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High School Teachers´ Epistemological Beliefs

TESIS

Para obtener el grado de

MAESTRA EN EDUCACIÓN CON MENCIÓN EN DIDÁCTICA DEL INGLÉS

Presenta

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CHAPTER I

INTRODUCTION

In my experience, teachers can become a motivation or a disappointment to students. The best teachers I have had, so far, were very committed to their work. They were prepared, responsible, kind and helpful in all senses. On the other hand, my worst teachers were passive, missed classes; they had a bad attitude in class and they thought that they were omniscient.

Those actions that I can remember from my teachers, the bad and good ones, have influenced most of what I am today as a teacher, they taught me how I should and should not behave, and the way I may leave a positive mark on my students. However, not only our behavior affects our students but also the way we think they learn, or how knowledge is acquired. Most of the time, the way we teach reflects what we believe about acquisition of new information, for example; when we choose the activities to be done in class we believe those are the best for our students.

All educational levels are important, from primary school to university. Each one of them provides us with important knowledge useful for the following stage of our education. However, university is an important stage due to the fact that students focus on something that they will probably do for the rest of their lives. However, one of the complaints made by university teachers is that students have not been taught well enough previously, so have difficulties at the University level.

In the following paragraphs, the statement of the research problem is presented in which is given a wider description of the problem and how the epistemological beliefs are related to it. Moreover, in the review of literature there is discussed a number of studies that have been carried out in the field of epistemological beliefs as well as the findings and the conclusions stated.

1.1. Statement of the problem

High school is the last step before entering University, thus, it is required that one be academically prepared to perform well to fulfill the requirements of the institution. Having the appropriate knowledge will make students feel more comfortable and self-confident. However, part of providing the accurate knowledge or guiding the students is the teachers' responsibility.

I used to work in an academy of English, in which a lot of the students were enrolled in the courses because they failed English at high school and they needed to pass a special examination or because they wanted to improve their performance at school. They sometimes mentioned that they had failed because they did not understand what the teachers at high school had taught them. Others said that their classes were so boring that they avoided them. These comments made me think about the lack of motivation these students faced. Moreover, this happened with most subjects and teachers, this is not a problem of only one subject.

When students finally enter university they have to complete some requirements regarding the abilities that they are supposed to have learned at high school. At university they are expected to be critical, to analyze information, to have complex thinking skills, amongst others. If they are not academically well prepared, they could face teachers' comments about their low performance levels and eventually students could become demotivated. This situation might not allow students to carry out quality work.

Nowadays, I work in Bachilleres a high school which is the context that I chose to develop this research. The educational environment does not seem to be so different from what I imagined when I decided to carried out this inquiry. Actually, most students seemed to lack motivation. From experience, students have mentioned that classes are boring, teachers explained the topics but students sometimes did not understand, they did not find the subjects to be useful, however, they accepted that this educational level was an important stage for their professional formation because they have to choose a specialty when they are in the third semester which is usually related to their future majors. This seems contradictory since they are not motivated enough but they do believe high school is important for their education. Then, what is happening?

Something is happening, and that "something" affects different stages in a student's educational formation. However, this situation might somehow be caused by teachers since they usually reflect in their classes what they believe about teaching and learning. For that reason, it is important to know how teachers think knowledge occurs, where

they think knowledge resides, how it is constructed and how it should be evaluated. This can also be defined as epistemological beliefs (Hofer, 2004).

Epistemological beliefs are mental constructions that guide our thinking and behavior (Harvey, 1986; Kitchener, 2002; Sigel, 1985). Epistemological beliefs determine teachers' attitudes, aptitudes, and opinions. (Marin, 2005) Most of their beliefs are formed by personal and social experiences as well as the educational background. It is important to mention that these beliefs affect teachers' teaching practices which, at the same time, influence students' beliefs (Kagan & Tippins, 1991).

Taking into account the explanation above, if teachers reflected over their daily teaching and the way they think about it, they would find that most of their practices are completely related to the experiences they have faced through their lives, especially, educational ones. For that reason, this study aims to identify teachers' epistemological beliefs. Teachers might not be aware that their perspectives could affect their practices and at the same time, their students' beliefs, expectations and performance. They might not even know what their beliefs are or where they come from. Therefore, this inquiry was looking forward to identifying *Colegio de Bachilleres* English teachers' epistemological beliefs, the origins of those beliefs and the relation between the beliefs and teaching practice.

The following section presents the rationale of this study, and why researching about epistemological beliefs is important and how this study could benefit the institutions and the teachers themselves.

1.2. Rationale for the Study

The importance of this study comes from the necessity to know what is missing at the high school level in Quintana Roo. Epistemological beliefs are one element that has been ignored in most levels in Quintana Roo. Even though this study may not provide the final answer, it is useful as a starting point since the results and conclusions made from this inquiry can be helpful to complement further research.

What is more, epistemological beliefs can tell us a lot about the way teachers believe knowledge is constructed, where it resides, and how it should be evaluated. Once we know what teachers believe, educational institutions could be able to prepare training courses so they can make teachers aware of those beliefs, and work to improve beliefs and practice. At the same time, epistemological beliefs are important to reflect on what we do in our classrooms as teachers. Is that the image that I really want to transmit? What am I teaching my students with my way of thinking?

We should remember that every step in our education is important; however, as mentioned before, high school is the last step before university which means that students need to be prepared enough to face the challenges found at this level. We should not allow students to enter university with negative feelings towards English. For that reason, it is important to identify what teachers believe about knowledge and its acquisition. In that way we might identify if those epistemological beliefs affect their daily teaching.

This study can also be useful directly to the teachers, as it would be possible to make them conscious about what they believe and the consequences that these beliefs may have in practice. Some teachers, sometimes, do not know the origin of their thoughts: actually, it appears that many teachers do not reflect about their practices.

1.3. Purpose of the Study and Research Questions

This study will attempt to describe the epistemological beliefs held by English teachers. At the same time, these beliefs are contrasted with teachers' teaching practices. In that way, one can compare if what they express is what they really do in the classroom. It was expected to find out realities that could not match one another, as everybody, during his/her life has been exposed to a wide range of situations and experiences. For that reason, it was decided to use a qualitative approach to carry out this research, as it was possible to go deeper into teachers' beliefs.

This study sought to answer the following questions:

1. What are the epistemological beliefs of English teachers at *Colegio de Bachilleres*?
2. How do these beliefs influence their daily teaching?
3. What is the origin of teachers' epistemological beliefs?

In this section I have established what the purpose of this study is and the questions that will be answered in the following chapters. Then, it is essential to establish the view that

guided this study. For that reason, in the following section the worldview in discussed which was used to analyze the data obtained from the participants.

1.4. Worldview (Social constructivism)

Qualitative research does not seek average answers or to generalize about a phenomenon, but something more profound that can be observed in its natural environment (Hernandez Fernandez-Collado & Baptista, 2008). Qualitative research is used when a problem or issue needs to be explored (Creswell, 2007) as it is a way to enter the natural setting and establish close interaction to the participants and the real context where the problem is experienced. Therefore, the data obtained by the researcher will provide a deeper understanding of the problem being researched.

In every qualitative inquiry it is important to choose a worldview that will determine the vision the researcher will take to analyze data. In this case, the worldview that will guide the data analysis is social constructivism, which is described in the following paragraphs.

Social constructivism emphasizes the collaborative nature of learning. Social constructivism was developed by Lev Vygotsky who was a Cognitivist but who did not believe that it was possible to separate learning from its social context (Atherton, 2010). Vigotsky stated that all cognitive functions were products of social interaction and that learning was the process by which learners were integrated into a knowledge community.

Vygotsky (1978) said that language and culture were essential in human intellectual development and how humans perceived the world. Language and culture are the frameworks through which humans experience, communicate and understand reality. For example; I do not only see a black framework and a screen but I also see a television, hence, it has sense and meaning to me. Therefore, according to Vygotsky knowledge is socially constructed but at the same time it is reconstructed.

Learning, from the constructivism point of view, does not mean to reproduce or to accumulate knowledge but the taking of that knowledge and making it one's own. It means to analyze that knowledge to understand and integrate it into our previous knowledge; in that way, we will achieve functional and meaningful learning. Hence, all learned knowledge will be useful to the personal development, which at the same time is continually modified to achieve wider learning.

According to social constructivism there are two developmental levels; the level of actual development and the level of potential development (Atherton, 2010). In the former, the learner is capable of solving problems independently. It is the level of development that the learner has already reached. The latter is the level of development that the learner is capable of reaching under the guidance of teachers or in collaboration with peers. This is the level at which learning takes place.

Learning is not only the learner's responsibility, since there should be somebody supervising learning and its accuracy. Constructivism sees the learning process as team work where the learner is helped by a guide to construct knowledge. That is why it sees motivation as extrinsically and intrinsically necessary. On the one hand, learning is

socially constructed thus learners are motivated by rewards provided by the knowledge community. On the other hand, knowledge is a primary construct by the learner so learning also depends on the learner's internal drive to understand and promote the learning process.

Part of the facilitator's role is to make the learner interested in the new information that will be learnt, but at the same time the learner should have the disposition to learn. Coll (1997) says that learning is a cognitive process but it also relates to affective aspects that could affect a person positively or negatively. That is why in this investigation it is sought to create a cooperative environment, in which the researcher and the participants construct the meaning of the phenomena under investigation. Furthermore, an understanding of the way the participants visualize the epistemological beliefs will be provided by the answers of the research questions.

In this investigation, the goal of social constructivism is to rely as much as possible on the participants' views (Creswell, 2007). However, the meanings are negotiated and formed through interaction; in this case, interaction between the researcher and the participants. This worldview requires open-ended questions so that the participants are free to express themselves and later the researcher, shaped by her experience and background may interpret and understand the world in which the participants work.

