED TO T. CLASS. HIS PRESENTATION IN THEORY WAS VERY GOOD. HE EXPLAINED HIS PROJECT W/ ASSURANCE & PARSIMONY.

HE WAS IN MOST OF T. TIMES. HIS DISPOSITION TOWARDS ASSIGNMENTS WAS POSITIVE UNTIL T. GENERAL DISAGREEMENT STARTED (SEE BELOW). ALTHOUGH HE HAD SOME DIFFICULTIES TO REPRESENT T. RIGHT ROOMS' DIMENSIONS HE UNDERSTOOD

IT IS NECESSARY TO RECORD T. CHARACTERISTICS OF T. EDUCATIONAL PROCESS TT. TOOK PLACE DURING THIS TERM: T. COORDINATOR'S APPROACH WAS T. SORT OF LEARNING BY DOING.

THIS TECHNIQUE WAS IMPLEMENTED FM. T. VERY BEGINNING. STDS. WERE ASKED TO BRING A PROJECT (??) ANY WOULD BE FINE. NO SITE NOR PLOT WERE GIVEN, EVEN LESS WAS CONSIDERED T. USER-OWNER. T. COORDINATOR MENTIONED TO ME TT. "THEY ARE GOING TO BRING T. HOUSE TY. LIKE..." BUT HE DID NOT EXPLAIN OR TELL THIS TO STDS.

THE NEXT EXERCISES, [illegible] MORE EXERCISES WERE DEVELOPED BEFORE STARTING T. MAIN PROJECT. T. TECHNIQUE APPLIED WAS SIMILAR ALTHOUGH NOW T. PROGRAM & T. PLOT WAS GIVEN. NO CONTEXTUALIZATION, NEITHER USERS WERE RAISED, NEITHER WERE COMMENTED T. DIMENSIONS OF ROOMS. T. VARIATIONS IN T. EXERCISES WAS IN T. CHARACT. OF T. PLOT. ONCE IT WAS [illegible] SIDE FREE, ANOTHER [illegible] SIDES, T. NORTH DIRECTION WAS CHANGED TO [illegible]

ABOUT T. THIRD WEEK IT WAS DECIDED TO SATISFY [illegible] T. SITE'S INFORMATION. WE VISIT [illegible] IN A SECOND VISIT [illegible] T. COORDINATOR'S MADE [illegible] STDS. GATHER INFO. ABOUT T. PLOT: DIMENSIONS, OWNERSHIP, [illegible] URBAN CENTER, [illegible] SERVICES & IMAGE. ONE ASPECT [illegible]

ADDRESSES & TELEPHONE NUMBERS

D.T. ______ : SEEMS TO BELONG TO L.S.R. CONSIDERING HER MANNERS OF SPEAKING & CLOTHES. YET HER ABILITY TO EXPRESS HERSELF & HER DESIGN IDEAS ARE GOOD. SHE IS [illegible] YRS. OLD, SHE STUDIED PREPA IN [illegible] & SECONDARY SCHOOL AT [illegible]

FOR ALMOST TWO THIRDS OF T. TERM SHE WAS CONSTANT & PARTICIPATIVE IN CLASS. HER DISPOSITIONS WERE HIGH [illegible]. FOR T. LAST PART OF T. TERM SHE DISAPPEARED FROM T. CLASS. SHE SAID WAS SICK & HAD OPERATED. HOWEVER (AS SHE WAS ONE OF T. MOST OPENLY COMPLAINED ABOUT T. EDUCAT. PROCESS (SHE FOUND INTRIGUING T. "DISAGREEMENT" COORDINATOR & I ABOUT T. TASKS TO FOLLOW) IT IS WORTH PONDERING T. EFFECT, TT. T. "GENERAL DISSAGREEMENT" HAD UPON HER. ALSO IT MIGHT BE TT. SHE REALIZED TT. SHE COULD DEVELOP WELL T. PROJECT & PRESENT IT FOR RECUPERACIÓN & PASS W/OUT HAVING TO WORK TOO MUCH & SPENDING MONEY & ENERGY. THIS LAST ASSERTION OF MINE IS SUPPORTED BY HER CLAIM TT. I SAID SOMETHING & T. COORDINATOR A DIFFERENT ONE — WHICH CONFUSED HER. THE ASSERTION MIGHT ALSO BE SUPPORTED BY T. FACT TT. SHE DEVELOPED T. SKILL TO REPRESENT T. BCD

IT SEEMS SHE IDENTIFIED W/ ______ (?)