Schwandt (2007) also mentions that interpretations are not constructed in isolation but against the backdrop of shared understandings, practices, language and so forth. Schwandt (2007) states that knowing is not passive but active, therefore; constructivism means that human beings do not find or discover knowledge so much as it is

constructed or made. In this sense, this study will be focused on that, the construction of knowledge using the participants' answers; this will be the basis of the final outcome.

According to social constructivism reality is constructed through human activity, it does not exist prior to its social invention. Therefore, the participants and the researcher have to work together in order to build up the reality they experience in their daily teaching.

1.5. Limitations and delimitations of the Study

In this study only English teachers from Bachilleres were interviewed. Teachers from other institutions were not part of this study because of the amount of time required for this type of research and the need for deep analysis. This research just took into account epistemological beliefs, the relationship with teaching practice, and the nature of those beliefs, even though other components have been included in other researches, such as: background, school status and changes in epistemological beliefs.

Considering that the participants were only 5 teachers, it was not possible to generalize among high school teachers. However, the approach used in this research allowed a more profound analysis. What is more, this can be the basis for future studies and possible comparisons with other high schools or through educational levels.

Time was another factor limiting this research since it was not possible to make interviews and observations as it was planned from the beginning. For that reason I had to give priority to the interviews as they provided richer information than observations

did. At the same time, participants' time and researcher's time did not match and it was necessary to look for different participants from the ones that had been considered.

CHAPTER II

REVIEW OF LITERATURE

In this review of literature a number of studies are presented that have been carried out using different approaches and instruments. Even though all of them are related to Epistemological Beliefs, other variables have been used, such as; changes in beliefs, teacher training and implications of beliefs in students performance. At the same time, it is important to establish what epistemological beliefs are. This chapter starts with an explanation about beliefs and how they have been categorized.

2.1. What are Epistemological Beliefs?

In this research, epistemological beliefs have been investigated. Therefore, it is important to point out what epistemological beliefs are and how they have been approached in different methods of research.

Educational psychologists have described epistemological beliefs as a set of beliefs about the nature of knowledge. Hofer (2004) said that epistemological beliefs examine what individuals believe about how knowledge occurs, what counts as knowledge and where it resides, and how knowledge is constructed and evaluated. Schommer (1990) stated that epistemological beliefs influence the interpretation and integration of information.

In some cases, the term epistemological beliefs can be also called epistemological theories, ways to know, epistemic cognition or personal epistemology (Hofer, 2004).

However, all of those terms refer to the same phenomenon which is the nature of knowledge and knowing. In the research of epistemological beliefs, there has been an interest to include beliefs about learning and teaching. Moore (in Leal, 2005) mentions that it is important to know about teaching and learning, in order not to leave important aspects out.

The research on epistemological beliefs was originally focused on students' beliefs. Schommer started doing research on this topic based on Perry's work (1970). However, Perry proposed a unidimensional model whereas Schommer came out with a multidimensional model. Perry had the idea that when students went to university they thought knowledge was simple but as time went by students realized that knowledge was complex, tentative and acquired through reason and empirical evidence. Schommer developed a model containing 4 main categories (Schommer, 1990) these categories are dualism, multiplicity, contextual relativism, and commitment within relativism.

Soon after, based on Perry's work (1970), Kitchener and King (1981) described the reflective judgment model which had seven stages of beliefs about knowledge that people are supposed to go through in the same order. This was also a unidimensional theory and they created a paper-and-pencil measure Likert scale.

Later, Schommer continued studying students' beliefs and those studies resulted in a multidimensional approach to epistemological beliefs. The set of dimensions included: 1) omniscient authority, 2) certain knowledge, 3) simple knowledge, 4) quick learning and 5) innate ability. She said that these beliefs had implications on how students viewed

learning and how they chose to deal with knowledge (Schommer, 1994). Based on these dimensions, Schommer developed an instrument to measure epistemological beliefs (Epistemological Beliefs Questionnaire) which comprised 63 items.

Many researchers have focused on epistemological beliefs taking into account Schommer's theory (Shinn, 2003; Oguz, 2008; Ravindran, Greene & Debacker, 2005; Chai, Khine & Teo, 2006; Arredondo & Rucinski, 1996). However, not all the researchers have focused on students, they have also been interested in knowing teachers' beliefs (King, Lavesque, Weckerly & Blythe, 2000; García, 2005; Arredondo and Rucinski, 1996; Wadsworth, 2007; Goelz, Piper and Wiseman, 2004; White, 2000; Brownlee, 2001; Gómez, 2003). The reason is that epistemological beliefs have also implications on the way teachers teach.

According to Pajares (1992) beliefs facilitate the definition that people have about the world and themselves. In the case of teachers, they create their beliefs as they are students and later, they turn those beliefs into actions as teachers, therefore, these beliefs are taken to the classroom. Then, it can be concluded that teachers are somehow responsible for students' epistemological beliefs since they influence what students believe.

This work aimed to investigate the teachers' epistemological beliefs that will be taken as the nature of knowledge and knowing; at the same time, it also takes into account learning as a part of understanding epistemological beliefs. Even though this is a qualitative research, in this review of literature quantitative and qualitative studies have

been included since most of the research done about this topic has been quantitative; therefore, it has not been possible to focus only on qualitative studies.

The review of the literature has been divided into three parts; the first part considers quantitative studies. It starts with studies from one of the pioneers of epistemological beliefs inquiries. The second part includes qualitative studies which have been carried out based on the quantitative findings. Finally, the third part includes studies done in the field of language teaching whose approach is phenomenological and which guided the research.

2.2. Quantitative studies

It can be said that Schommer (1990) is the pioneer of the epistemological beliefs; she has done a lot research on this topic. However, as it was mentioned before, she has focused on students' epistemological beliefs. She wanted to know if students' epistemological beliefs affected their comprehension, therefore she applied an epistemological beliefs questionnaire to 266 students. She also assessed ability, prior knowledge and demographic characteristics. Factor analysis of the questionnaire resulted in four factors named as follows: 1.The ability to learn is innate, 2. Knowledge is discrete and unambiguous, 3. Learning is quick or not-at-all, 4. Knowledge is certain. It was found that the more students believe learning is quick, the more likely they are to write oversimplified conclusions. The students believe knowledge is certain. The more students believe learning is quick, the more likely they are to perform poorly on typical comprehension measures and inaccurately assess their comprehension.

Schommer-Akins & Hutter (2002) investigated the relationship between individual beliefs about the nature of knowledge and the nature of learning (epistemological beliefs). 174 people completed Schommer's Epistemological Questionnaire. It was found that the more the participants believed in complex and tentative knowledge, the more likely they were to take on multiple perspectives, be willing to modify their thinking, withhold ultimate decisions until all information was available, and acknowledge the complex, tentative nature of everyday issues. Epistemological beliefs that are heavily influenced by a higher level of education appear to relate to thinking beyond the classroom, and introducing controversial issues into the curriculum may reciprocally foster the development of epistemological beliefs.

Schommer-Aikins and Easter (2006) investigated if age, gender, or academic year related to ways of knowing and epistemological beliefs, if ways of knowing related to epistemological beliefs and how ways of knowing and epistemological beliefs combined to predict academic success. The instrument used to measure epistemological beliefs was the Kardash Epistemological Belief scale which evaluates beliefs about the speed of knowledge acquisition, the structure of knowledge, knowledge construction and modification, characteristics of successful students, and attainability of truth. The participants were 107 college juniors and seniors. They found that there were no significant gender differences between ways of knowing and epistemological beliefs. However, they found that when students believe that learning takes time, their academic performance was better.

Schommer and Walking (1997) studied the relationship between high school students' epistemological beliefs and their attitudes towards education. For that reason they used Schommer's Epistemological Beliefs Questionnaire (63 items) and they also used open-ended questions in order to indentify students' attitudes. The participants were 158 students from high school. It was concluded that epistemological beliefs play a critical role in students' everyday attitudes towards the value of high school and their prospects of college. They also had a belief in fixed ability which was the most frequent predictor. The less they believed in fixed ability the more they believed it can be improved over time. Most students believed that learning is gradual.

Cano and Cardelle-Elawar (2004) examined and integrated in a single study both quantitative and qualitative methodologies. Data were collected through an open-ended task and an epistemological questionnaire. They were administered to a sample of 1200 secondary students. The results showed students' conceptions of learning and epistemological beliefs change from simplistic to more complex as they progress through school. Epistemological beliefs were predictors of academic performance. It means, the more capable students were of constructing meaning, the better their academic achievement appeared to be.

Brownlee, Purdie and Boulton-Lewis (2001) implemented a teaching program design to foster the reflection on and development of more sophisticated epistemological beliefs. The participants were 29 pre-service graduate teacher education students at Queensland University of Technology. Students were required to reflect in journal entries on the content of an educational psychology unit in relation to their epistemological beliefs. They were interviewed at the beginning and at the end of the

program and there were findings that showed that students changed their beliefs into more sophisticated ones and in some way, it showed that the learning environment the teachers develop has an influence on students beliefs.

Shinn (2003) described the epistemological beliefs of students at a small community college located in rural western Illinois. The Schommer-Aikins' Epistemological Belief Questionnaire was used to collect data about students epistemological beliefs. Students were classified by student type, program type, and gender. The results indicated that a naïve belief in fixed ability was associated with low semester grade point average. Moreover, males held more naïve beliefs than women.