DISPOSITIONS: HIGH [illegible]

ATTITUDES: HIGH [illegible] — BAD

ASPIRATIONS:

EXPECTATIONS:

ADDRESSES & TELEPHONE NUMBERS

CODE(S):

SOLIDARISM:

EDUC. BK.

CULT. CAPITAL:

SOCIAL ORIGIN:

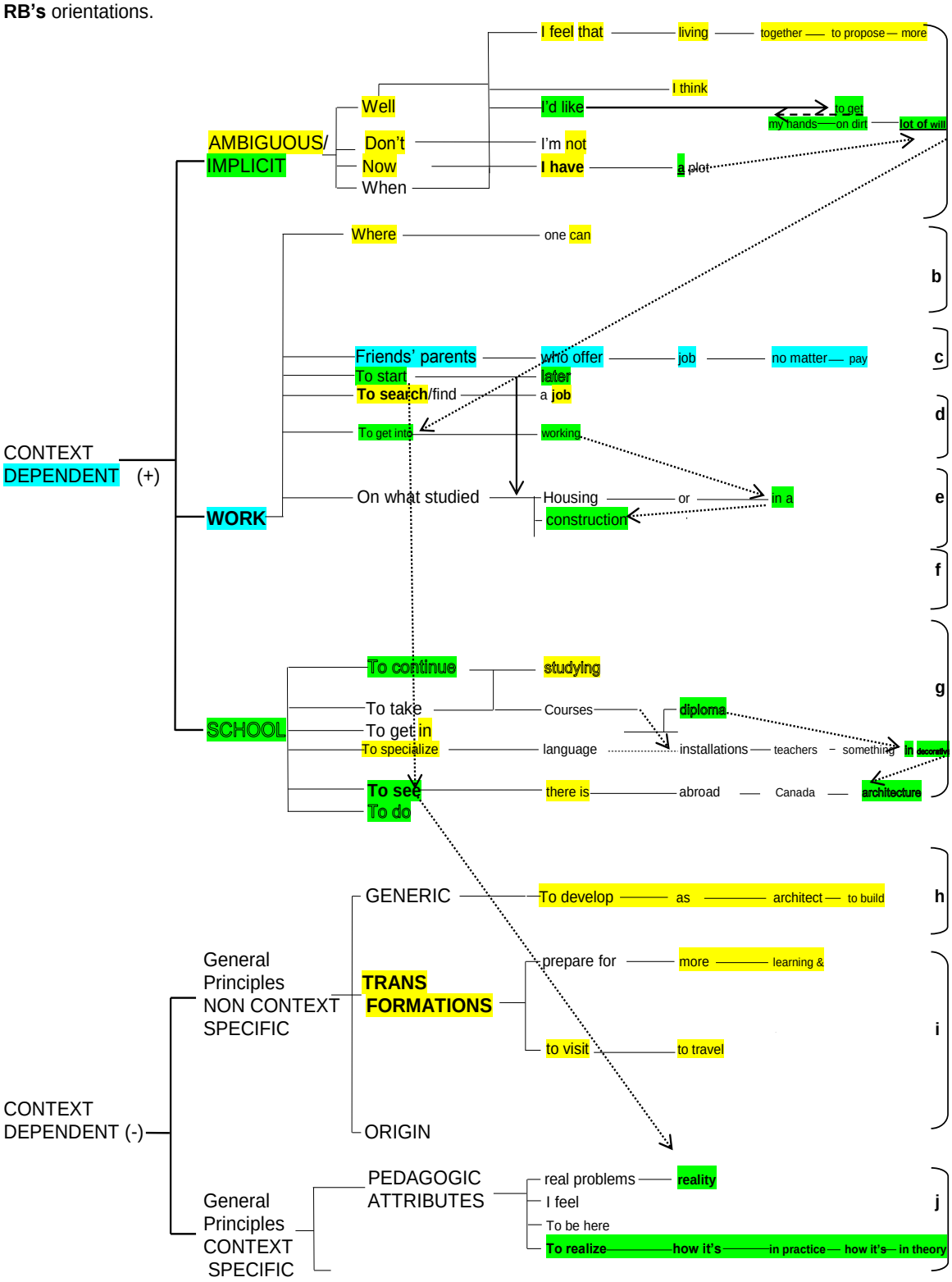
IT IS CONVENIENT—IMPORTANT TO START TO IDENTIFY THIS COHORT'S CODES. AS W/ OTHER COHORT OBSERVED FOR PILOT STUDY, ONE TT. SEEMS TO APPLY TO MANAGE T. STDS. IS THE REJECTION TO PRESENTATIONS. THIS IS IMPORTANT CAUSE IT CROSSES T. GENERAL PEDAGOGIC PRACTICE I.E. STUDENT-CENTRED & LEARNING BY DOING. THIS CODE — WHICH I CALLED [illegible] WAS CLEAR IN T. THEORY SESSIONS PARTICULARLY W/ FERNANDO, ERIK & ADAN AND W/ DANIEL, ERIKA, LILIANA & RUBEN WHO GAVE POOR PRESENTATIONS. LATER ON T. FORMER RAISED SEVERAL QS. ABOUT BIO-CLIMATISM WHILE T. PRESENTATION, ALTHOUGHT FERNANDO DID KNOW THE SUPPOSED IGNORED ISSUES. THIS CODE SEEMS TO OPPOSE [illegible] HIERARCHICAL RULES (AS WELL?) OR RATHER T. EDUCATIVE [illegible]. IF T. CASE IS T. FORMER I'M RE MISTAKEN AS IT LEAVES SPACE-TIME FOR THEM TO EXPRESS. IF IT'S T. LATER TY. MIGHT BE WRIGHT & ASK TO US-PROFRS. — TO LOOK FOR "DIFF. PEDAGOGY".