Buehl and Alexander (2005) identified students' domain-specific epistemological beliefs profiles and examined differences in students' beliefs, motivations, and task performance. 482 undergraduates completed measures regarding their beliefs about knowledge, competency beliefs and achievement values relative to history and mathematics and participated in domain learning tasks. Students with more sophisticated beliefs seemed to be more motivated and had a higher level of task performance.

Peng (2003) examined the effects of epistemological beliefs of teacher education students in their usage and learning in a case based hypermedia learning environment. It also wanted to understand how the case-based hypermedia learning environment may impact changes in epistemological beliefs of teacher education students. Data were collected based on questionnaires. Pre- and post-knowledge tests and an audit trait analysis of the hypermedia system usage and activity artifacts were the instruments

used to collect data. It was revealed that epistemological beliefs have only a small relationship with the usage of hypermedia learning environments. Beliefs in structure of knowledge had a positive relationship with the percentage of the time in the use of audios and videos. Beliefs in abilities to learn and speed of learning indicated relationships with three of the four problem-solving activities.

Youn, Yang and Choi (2001) investigated the nature of epistemological beliefs about learning by analyzing the type of factors involved in the epistemological developments of 455 South Korean high school students. Previous American studies have showed that American students learning beliefs are related to age, amount of formal education, and academic achievement. Multiple regression analysis of this study however, showed that no such relationships were identified from the present South Korean sample except between students' beliefs and their academic achievement.

Huglin (2003) investigated the relationship between learning styles and epistemological beliefs in adult learners. Differences in personal epistemological beliefs among four learning style types were explored. Volunteers completed two surveys: the Learning Style Assessment and the Epistemic Beliefs Inventory. The results indicated that the four style types differed significantly in their epistemological beliefs. The study also revealed that the majority of the differences found in epistemological beliefs between the style groups appear to follow the structure of the Herrmann Brain Dominance learning style model.

The NASA classroom sponsored a residential training course to help teachers learn to use computer based educational tools and explore constructivist instructional

approaches (Howard, McGee, Schwartz and Purcell, 2000). They hypothesized that creating a living-and-learning environment for the training would foster rapid changes in teachers' epistemological beliefs. Results indicated that teachers changed significantly on three or four features related to constructivist teaching philosophies.

Oguz (2008) studied the epistemological beliefs of 331 Turkish trainee teachers. Schommer's Epistemological Beliefs Questionnaire Turkish version was utilized and it was tested previously. This questionnaire has 3 factors and 34 items in total. The two first factors measure beliefs about learning and the third factor measures beliefs about the nature of knowledge. It was found that most of the trainee teachers believe that learning depends on effort (first factor) and ability (second factor), and that there is only one unchanging truth (third factor).

Ravindran, Greene & Debacker (2005) investigated the relationships among achievement goals, epistemological beliefs, cognitive engagement, and application learning of 101 pre-service teachers. For researching the epistemological beliefs, Schommer's Epistemological Beliefs Inventory was applied. This study showed that goals and beliefs were important for predicting meaningful and shallow cognitive engagement.

Chai, Khine & Teo (2006) surveyed 537 pre-service teachers' epistemological beliefs. The purpose of this study was to investigate what the profile of epistemological beliefs of pre-service teachers in Singapore was and if these beliefs were significantly influenced by gender, subject matter domain taken during their undergraduate studies, and

teaching experience. To measure epistemological beliefs, an adapted version of the Epistemological Beliefs Questionnaire was applied. The results indicated that Singapore pre-service teachers were fairly homogenous in their beliefs. They place much emphasis on learning effort. Although they seem to be inclined to believe that knowledge is uncertain, they also tend to believe in the experts.

Bernardo (2008) investigated the epistemological beliefs of 864 bilingual Filipino pre-service teachers using Filipino and English versions of the Schommer's Epistemological Questionnaire. He explored the dimensions of the epistemological beliefs of the pre-service teachers in two languages. Results revealed two factors: simple learning and structured learning. The same factors were found using the Filipino and English versions of the questionnaire. The author discusses the results in terms of how they contribute to the growing evidence regarding the possible problems with particular multidimensional theories and quantitative measures of epistemological beliefs. The results also indicate how the specific epistemological beliefs of the Filipino pre-service teachers may reflect features of the Philippine educational system and its tensions regarding pedagogy.

Busto (2001) in an exploratory survey investigated 176 teachers' beliefs about the nature of knowledge and how these beliefs influenced self-reported practices. In this research, researchers wanted to know what the nature of bilingual teachers' beliefs about bilingual children's cognition was, what prior experiences influenced bilingual teachers' epistemological beliefs about bilingual children's cognition and if bilingual teachers' epistemological beliefs about bilingual children's cognition influenced their teacher behavior and if so, how. This study used a mixed approach in which a survey

and a Teacher Behavior Questionnaire (TBQ) were used. It was found that prior experiences do influence bilingual teachers' beliefs, especially professional teaching.

King, Lavesque, Weckerly, & Blythe (2000) examined the effects of a course in educational psychology on the epistemological beliefs of pre-service teachers. Participants were pre-service teachers enrolled in educational psychology and a control group recruited from other classes. The Epistemological Belief Scale was administered at the beginning and at the end of the semester-long class. This scale measures beliefs about the nature of knowledge and learning across four dimensions (knowledge is certain, knowledge is simple, learning is quick, and ability to learn is fixed). At the end, it was found that the epistemological beliefs of the pre-service teachers were not more naive on average, than those of the others. Short-term change occurred across all four dimensions, with the greatest amount of change in the 'knowledge is simple' and 'learning is quick' dimensions. However, not all changes were maintained over time.

Arredondo & Rucinski (1996) supported the theory that individuals' epistemological beliefs influence academic learning thinking and problem solving. In this study, 126 teachers and principals from Chile and Missouri were involved. The Schommer's Epistemological Questionnaire was applied and the findings indicated that epistemological scores of Chilean teachers involved in reform differed markedly from those of Missouri teachers.

García (2005) investigated the relationship between fourth grade teachers' epistemological beliefs and student performance on the Washington Assessment of

Student Learning (WASL) examination. Data was collected from the EBQ from 71 fourth grade teachers. Data analysis revealed that fixed ability and certain knowledge factors affected mathematics performance. A significant relationship was identified through a multiple regression analysis between epistemological belief scores, fixed ability, and teaching experience. Certain knowledge and age data also demonstrated evidence of statistically significant relationship.

Chan (n.d.) examined the relation between epistemological beliefs and study approaches adopted by a group of Honk Kong teacher education students. He used two instruments, one to measure epistemological beliefs (EBQ adapted from Schommer's questionnaire) and the Study Approaches of Students (SPQ questionnaire). The participants were 292 teacher education students on the Certificate in Education (CE) course in the Honk Kong Institute of Education. Hong Kong teacher education students seemed not to believe that ability is fixed and innate, that knowledge is handed down by authority or experts and that knowledge is certain and permanent. The result also suggests that the students tended to be achievement-oriented in their learning approaches, motives and strategies.

Wadsworth (2007) investigated teachers' epistemological beliefs, their theories of intelligence and the possible effects of those beliefs on their instructional practices. Teachers' epistemological beliefs were measured using the Epistemic Beliefs Inventory. The participants were 144 middle school mathematics teachers. Analysis of data provided three beliefs that made up middle school mathematics' teachers epistemologies: fixed ability, simple knowledge, and approach to learning. Data does not

indicate a relationship between teachers' epistemological beliefs and their approaches to instruction. Moreover teachers believed that knowledge was simple, and that there was a fixed ability to learn.

Pecharroman and Pozo (2006) aimed to identify epistemological beliefs of students from university and secondary schools. They used a questionnaire, multiple-choice tasks, open-ended tasks and an interview to explain certain criteria. The participants were 372 students from Madrid institutions. They focused on beliefs about the nature of knowledge and beliefs of how knowledge is learned. In this inquiry, it was found that in the survey they chose constructivist options but, when they tried to justify their options (in the interview) they showed that actually they had more objective beliefs than constructivist beliefs.

Kittleson (2006) examined elementary students' epistemological beliefs and epistemological practices. She used interviews and classroom observations and some classes were video-taped in order to examine the relationship between beliefs and practices. The participants were 22 elementary students. Interviews and classroom observations were used in combination to explore the intersection between beliefs and practices. Students indicated that the ideas can change in relation to new evidence. Epistemological practices revealed that the investigation strategies underestimated students' ideas about science. This study highlights the challenge of designing learning environments that scaffold productive epistemological beliefs.

As it can be seen, a lot of research has been done following a quantitative approach. Moreover, Schommer's theory and a measurement instrument have been the most

popular in the measurement of epistemological beliefs. In some cases it has been adapted in order to fit the context although it has also been used without adaptations. The participants have been mainly students although teachers and pre-service teachers are currently taken into account.

The studies have been focused on different variables along with epistemological beliefs. EB (epistemological beliefs) have been related to learning styles, teaching training, cognitive engagement, age, gender, academic performance and changes in EB.

The results show that people who believe that knowledge is complex and tentative have multiple perspectives and complex thinking skills (Schommer-Akins &Hutter, 2008). At the same time, Schommer-Akins & Easter (2006) found that the ones who believe that learning takes time have better academic performance. Buehl and Alexander (2005) also found that learners with sophisticated EB were more motivated. Cano & Cardelle-Elawar (2004) and Brownlee, Purdie & Boulton-Lewis (2001) agreed that epistemological beliefs change to become more sophisticated at some point. What is more, King, Lavesque, Weckerly & Blythe (2000) trained some teachers to modify their beliefs to become more sophisticated, and even though changes in beliefs were achieved, those changes were not maintained over time. While Chan (s/f) found that knowledge is not certain, Oguz (2008) found that his participants believed in one unchanging truth; however, both found that learning depends on effort and ability, as well as Chai, Khine and Teo (2006).