[illegible] 03 ANOTHER CODE I AM TRYING RECOGNIZE MANIFESTS AS A CONTRADICTION TO T. PREVIOUS IN T. SENSE TT. IN THIS CASE IT RESPECTS T. SYSTEM OF HIERARCHIES. THIS WAS EVIDENT AT THE END OF T. TERM WHEN T. COORDINATOR FAILED ALL T. GROUP; THERE WAS MANY COMPLAINS & TY. ADDRESSED THEM TO ME. WHEN I TOLD THEM TT. TY. COULD POSE THEIR COMPLAINS IN T. COORDINATION, TY. OPENLY SAID "WHAT IF HE TAKES REVENGE?" THEN, WHILE IN T. DYSFUNCTIONAL CODE MY STDS. TRY TO OPPOSE T. SYSTEM OF HIERARCHIES IMPLICITLY OR UNCONSCIOUSLY, IN THIS LATER BEHAVIOUR TY. CONSCIOUSLY ACCEPT T. SYSTEM. HOW DID TY. LEARN THIS? WHOLE DID TY. LEARN THIS LATER BEHAVIOUR? I AM GOING TO NAME FOR T. MOMENT THIS CODE T. CONFORMIST CODE, BECAUSE IT LEADS STDS. TO KEEP T. PEDAGOGIC PRACTICE AS IT IS, EVEN WHEN TY. KNOW THERE HAS BEEN DEFICIENCIES IN T. [illegible]

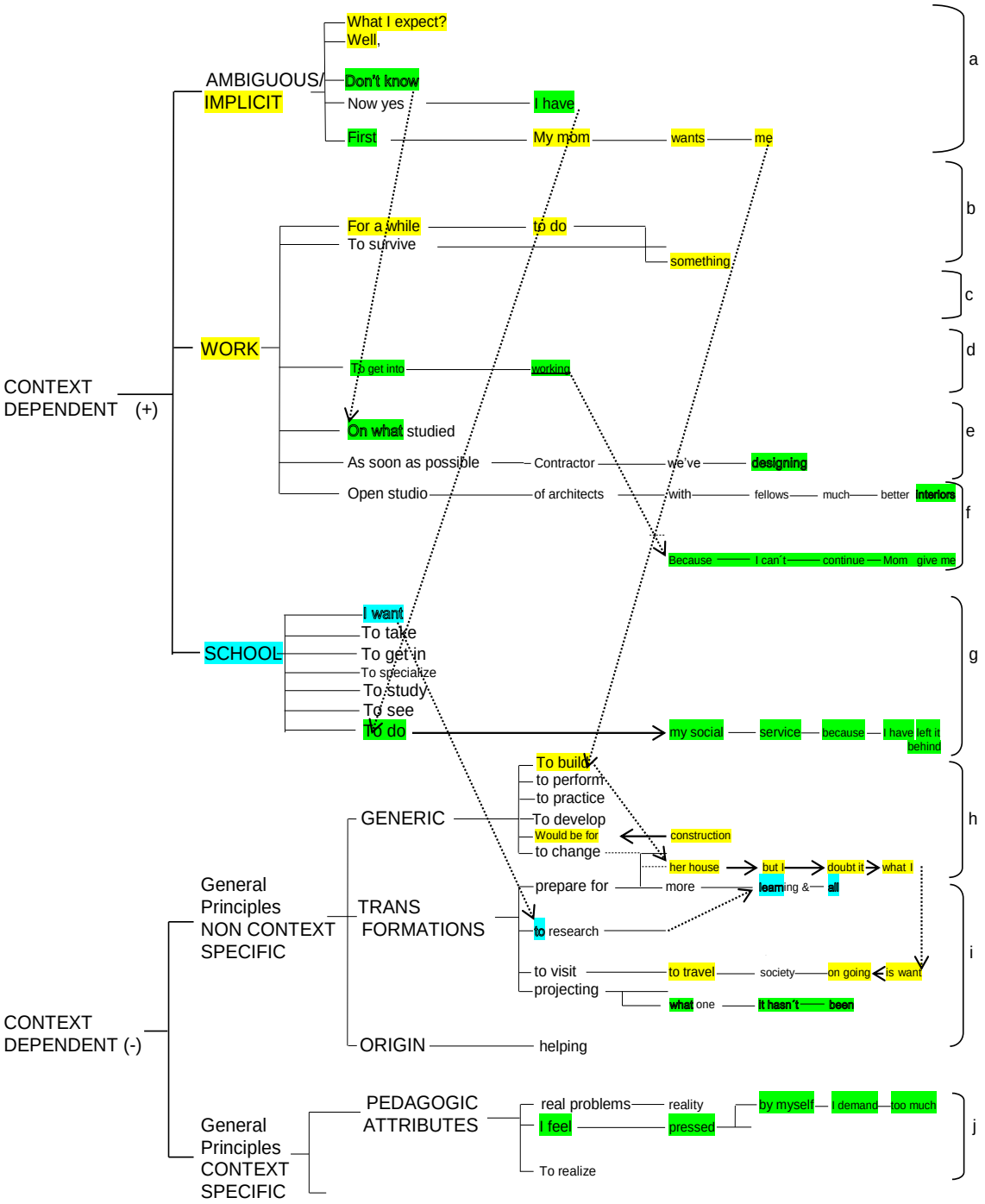
Networks of RB's, IN's and SM's responses

Figure 5.1a to 5.3a Students' orientations after three interviews.