These quantitative studies show that researchers interested in epistemological beliefs started doing inquiries focused on this approach. However, studies based on the qualitative approach have also been developed recently and some of them are presented in the following paragraphs.

2.3. Qualitative studies

Researchers who have carried out qualitative inquiries have considered mostly pre-service teachers in their studies and the instruments often used are interviews and observations. There is not a common method used, some of the researchers identify emerging themes and patterns, some others use comparative methods, and there is also an ethnographic work. Not many qualitative studies have been done, which means that there is a need to keep doing research focused mostly on the teachers' field and taking into account qualitative as much as quantitative approaches.

Goelz, Piper & Wiseman (2004) observed the relationship between educational beliefs among initial licensure social studies teachers and their actual teaching practices in the high school social studies classroom. This study was also seeking to discover the common ways in which initial licensure social studies teachers are either helped or constrained in their effort to keep their beliefs and practices consistent in the classroom. Initial licensure teachers refer to those social studies teachers who have licensed teaching experience between zero and three school years. This qualitative study uses observations and interviews between the researcher and participant, and analysis of the data to determine the relationship between the teaching practices of the educators

observed and their personal beliefs about education. The participants were 7 teachers and they showed that there are three dominant systems of beliefs, traditional, non-traditional and mixed. Some of the teachers showed that there was no congruence between what they said and their real practices, but it was due to external factors, such as, other activities outside the classroom.

Kember (2001) interviewed 53 novice and experienced students enrolled in part-time courses in Hong Kong universities. To analyze comments made during the interview the researcher used a comparative method which gives a holistic picture of individual variables. It was found that attitudes and ability to cope with study were influenced by a coherent set of beliefs about knowledge and the process of teaching and learning. Novice students holding naïve beliefs found it difficult to adjust to higher education if the teaching was not expository. At the same time, they experienced problems with assignments which went beyond the reproduction of material, since they were incompatible with their epistemological beliefs.

There have been some studies that have been focused on pre-service teachers. White (2000) studied the epistemological beliefs of 20 pre-service teachers. He found that (1) Pre-service teachers differ in epistemology. (2) Pre-service teachers do not move from category to category of epistemology in stage-like fashion. Once they come to understand that some knowledge is uncertain in nature, they go through successive iterations of belief about the process of knowing before again changing their belief about the certainty of knowledge. (3) The epistemological beliefs of pre-service teachers

appear to be interconnected in a web. (4) There appears to be no relationship between status in school and epistemology.

Brownlee (2001) studied the nature of epistemological beliefs of 29 pre-service teachers. Students were interviewed at the end of the course using a semi-structured interview format. The interviews were audiotaped and transcribed. They were analyzed using the descriptive-interpretative approach to data analysis, which means that, even though categories of beliefs emerged from data, the descriptions of those categories were influenced by literature. Comments made by students about their epistemological beliefs were divided into three main categories; receive absolute truths (REC) beliefs, construct reasoned truths and receive absolute truths (CONREC) and constructed reasoned truths (CON). The analysis showed that, as a group, students beliefs ranged from naïve beliefs in the reception of absolute truths to more sophisticated beliefs in the constructions of reasoned truths.

Brownlee (2003) also studied changes in epistemological beliefs in 11 pre-services teachers in a term of 3 years. Students reflected about their beliefs and were also interviewed twice during the term and one more time three years later. Interviews were analyzed using a predominantly inductive approach, which drew on relevant literature to interpret some results. Comments made during the three interviews were divided into four categories; construct reasoned truths (constructivist beliefs), construct reasoned truths and receive absolute truths (mixed beliefs), construct subjective truths and receive absolute truths (subjective beliefs) and receive absolute truths (received beliefs). It was found that over time, seven participants changed their beliefs about knowing, and they

became more constructivists, two maintained the same beliefs and two had less constructivist beliefs.

Radigan (2002), in an ethnographic study, examined the epistemological beliefs of three groups of high school English students. There were a total of 28 class periods observed to acclimatize students to the researcher present in the room. Moreover, interviews of the teacher and some students were done. Analyses revealed that students responded to well-structured issues as well as ill-structured problems with fused epistemological beliefs.

Gómez (2003) carried out a qualitative research in which 16 participants were interviewed and their classes were recorded and then analyzed (102 hours). The purpose of the study was to investigate teachers' implicit theories and if these theories were congruent to their practices. According to Gómez, implicit theories are beliefs that teachers use, most of the time, unconsciously and that in many cases rule their teaching. It was found that some teachers had implicit theories focused on constructivism, or focused on presentation of information. Moreover, thirteen of the participants were congruent in teaching practice and implicit theory, whereas the other three were not congruent. In the interview they reflected to be constructivist but in their practice they showed not to be constructivist at all.

Hunter (2006) carried out a mixed-method study in which she explored the possibility that teachers' epistemological beliefs related to their theoretical orientations to reading

and their reading instructional practices. 28 fourth-grade teachers participated in a survey regarding epistemological beliefs, theoretical orientations to reading instruction and background. Nine out of the twenty-eight participants participated in interviews that were analyzed through typological analysis. She found that teachers have contextualist epistemological beliefs or beliefs that knowledge is constructed by students through authentic experience and collaboration with peers. Teachers' beliefs and orientations were highly influenced by the rules of reading dictated in national and state standards and measured by state assessment exams, as well as the division of labor, which delegated an amount of instructional authority to commercially published materials.

Busto (1999) used a bi-methodological approach in order to search teachers' beliefs about bilingual children's cognition as well as their teaching strategies. She applied an exploratory survey and face-to-face interviews that were recorded and transcribed in order to be analyzed. The participants were 176 bilingual education teachers from the San Antonio area. The objectives of this research were to find out what was the nature of bilingual teachers' beliefs about how bilingual children learn, what prior experiences influence bilingual teachers' beliefs about bilingual children's cognition, and if bilingual teachers' beliefs about bilingual children's cognition influenced their teaching behavior. It was found that bilingual teachers have specific beliefs about how bilingual children learn. They believed that bilingual children are capable learners and that they socially construct knowledge. They also believed that language, culture and thought interact in the creation of knowledge. Moreover, it was found that teachers' beliefs do influence their teaching practices.

The results of these studies show that EB influence the teaching practice (Busto, 1999) However, there are some times in which EB and teaching practice do not match (Goelz, Piper and Wiseman, 2004) this could be caused by external factors. Brownlee (2003) proved that changes in EB can be achieved if teachers are asked to reflect on what they believed.

Knowledge is constructed by students' experiences and peer collaboration (Hunter, 2006). However, students who have naïve beliefs found it difficult to adjust to higher education if the class was not expository, they faced problems with assignments that asked for more than just reproduction of the material.

2.4. Phenomenological studies

In this section some studies are examined that took the phenomenological approach due to the fact that the previous studies presented were not phenomenological. Even though the studies are not related to epistemological beliefs, they are related to education.

Wiersma (2008) examined the pedagogy of three high school history teachers and the extent to which their current methods exhibited recent thinking on best practices in student learning. The instruments used to collect data were observations, interviews and questionnaires. The results showed that constructivism is the most effective approach to educating history students. However, most history teachers still use traditional objective methods in their classrooms. Nevertheless, it has been shown that teachers are concerned to perform more effectively in classrooms.

Falconer & Holcomb (2008) wanted to identify students' perceptions of independent scholarly experiences. For this research an epistemological approach was used and 22 students were asked to keep journals to document experiences and reactions to those experiences throughout the summer. At the end, only 17 students submitted their journal using a pseudonym. The analysis of those journals produced ten themes: success, pace settings, other disciplines, relevance, stimulation, community, ownership, mentors, and scholarly experiences. Results indicate that intellectual stimulation and personal relationships with other students and faculty were the most important elements of the research experience. Specific learning gains were not emphasized by student participants.

Mashiyama (2004) investigated how Japanese English teachers experienced learning English as students in Japan, how their learning experiences affected their teaching and how their experiences have influenced their beliefs about foreign language education. For that purpose, a phenomenological approach was applied. He carried out three 90-minute in-depth interviews. The interviews were audio-taped and transcribed. The data analysis was carried out by the method of reduction, which the researcher divided into units; these units were transformed into meanings and then used to make a general description of the experiences. There was found to be a clear gap between the instruction the participants were given as students and the instruction they are expected to give to their students.

Romanchuk (2007) investigated how students' perceptions of the knowledge task presented by the literary analysis research paper related to research and composing strategies. In order to accomplish this, she used a qualitative phenomenological approach and two instruments: the 63-item epistemological questionnaire developed by Schommer, and four in-depth semi-structured interviews. The participants were 12 twelfth-grade advanced students. For the data analysis, interviews were transcribed and analyzed for recurring and emergent themes. She coded students' statements related to topic selection, research approach to primary and secondary sources, composing processes, revision, mentor involvement, member checking and peer debriefing. In this research five domains were considered; certain knowledge, omniscient authority, innate ability, simple knowledge and quick learning. It was found that the participants believed that knowledge was complex while they differed in their beliefs of certain knowledge.

Mustafa (2006) studied how middle school English method courses affected pre-service teachers understanding and perception of notions of "practice" and "good teaching" by using the theoretical and methodological principles of hermeneutic phenomenology and practical philosophy. He wanted to explore the process of educational change and growth in pre-service teachers' understanding. The participants were 21 pre-service teachers. The instruments used were classroom observations, interviews, videotaping in the classroom, documents and writing produced by the pre-service teachers. In order to analyze the data, he divided the information into four main topics and at the same time in sub-topics.

So far, I have presented different qualitative and quantitative studies that have been carried out regarding epistemological beliefs; I have also presented studies that used the phenomenological approach in different areas in education. Now, a balance of the findings and conclusions will be given after reading and analyzing the studies presented in this chapter.

As can be seen, the majority of the studies on epistemological beliefs have chosen a quantitative approach. The instrument that has been used the most is the questionnaire developed by Schommer; however, since every reality is different and the instrument does not work well in all of the contexts (Chan & Elliot, 2004) it has been adapted according to the needs of each context. The main participants have been students from different educational levels. The qualitative studies here described, on the other hand, have included pre-service teachers. Instruments qualitative researchers have used include interviews, observations and, in some cases, questionnaires.

Even though students' beliefs might change from simplistic to more complex as they progress through school, the findings have demonstrated that the students who believe that learning is quick have a poor performance on typical comprehension measures and oversimplified conclusions. Moreover, students who have naïve beliefs find it is difficult to adjust to higher education if teaching is not expository. They usually have problems with assignments that go beyond the reproduction of material. It could mean that these naïve beliefs come from a traditional education, since students have not developed critical thinking skills.

On the contrary, students who have more complex beliefs are able to expand their perspectives and are willing to modify their thinking. Besides, students who have more sophisticated beliefs show a wider motivation as well as a better performance in the classroom and more constructivist beliefs. It has also been demonstrated that nowadays, elementary students have more constructivist beliefs than children from previous years which could possibly mean that future students will access a more constructivist education from the very beginning of their educational life. However, it depends a lot on the learning environment that a teacher develops since it influences what students believe.

Most of the teachers that have participated in the studies are pre-service teachers, and it has been found that it is possible to make teachers change their beliefs from simple to more constructivist or sophisticated beliefs; however, it is never guaranteed that they will not take the previous beliefs back, which means that the changes are possible but not always maintained. At the same time, reflection has been seen as an activity that might enable teachers to have more constructivist beliefs. Researchers have also found out that prior experiences do influence bilingual teachers beliefs, especially professional teaching; nonetheless, what teachers say they believe does not always match what they really do in the classroom although this is sometimes due to external factors and it is not completely teachers' incongruence.

CHAPTER III

QUALITATIVE RESEARCH STRATEGY

In this study, it was expected to identify teachers' epistemological beliefs from *Colegio de Bachilleres*, and at the same time contrast their answers to their daily practice. Therefore, it was decided to carry out a phenomenological research in order to have a broader and deeper idea about the English teachers experiences faced in the language classroom. In the following paragraphs there in discussed a more detailed explanation about phenomenology and some concepts intimately related.

3.1. Phenomenology

Phenomenology is described as knowledge as it appears to consciousness, the science of describing what one perceives, senses and knows in one's immediate awareness and experience (Moustakas, 1994). Husserl (in Moustakas 1994) said that phenomenology is a science of pure possibilities carried out with systematic concreteness and that it proceeds and makes possible the empirical sciences. Its primary target is the understanding of meaningful concrete relations implicit in the original description of experience in the context of a particular situation. During the data analysis this is a necessary process to understand the experiences lived by the participants.

In order to raise knowledge, it is important that the researcher eliminates suppositions or previous knowledge about the phenomenon studied (epoche). Epoche is a concept bound up in phenomenology created by Husserl and that can be interpreted in the following way: when the researcher is in the field to be studied, he has to behave

naively, keen to find information but being careful of not to include his beliefs or opinions about the phenomenon. For example, during the interviews made to the participants, I tried to be careful of not to include personal thoughts or conclusions, but just listen to the answers the participants provided.

According to Moustakas (1994) phenomena are the building blocks for human science and the basis for all knowledge. This means that the only way to create knowledge is by noticing and understanding a phenomenon experienced by an individual. A phenomenon is what appears in consciousness, any situation and object in the world might become a phenomenon as long as we are conscious of it.

Another concept bound up in phenomenology is intentionality that refers to consciousness, to the internal experience of being conscious of something. Therefore, a phenomenon can exist but if we are not conscious of it, it actually does not exist in our reality. At the same time, intentionality is comprised of a noema and noesis. The noema is the phenomenon itself as it is seen by an individual. The noesis is what the phenomenon really means.

For example, an apple could be an exquisite meal for a starving child (noema) or a work of art for a painter. However, the explanation of those perceptions is that the child has not eaten for many hours so he is hungry (noesis) while the painter is focusing on the color and different angles of the apple in which it can be painted. Therefore, every noema has a noesis and every noesis has a noema.

Intuition is another key concept of phenomenology. Intuition is the beginning place in deriving knowledge from human experiences, free of everyday sense impressions and the natural attitude. Intuition is a reflective process of the self in which a being can doubt, understand, affirm, deny, wish for or against, sense and imagine, and in each way, everything becomes clear. According to Husserl (in Moustakas1994) intuition is the presence of consciousness of a presence with all that that implies by way of necessity and universal validity.

One of the advantages of using this approach is that it is a structured approach useful for novice researchers; it means that it is a systematic procedure for data analysis that just needs to be followed. The methodology used in phenomenology to derivate knowledge is: Epoche, that is, transcendental-phenomenological reduction, and imaginative variation. Therefore, as mentioned, the first step is the epoche in which as I have said before, one looks at and understands the phenomenon just as it is presented by the participants, in a naïve way, without judgments.

In the transcendental-phenomenological reduction, each experience is considered in its singularity. We firstly describe the phenomenon, its constituents, variation of perceptions, thoughts, feelings, sounds, colors and shapes. From that transcendental-phenomenological reduction we derive a textural description of the meanings and essences of the phenomenon. Finally, the imaginative variation aims to grasp the structural essences of experience. The function of the imaginative variation is to arrive at a structural differentiation among the infinite multiplicities of actual and possible

cognitions that relate to the object in question and thus can somehow go together to make up the unity of an identifying synthesis.

This approach makes the researcher face some challenges, in which she has to demonstrate that she has read enough to make clear descriptions, besides it is important that the researcher separates her opinion from the context she describes. Finally, the researcher has to show that she has analytic skills, in which she tries to understand each perception and interpret what every person says.

During the present study, I tried to stimulate the memories of the participants about their education. Questions were asked that sometimes made them feel a bit surprised at the beginning but later, when they were conscious of the information, they were able to share their experiences. Some participants took more time to remember certain information. The chapter on data analysis shows in detail the process followed and the application of this approach.

3.2. Context of the Study

This study was developed in 5 different *Colegio de Bachilleres* in Quintana Roo. Colegio de Bachilleres is a public high school with institutions around the country. In Quintana Roo there are 17 Colegio de Bachilleres that are located in different key points of the state in order to offer education to most young people. *Colegio de Bachilleres* offers classes of English as a foreign language. These classes are taken during four semesters for most specialties. Only tourism and English language students take this

subject during the six semesters. During the first and second semester the subject is taken 4 hours a week and the rest of the semesters 3 hours a week.

The participants in this study belong to different schools around Quintana Roo. Three of the participants work in institutions in small towns which have a smaller number of students. These institutions have around 300 students each one, while the other two participants work in the city where each institution has around 900 students. Perseo works in *Colegio de Bachilleres plantel Chetumal 2*, Manuel works in *Colegio de Bachilleres plantel Chetumal 1*, Francisco works in *Colegio de Bachilleres plantel Zamora*, Rachel works in *Colegio de Bachilleres plantel Carlos A. Madrazo* and Julian works in *Colegio de Bachilleres plantel Maya Balam*.

3.3. Participants

For this study, the participants were 5 high school teachers belonging to the *Colegio de Bachilleres*. They have been teaching for more than two years which made them perfect candidates for this study, as they have already created and put into practice their beliefs. Hence, the type of criterion that was used to choose the participants was the criterion sampling, which requires that the participants have all experienced the phenomenon. In this specific case, it was essential that all the participants were teaching at the moment of the study (interviews) so that, they could tell me about their context and their experiences of teaching and also their experiences as students.

It is important to create an adequate environment in which the participants feel comfortable to express themselves. For that reason, the participants were told about the research, the reasons for undertaking it and how they could benefit from the study. It was also explained that if they accepted to participate and help with the research, all the comments made during the interviews would be confidential and their names would not be revealed unless permission was granted to do so.

3.4. Role of the researcher

In qualitative inquiries, the researcher needs to commit considerable time to the field study. A schedule must be organized to accomplish this. Moreover, the researcher has to cope with a considerable amount of data, therefore the ability to understand beyond answers is required as well as the capacity to analyze.

The researcher becomes part of the context while observing or interviewing the participants; however, it is not an easy task. It is important to create a trustful environment; the rapport created by the researcher is essential as well as the manner in which the investigation is carried out to make the participants get interested in the study. The researcher determines if the approach used is the accurate one. In this approach, it is important to understand several individuals' common and shared experiences (Creswell, 2007), in order to develop a deeper understanding about a phenomenon, in this case, epistemological beliefs.

3.5. Data collection and analysis procedures

Recorded interviews were used to collect data. Each of the participants was interviewed twice until the information collected was enough. The interview was divided into three topics to be discussed; A) participants' experience as students; in which they talked about what they experienced in primary and secondary school, high school and university, B) participants' epistemological beliefs, in which they mentioned what knowledge was for them and at the same time how it should be presented, evaluated and its origin. C) And participants' experience as teachers, in which they mentioned their activities in class; where they find the information to be taught and their teaching in general.