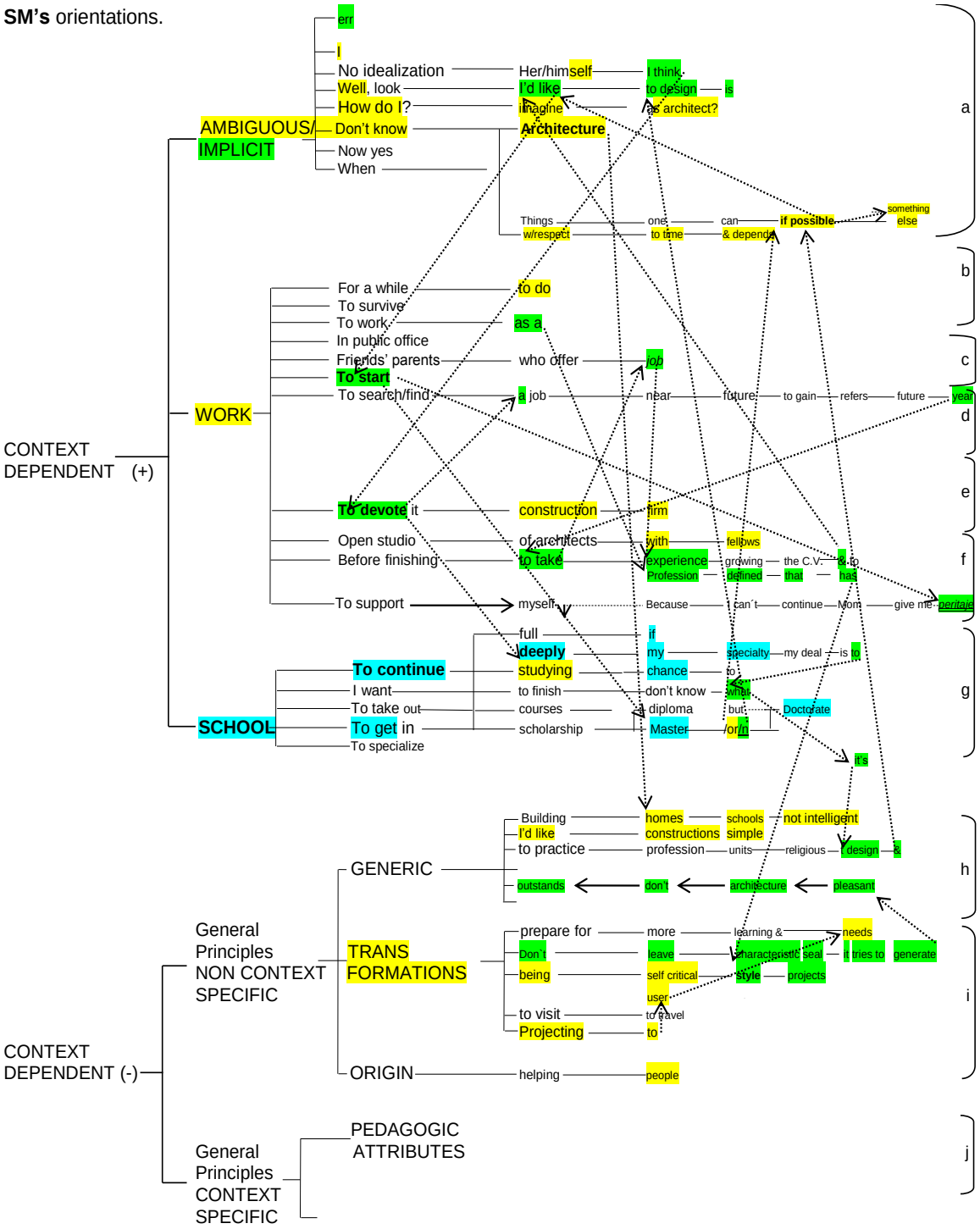
RB's orientations.



IN's orientations.



SM's orientations.



Example of one of my summaries of interpretative analysis results sent to the participants for their corroboration

I present this summary of my interpretative analysis of one of the participants' verbal and written responses that I sent to them to show the format that was not very useful to encourage the participants to respond to it.

ACEPTACION POR EL ENTREVISTADO

SM decidió estudiar arquitectura porque ".. me gusta realizar maquetas, tengo una idea hacer nuevas creaciones sobre nuevas estructuras ya sea puentes, hospitales..". SM decidió estudiar en esta universidad arquitectura porque "Me queda muy cerca. Tiene un nuevo modelo que es muy bueno nos hace ser **críticos** además llevan un sistema que en los primeros tres trimestres no se basan en su programa sino en estudiar a la sociedad y eso es lo que me llamó la atención". En la segunda entrevista SM se encontraba en el módulo VI y su opinión respecto al proceso educativo en la carrera de arquitectura fue: "Es agradable pero todavía sigo insistiendo que el sistema no es apto para la carrera de arquitectura" "los maestros (de Estructuras e Instalaciones) no son muy buenos por lo mismo que como el sistema educativo de la uni dice que tenemos que investigar, también si ellos no dan los temas profundamente por lo mismo que dicen que tenemos que aprender por nosotros mismos y ellos no dan lo que deben dar al 100%".

En la opinión de **SM** el **tiempo** programado para las sesiones "Es demasiado corto" "para las tecnologías siento que debería ser más largo es solamente una vez a la semana y solamente tres horas, la secuencia se pierde siento que en Diseño no" "y en Teoría e Historia siento que es muy poco el tiempo". SM había obtenido MB y B como **evaluaciones** en Diseño y las Tecnologías y dijo que le parecían "..bien, pues echándole ganas..". Así mismo dijo que "Todavía siento miedo de enfrentarme al campo de trabajo" y "siento que no nos están dando las bases". **SM** opinó que "...En el **TID** conocemos nuestra **economía** nuestra **sociedad** y yo si creo que está **relacionado** con la carrera aunque muchos critican que esto no existe, yo creo que si nos da bases para entender nuestra sociedad...". SM prefería el módulo "....II y III porque nos enseñan a diseñar a no ser tan, tan cerrados en cuanto al diseño en cuanto a, a, quitarnos el miedo de diseñar de de salirnos de lo cotidiano...".