The data analysis in this research was done following the steps presented by Moustakas (1994). First, a description was set about the experience lived during the process of data collection, what could be seen and identified. Then, a list of significant statements was developed, being careful to include all and to give the statements the same value in order to develop a list of non repetitive statements. Next, the statements were categorized into larger units of themes. What the participants expressed in their experiences with epistemological beliefs was then described (textural description). Then, the structural description which is a description of the setting in which the epistemological beliefs had been experienced. Finally, the textural and structural description was contrasted to take out the essence of the experience (Composite description). In this part, it was concluded what the participants had experienced and how they had experienced the epistemological beliefs.

The software used to analyze data in this research was Atlas-ti. It was used to identify the significant statements (appendix 2) and the meaning units. Significant statements were identified in the program as quotations and then those quotations were categorized into families which became meaning units. The significant statements were used to write the textural and structural description.

3.6. Strategies for validating findings

Some strategies of validation were used in order to make this study reliable. The first strategy used was peer review. A colleague was asked to make observations related to the data analysis, so that, any problem or misunderstanding done in this work could be recognized. Another strategy was clarifying researcher bias from the outset of the study, in this way it was possible for the readers to understand the perspective and the position taken to interpret the participants' answers and develop this inquiry.

3.7. Anticipated ethical issues

First of all, it was important to explain to the participants how this research would be carried out. In this way they could understand the importance and the purpose of the study and how they fitted into it.

In this research, some ethical issues were taken into account according to the necessity of keeping some aspects of the participants' confidentiality. This is an important part to establish the limits between the participants' information and the researcher. The participants will share important information that sometimes could have consequences

for participants' jobs. For that reason, it is important to specify that the participants real names were not revealed as the participants could provide data that should be managed carefully; otherwise it might damage the participant's image.

CHAPTER 4

DATA ANALYSIS

This chapter presents in detail the process followed to analyze the data obtained from the participants. Firstly, I present the way I experienced the phenomenon, then I provide the analysis made of each of the participants' information. The analysis presented includes the textural description, the structural description and finally a composite description.

4.1. My personal experience

My education was mostly traditional. In primary school, teachers came to the classroom, to explain the theme of the day and then they asked us to write down the information on the board. There were no games except for Physical Education. Teaching was based on dictation, re-writing information from books or the board, or a repetition of information. It was basically memorizing new information.

In secondary school, things did not change so much. The difference was that there was one teacher for each subject, and of course each teacher had his/her way to present new knowledge with his/her personality. There were boring teachers who explained knowledge as if they were talking to themselves. They used difficult vocabulary and they never looked at the students, only the book. There were teachers who made the students interact with knowledge through games and participation. The same way, there were fun classes and boring classes.

I remember I loved Spanish because I always learnt something new and useful. Everything that I learnt from that teacher was applicable in other subjects and I could practice it until master it. There were no games in that class but the teacher asked us to think of things and reflect. It was necessary to search for information and present it to the group; hence, in some way she made us understand so that it could be explained in a presentation.

I studied in a technical high school in which from the beginning one specialized in a field. I chose tourism and from the very beginning most of the classes were practical. One had to do different things depending on the subject. For example, we were asked to visit hotels and travel agencies to ask for information about the staff, the way they worked, the administration and other things. Then, we had to contrast what theory said and classify the information we had gotten from the different places we visited.

In university, students were asked to read and reflect a lot. Reading has always been difficult for me. What I did to balance my deficiency was to work with a group of classmates, divide the reading and then explain what everyone read. It was very useful for me because I had to read only a part of the whole text, understand it and explain it. Then, I received the rest of the information through my classmates and at the end came a conclusion.

There were other classes that were practical such as; reading and writing in Spanish, Grammar in English and Spanish, translation, interpretation, and some others. However, the subject that gave us the basis in the major was sometimes boring and traditional, and that was English. This subject was supposed to provide us with the basis for a good

development of the language. However, there were teachers who made this class more theoretical than practical.

I consider that my learning process in slow because I try to reflect on everything in order to understand clearly what is read or what is told. I repeat information many times to myself in order to get the idea. Of course there are some times the ideas are so clear that it is not necessary to repeat or read many times. I have realized that when I get interested in something I can concentrate better and as a result I learn faster. To search for information, I consult the internet and find reliable sources that come from prestigious institutions or people.

This concludes my personal experience. The analysis collected from the data during this study will be presented. The analysis was done individually and follows Moustakas' procedure (1994). The textural description in followed by the structural and composite descriptions while the first two steps (significant statements and meaning units) can be found in appendix 2. After the composite description of each participant, I present three models that answer the questions of this study.

4.2. Perseo's Epistemological Beliefs

This chapter presents Perseo's data analysis which contains a textural, structural and composite description. The textural description describes what Perseo said during the interviews. Since the interview was carried out in Spanish, Perseo's words are presented in Spanish, too. Then, in the structural description all the events experienced by Perseo are explained and linked respecting what he said. Finally in the Composite

description, what and how he experienced the phenomenon is explained. At the end of all the descriptions the dimensions that came out are presented and the research questions are answered.

4.2.1. Textural description

The experience of school for Perseo changed through the years. In primary school, he was detected to be a hyperactive child; therefore, he received special attention from his teachers: “Me tocó una maestra que tenía, aparte de ser maestra, tenía estudios de psicología y se dio cuenta que yo era una persona hiperactiva, entonces como que me empezó a dar una especie de atención especial”.

At the same time he did different activities according to his needs. He described the activities as challenging and fun: “En quinto semestre me tocó un profesor muy rígido, que no era tan buena onda pero sabía enseñar muy chido y también sabía despertar esa parte de mí. A mí me encanta que me dejen con la curiosidad, que, que me guste saber”.

What he liked the most about primary school was the mental challenges that he faced in each class and the support his teachers provided him with: “¿Qué es lo que me gustaba de mi enseñanza de la primaria?… que me retaban, mentalmente hablando…en la primaria me ayudaban mucho los maestros”.

The activities that helped him to learn at that stage were reviews about the notes he had taken in class and learning his homework by memory. “Repasaba, era la clásica frase de repasar, es que haces tu tarea, y te aprendes tu tarea por ejemplo, eso en primaria”

In secondary school, things did not change too much. Perseo had prepared teachers who planned their classes. The activities included all the students and he did not have to be in a chair the whole class, which is what he liked the most:

> …tenían una clase preparada, o sea su clase, tenía una clase preparada tenía una clase bien secuenciada, incluía a todos los alumnos, no sentía que iba a sentarme en una silla, por ejemplo recuerdo que tenía un profesor de matemáticas de la Adolfo López Mateos, donde estudie, que era muy padre su clase de matemáticas porque tenía un concurso, toda la clase tenía un concurso, entonces era un concurso de moverte de lugares, si tu llegabas al lugar más, más, más alto exentabas la materia, entonces, eso estaba padre porque todas las clases era una competencia, entonces se ponía muy chido.

As the classes in secondary school changed, Perseo had to have an organized schedule; therefore, he started to prioritize difficult subjects to dedicate more time to them: “En la secundaria tuve que arreglarme, tuve que hacer un arreglo de materias, ¿no? Por ejemplo, que materias se me hacían quizá difíciles, te digo la hacía primero… priorizaba y ya después hacía el resto”.

In high school, Perseo experienced classes that he described as boring: “En la prepa y con el perdón de todos los profesores, la prepa la pase durmiendo, la prepa la pasé durmiendo porque primero y segundo semestre pues te adaptas”.

According to Perseo, their teachers only taught the information in books and the classes were so boring because they were only memorizing information: “Era un maestro que entraba con un librito, te hacía hacer veinte mil unidades y se acabo, presentabas el examen pero si te aprendías el libro ya esta”.

He remembers only a teacher who made him feel awake:

> Recuerdo que tenía un profesor de historia, que, que era más que nada una clase donde tú ibas, leías, compartías tu experiencia, criticabas las cuestiones históricas, dabas tu

> punto de vista, o sea, se debatía todo, entonces había muchísimo, muchísimo intercambio de ideas y la hora se te pasaba (chasquido) así.

On the other hand, he also had a teacher who always wanted the students to memorize what the book said because that was the only way in which someone could pass the exam:

> Una vez tuve un profesor con el que tuve problemas, porque primero que nada el profesor era un ególatra y aparte era bizco entonces ehh… este profesor, si se puede llamar profesor, llegaba y hablaba de todo menos de su materia y cuando era el examen, el examen estaba dificilísimo porque lo sacaba del libro, ¿no?

In the case of university, Perseo described it as a place in which he grew up. He learnt about life because of his classmates, teachers and classes: “Aprendía de la vida, aunque suene como a cliché, de la gente con la que convivía y de los maestros con los que convivía, emmm y a parte de las clases”.

Perseo remembered a teacher of literature because he was free to read, give his opinion, and criticize everything; so he had fun in that class: “Con esta maestra de literatura, como me daba libertad de leer, opinar, criticar, todo, o sea me divertí mucho en esa clase”.

He also had a teacher who made him feel shocked and insecure about his knowledge. This teacher was a really nice person but, every class was a challenge and Perseo liked that. She had a plan and she developed it in a fluent way:

> La primera persona en años en años en años que me hacía temblar, pero me hacía temblar no porque como persona me diera miedo, porque como persona es un dulce la maestra. Me hacía temblar porque retaba mi cabeza a un punto que llegaba en shock… es una persona que se puede sentar y tiene el plan de su clase así (chasquidos) y se desarrolla así, igual las dos horas se te pasan volando.

Another subject that he remembered was psycholinguistics because the teacher was very organized and the class was based on opinions and discussions. According to Perseo that is the way a class should be: “Llevaba psicolingüística, me gustó muchísimo la clase de psicolingüística porque el profesor era una persona organizada, los tiempos perfectos, las clases de discusión; como debe ser una clase, muy, muy diferente de su materia anterior”.

He also had a teacher whose classes were really bad as he had to memorize the book to pass the course: “Este profesor ehh era igual, lo mismo una pérdida de tiempo su clase, porque igual te aprendías el libro y pasabas la materia, o sea, no había debate, no había crítica, nomas era aprenderse un libro y ya está”.

Perseo through all the stages enjoyed feeling curiosity: “A mí me encanta que me dejen con la curiosidad, que, que me guste saber”.

He liked to be on the move and he got bored when he had to read a lot of of texts:

> Me gusta jugar, o sea me gusta sentirme que estoy en movimiento no que me estanco, cuando una clase me estanca así como que qué flojera! Me aburren muchísimo las clases donde me dejan kilos y kilos de lectura y tengo que hacer reportes de lectura pero que no tienen un fin… está bien que tenga que hacer reportes de lectura pero que tengan un fin en su momento.

Perseo liked to have new information presented in a way in which he was able to verify the information he was presented with: “Me gusta que me presenten nueva información de una manera que yo entienda porque me es clara y lo puedo ver, lo puedo sentir de manera tangible”.

At the same time, he did not like that he was always assessed with exams even when he had practical subjects: “Eso es lo que más me molestaba, que lo práctico te lo ponían sobre papel y yo me decía a mí mismo, bueno eso sucedió en la prepa. ¿Para qué me enseñan algo práctico si lo van a poner sobre papel?”.

However, he studied, and memorized the notes of what were for him the most difficult subjects. He did the same for an examination and when he did not understand something he investigated and read until he memorized it:

> Con estudiar me refiero a que revisaba los documentos que tenía que estudiar, veía las partes que no entendía, las investigaba, si no las investigaba las analizaba, después de analizarlo si ya no sabía, hablaba con el maestro para que me explicara o si no con un profesor.

Perseo believes that there is knowledge that is established by authority:

> Hay cosas que tú sabes que, que... no están bien, porque hay cosas que autoridades que han descrito, que hay manuales que las cosas se hacen así. Es como por ejemplo, gramática del inglés, supongamos, entonces hay cosas que ya están establecidas así y así, entonces, es que regla es así, ¿No?

He also believes that when somebody’s knowledge is wrong it is because a prestigious person has established something different and it has been accepted:

> Cuando yo no cumplo con alguna de las reglas que están diciendo porque ya hay un manual ya establecido que así lo dice pues está mal. Pero realmente, siempre estas mal a razón de que hay alguna autoridad o alguien que se supone que creó preceptos y de alguna forma no terminas de encajar en eso.

However, in high school he questioned his teachers: “En la prepa sí, sí llegué a cuestionar a muchísimos profesores”.

Perseo believes that complexity of knowledge depends on the level of analysis each person has and it also depends on the teacher:

> Hay cosas que dependiendo de su grado de complejidad y de tu grado de análisis mental puede ser tan algo fácil como sumamente difícil y también como te facilitan o complican las cosas… el profesor te presenta el tema de manera amigable, entendible y que te da curiosidad, te presenta materiales, donde buscar información, pero se revisan esos recursos en tiempo y forma y se hace, no? Y aparte, como tú tienes ese tipo de motivación por parte de ellos y también tuya, pues dices, ah bueno pues yo voy a hacer la tarea… También puede ser algo muy complejo. Por ejemplo si el maestro se cree un experto en todo o es un experto en todo, pero a la vez no sabe ser, no sabe transmitir de manera efectiva y afectiva el conocimiento, te da recursos, pero te los complica. No te da recursos que sean sencillos, entendibles aunque tengan su grado de complejidad.

Perseo thinks that knowledge can happen only if there is a positive environment created by the teacher and the students:

> Una persona a veces es buenísima en el inglés porque hay factores, o hay una clase o hay un entorno completo que te hace que te guste. Si te gusta, de despierta la curiosidad, te dan ganas, trabajas, etc. Cuando algo no te gusta pues te da mucha flojera, no te gusta y con eso mismo viene la motivación que se va por los suelos, el desanimo, el prejuicio… una persona es buena en algo por cómo se lo presentan.

He analyzed his learning process: “Estudio la información, lo que significa, internamente la analizo, veo sus puntos, las organizo, los esquematizo, los priorizo, todo lo que termine en “izo” y luego aplico. Perseo expressed what learning means to him,

> Saber hacer, por ejemplo, sé la teoría de lo que hay, porque sé que tiene un receptor, se que tiene un micrófono, se que funciona porque es habilitada por una pila, solo sé, es lo teórico, se que la onda de sonido se graba, se almacena, etc. Ok, también se utilizar el

> aparato, si ya lo sé utilizar, entonces, ahora, ¿Sé componerlo? Quizá, porque sé que piezas lo componen y también puedo repararlo, entonces sí sé lo que es eso".

He believes that learning can also be achieved by making mistakes: "A través de los fallos o de equivocarse pueden aprender".

In the case of his students he said that he realized his students had learnt because they could communicate in English: "Si yo logro que ellos hablen que se comuniquen aunque sea con errores pero que se comuniquen y traten de que… y yo los vea tratando siento que aprendieron".

What is more, he knows that he has learnt when he can turn theory into practice: "Lo domino, puede analizarlo y puedo contrastarlo con otras cosas, por ejemplo cuando es teórico, porque si me dicen compara esto con esto por esto y esto y esto. Cuando yo sé que puedo hacer algo práctico, o sea puedo convertir algo teórico en algo práctico"

He expressed that our background is a factor that could make our learning faster or slower:

> Algunos vienen de escuelas donde los papás desde el principio, como a mí me metieron a una escuela de idiomas, entonces me lo presentaron de manera distinta y aprendí más rápido y entonces a los alumnos que no tuvieron esa oportunidad entonces han tenido esa instrucción tradicional errónea de muchos profesores de aquí entonces cuando llegan, cuando llegan ah… ah… mi clase les cuesta un poquito más de trabajo, por eso, ¿No?

He also believes that when people are not clear enough on what they are learning, then they have to spend more time on it:

> Si él sabe que es algo que le causa una deficiencia pues entonces es algo que tiene que dedicarle más horas más empeño entonces es una persona que también sabe autoevaluarse conoce en que está mal y a qué tiene que ponerle más esfuerzo y qué cosas no requieren tanta atención.

However, teachers can also limit learning in some way: “Cuando yo me empeño tanto con mi alumno para que lo haga coartándole a él su creatividad lo que a él le gusta etcétera, etcétera entonces ahí si considero que podría ser calificado como malo”.

According to Perseo, knowledge is everything:

> Es que el conocimiento es todo. Es una cuestión filosófica que está muy chida, o sea, el conocer, realmente muchos profesores por ejemplo, creen o desde mi perspectiva, quizá yo estoy equivocado, pero muchos profesores consideran que saber, es si yo sé como ellos saben, o sea, si yo sé como ellos saben, entonces… sé, pero realmente quizá se les olvida que todos tienen una visión de las cosas.

All knowledge should be applied: “Un concepto tiene que ser aplicado, es como que te digan, por ejemplo no sé, “amor” defínelo, todos tienen una definición, millones, metafóricas, literales, etcétera, hasta científicas hay de lo que es el amor, pero no, si no lo aplicas y no lo sabes, no”.

Perseo believes that knowledge comes from everywhere: “Averiguo de todos lados, averiguo de expertos, averiguo de libros, averiguo de internet. de la tele, del periódico, donde sea hay información. Inclusive un carpintero puede dar información de tal cosa, ¿no? Entonces voy a donde tenga que conseguir la información”.

He considers that a teacher should know how to provide knowledge but at the same time how to learn more: “Un profesor es una persona que, que tiene que tener el

conocimiento, tiene que saber cómo impartirlo, y tiene que tener la apertura para adquirir más conocimiento".

That is why knowledge in a classroom should be presented in a meaningful way for students:

> …presentado de una manera en que sea significativa para los alumnos, porque si le presentan (que sabemos como maestros que les va a ser útil) pero no se los damos con una aproximación tan tan buena que para ellos sea interesante y atractiva va a ser muy difícil que la puedan aplicar, entonces ahí si se pierde mucho.

Knowledge should be contextualized and the student should have an important role in the learning process:

> Debe ser más actualizado al contexto… no es lo mismo hot dogs que tamales… cuando se lo presentas de una manera en la que él tiene un rol un poquito más importante que yo, porque él tiene que hacer las cosas y yo nada más diciendo si está bien o si está mal, entonces es ahí cuando, cuando se los facilito.

He believes that there is no right or wrong knowledge but different perspectives:

> Todos tienen una visión de las cosas, o sea, yo puedo verlo bi-lateral el conocimiento, transmisionista pero por ejemplo, quien dice para una misma manzana sobre una mesa no significa muchas cosas para bastantes personas". "no hay conocimiento erróneo, solo conocimiento que no ha sido pulido o sea tu me puedes… ehh, para un niño de tres años que te diga, oye ¿de dónde vienen los bebés? Los traen las cigüeñas, pero lo saben porque todo su contexto se los dice, pero no había un conocimiento. Llegan a cierta edad donde van a aprender que todo es un proceso natural, etc., etc.

Perseo described his classes as dynamic and practical:

> Trato de hacerlas muy dinámicas, todas, todas, siempre hay movimiento", "es una clase sumamente práctica porque yo normalmente nada más presento el contenido, les presento la información, les ayudo a entender algunas cosas trabajamos en pronunciación y hacemos el "role-play.

He creates and adapts all the material used in his classes: “Todos los materiales son o auténticos o adaptados, o sea significa que yo me siento a hacer”. He also uses a variety of materials according to the students’ needs.