Claramente **SM** cree que "...algunos profesores son prepotentes ellos son arquitectos pero yo estoy estudiando para serlo" "el maestro de Diseño que tengo ahora es bueno pero es un poco pedante nos insulta a todos, cree que todo lo que él dice es lo mejor pero se **contradice** a sí mismo y no acepta sus errores, yo creo que un maestro crítico sería lo mejor" "...cuando se da cuenta de sus contradicciones trata de cambiar pero escondiéndolas". Los de tecnologías "son regular –particularmente Instalaciones y Estructuras aunque si aceptan preguntas...". No obstante a SM le gusta " ...el trabajo de mi mismo maestro JMB[m/+60] me gusta su forma de enseñar tiene muchas cosas que rescatar de él y ....coincido con su forma de ver la construcción de escuelas, primarias, casas-habitación, es un buen ejemplo para mí..no su forma de ser".

Con respecto a su imagen como arquitecto **SM** dijo "..ser auto-crítico razonable (que sea humana, que satisfaga las **necesidades** del que está viviendo a un 100%) en una construcción me gusta pensar en lo que son las necesidades y noo..irme por lo sencillo una arquitectura sencilla sin [pausa] sin tanto ritmo, sin tanto movimiento algo más abstracto".

En la primera entrevista **SM** respondió que al terminar su carrera (**expectativas**) "Pienso seguir estudiando una maestría y si se puede un Doctorado" e "investigar las

construcciones, el cálculo estructural". De manera similar contestó en la segunda cambiando la parte del Doctorado por "a lo mejor también algo más". Con respecto a sus planes de trabajo SM dijo en la segunda entrevista ambiguamente que "....dependiendo de mi desempeño y el desempeño de mis compañeros a lo mejor me gustaría hacer una constructora entre varios compañeros de la escuela".

*A SM no se le preguntó su idea del ´**buen arquitecto´.***

En la opinión de **SM** el proceso de enseñanza de la arquitectura en la USMX se podría mejorar "Yo digo que alargar un poquito más los trimestres por ejemplo las vacaciones de agosto son muy largas son casi dos meses entonces yo digo que podrían quitar un mes y repartirlo a los trimestres por lo mismo de que un trimestre no podemos alcanzar a ver todo todo un proyecto completo, de hecho los maestros lo que nos hacen es mandarnos a recuperación para que terminemos el trabajo en nuestro período de vacaciones por lo mismo que no nos alcanza el tiempo.

Se puede decir que los marcos de referencia (**códigos culturales**) de **SM** en la primera entrevista eran del tipo restringido y elaborado, o sea con lazos a sus **contextos** familiar y social (micro y macro) y transmitidos por el contexto de la UMXS (meso) y sus estudios previos. Tales códigos se mantuvieron hasta la segunda entrevista, siendo menos ambiguos y más explícitos (elaborados). Aun cuando sus metas se orientan hacia si mismo **SM** quiere ser auto-crítico y parece estar consciente de los objetivos, principios y técnicas pedagógicos del sistema modular y su importancia en su educación pues ha estado comprometido con el proceso de enseñanza (**universal; instrumental++ expresivo+-**).

Por lo anterior y teniendo presente sus otras respuestas, se puede decir que las **aspiraciones educativas** de **SM** eran muy altas al inicio de sus estudios en esta universidad y siguieron siendo así hasta el módulo VI. Aunque a SM no le gustaron varias experiencias educativas vividas en el proceso de la carrera de arquitectura, su **actitud** (orientación) hacia el proceso fue de compromiso y crítica (**instrumental++ expresivo+-**). Su máxima aspiración se ha desvanecido un poco, quizás por influencia de **compañeros** de la carrera y **necesidad** de **trabajo**, que parecen dirigirlo hacia cierta **independencia profesional** [probablemente influenciado por el slogan presidencial en boga] aunque sigue teniendo como principio de trabajo en la arquitectura el atender a la gente (**universal**).

Notas: Las frases y oraciones entre comillas son del entrevistado. Todos los énfasis y puntuación son del entrevistador –salvo donde se indique. Las palabras entre paréntesis y corchetes son incluidos por el entrevistador. Los primeros señalan conceptos de las teorías siendo usadas o del entrevistado y los segundos ideas del entrevistador.