> Trabajo mucho con los handouts, las imágenes, diseñé los blogs completos, trabajo con el Facebook, con los alumnos de 5º y 6º semestre que se la viven ahí, tienen un grupo que es el que se les da en Facebook para sólo sus materias y se trabaja, trabajo con presentaciones de PowerPoint, con audio que yo bajo de internet, con videos que a veces yo hago para que ellos vean o grabo a algunos alumnos para ellos también vean, se den cuenta de las cosas y más que nada eso. En inglés técnico mucho role-play, repetición, trabajo en grupo, creación de proyectos, en inglés por ejemplo crearon su restaurant y tenían que presentarlo en inglés.

In Perseo’s classes technology has become a useful and meaningful tool for him and his students: “Tienen que ver videos, trabajo en grupo, trabajo en los blogs, trabajo extra desde casa, pueden tomar clases ellos a través de Youtube…el uso de la tecnología me facilitó mucho la vida, a mí y a ellos porque pueden encontrar muchos recursos y hacen las cosas en casa”.

In his classes, he tries to build up a comfortable atmosphere:

> Lo que hago usualmente es crear una atmosfera en la que puedan tener una confianza para poder hablar conmigo, decirme las cosas que pierdan ese miedo a intentar, pierdan el miedo a intentar cuando realmente ven que no es tan malo fallar porque a través de los fallos o de equivocarse pueden aprender.

He tries to make his class fun so students can learn: “Creándoles un espacio en el que realmente sientan que van dos horas a divertirse y a aprender”.

When he has to present new information to students, he tries to combine what students know to introduce a new topic: “De esa forma se los aplico, o sea, si tengo que hablar

de algo, los ejemplos más… la plaza, el bulevar, los amigos, sky bar, emmm, los precios de ir a comprar ropa a la plaza, las dietas por ejemplo que hacen, las horas de ejercicio..."

4.2.2. Structural description

Perseo experienced primary school, the first stage of his educational life, as a positive period of time. He was very happy because his teachers paid special attention to him and asked him to do different activities that suited his needs at that moment. He was a hyperactive child, so he was always moving and that is why all the activities that he finds interesting and fun are activities that have to do with physical movement. At the same time, the special support his teachers gave to him was the beginning of the formation of his beliefs about how knowledge should be transmitted and the support a teacher should give to his students. Moreover, at this first stage, he experienced activities that were fun games; therefore, he learnt that learning is fun and should include games.

Later, in secondary school he had to adapt to a new way of teaching. Still, he found it fun because he had good teachers who were keen to be dynamic, and who spent time preparing classes, included all the students and made class fun. Perseo became organized at this stage, and he studied by memorizing his homework. He started by doing the most difficult homework. In this stage, he restated his belief about the acquisition of knowledge which should not be boring. It has to be fun and dynamic. Besides, he learnt that in order to learn and acquire knowledge he had to be organized.

In high school, he was shocked when he realized that it was completely different from the education he was used to. Therefore, he adopted a different attitude. His classes were boring and he felt that he learnt nothing from his teachers as they only wanted the students to learn the books by memory. Perseo found those activities a waste of time. In order to pass the exam he had only to memorize the book, and that was easy for him as he has a very good memory (Photographic memory). However, he learnt what should not be done in a class when he felt he had not learned anything from the teachers. In this stage, his beliefs were stronger because Perseo got used to the primary and secondary school teachers and activities and then, he confirmed that actually in a different way (traditional) he would not learn too much.

In University things changed again, he recovered that enthusiasm to learn. He learnt that cooperation worked as he started learning from other people which included his classmates, his teachers and of course, the classes. In his classes, he was free to express what he thought and what he felt with respect to knowledge. He was asked to reflect and to think deeper. He did not have to memorize but instead, he had to analyze knowledge. Those activities encouraged him to learn more and more. He found wonderful teachers who made him challenge his mind. Once more, knowledge was presented in an interesting way and even when there were not games, he had the opportunity to express himself and to share opinions with his classmates. In this stage, cooperation was new for him and a new belief was formed.

Knowledge was always evaluated with examinations; however, Perseo considered that there was knowledge that should not be evaluated in a written examination but in a more

practical way. For that reason, as Perseo teaches English he evaluates in a more practical way, in which students do not have to memorize but instead apply knowledge. He asks his students to develop projects and work cooperatively. He intuitively knew from the beginning that knowledge could be fun. Still he had teachers who did the opposite. Now as a teacher, he tries to adapt all his classes so his students feel comfortable but at the same time they could trust him. He uses different types of material but always taking into account what his students like and need.

Based on all his background, Perseo has developed specific beliefs about knowledge and knowing. He believes that knowledge is established by experts who are renowned in the field. Then, when you are wrong it is because someone has established something different. However, Perseo believes there is no right or wrong knowledge, but there are people who only accepted knowledge if the rest see it the same way. He considers knowledge can be difficult depending on the students' mental analysis, interest and the way teachers present the new information.

In his classes, Perseo tries to be dynamic and offers students ways to put into practice what they learn in theory. He takes into account students' interests when he figures out his activities and the material he will use in each class. Technology has become an important tool for his teaching and his activities. He believes that as his students are part of this new technological era, they would find it more interesting to work on things that they know and like at the same time. Perseo also tries to create a comfortable environment in which the students feel free to express doubts and opinions; moreover, they feel comfortable making mistakes if they could learn more.

4.2.3. Composite description

What Perseo believes about knowledge and learning was guided by his life education. He first established his beliefs from the support he had from his first teachers and there he gained the vision about what it would mean to him to be a good teacher. His experiences as student helped him to know what worked and did not work for him through all the stages. He learnt from the mistakes of teachers and unconsciously he created an image of what he would be later as a teacher. His beliefs were built up on the basis of fun, organization, interaction, reflection, opinions, support and challenging activities. Therefore, he developed the following beliefs:

- Everything and everyone are a source of knowledge.
- Knowledge is certain because authorities have established it; however learning can be different because our perspectives are also different.
- Knowledge should be presented in a meaningful way so it can make the learner interested in it.
- Knowledge occurs when the learner is interested, otherwise, it might take more time or it just might not happen.
- Knowledge should be evaluated in a way in which the learner could put theory into practice.
- The Learner's mental process and the environment are key for learning construction.
- Cooperation among learners helps knowledge construction.

Perseo reflects all these beliefs in his classes. That is why he always takes into account what students like. For example, he knows technology is a tool available to all his students, moreover, it is part of his students' life; hence he organizes his classes thinking that students will do what they like and at the same time they will learn. As English is a practical subject, his evaluations are practical. He asks his students to work cooperatively on projects that will be fun and meaningful to them, moreover, they will be useful in the students' life.

4.2.4 Perseo's models

From the information provided by Perseo, the following models emerged. Each model answers one of the questions made in this research. Figure 1 answers the question: What is the origin of epistemological beliefs? It shows that there were many factors that influenced Perseo`s beliefs; family, teachers' attitudes, the classmates and the activities he did during the class. Family taught Perseo that learning required effort that is why his family established time to study and do homework. At the same time, they taught extra information that was not related to school. Then, at school, his teachers' attitudes were positive in primary school. They supported and gave Perseo extra work as he suffered hyperactivity. Those attitudes made Perseo to develop more complex thinking. The activities in class were also key for the development of Perseo's epistemological beliefs. He considered that some of the activities were not useful for his learning; the information was not meaningful to him. He also experienced activities that excited him and encouraged him to participate in class. Having both kinds of knowledge made him aware of the way he could learn better and the way he would adopt and adapt later when he

became a teacher. Finally, his classmates taught him that working together helped him to share thoughts and feelings about the information to be learnt which at the same time allowed him to broaden his view.

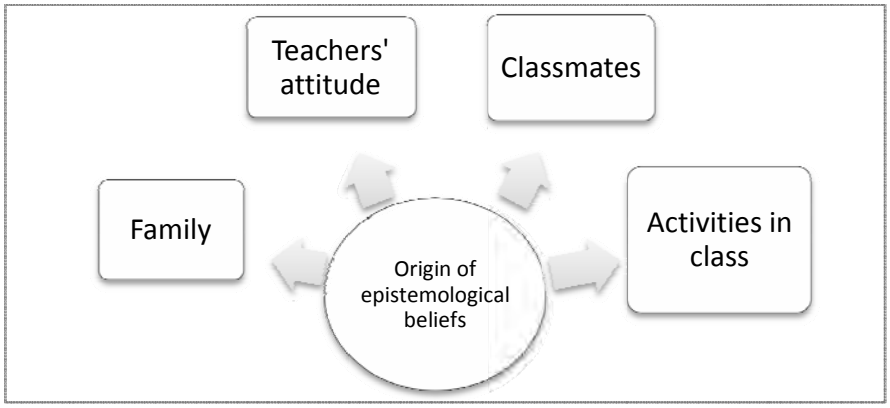

Figure 1. Perseo's Origin of Epistemological Beliefs.

In Figure 2 the second question of this investigation is answered: What are teachers' epistemological beliefs? Here, Perseo's epistemological beliefs are presented. Perseo's beliefs allow us to see that he has constructivist beliefs. Due to the type of attention he had since the beginning steps of his education, Perseo became a selective person referring to information acquisition. Perseo believes that there is not certain or uncertain knowledge, he says that all information is relative to the person who wants to know or the context in which it is learned. He says that unless the information learnt in class would be meaningful to students, they will not learn it because they would not find the applicability of that information in their context. Perseo believes that knowledge comes from everywhere, which means that everything is a source of knowledge. He also

believes that the difficulty of acquiring knowledge depends on the learner's skills that the person has developed and the way the information is presented. He says that he realizes that somebody has learned when knowledge can be put into practice.

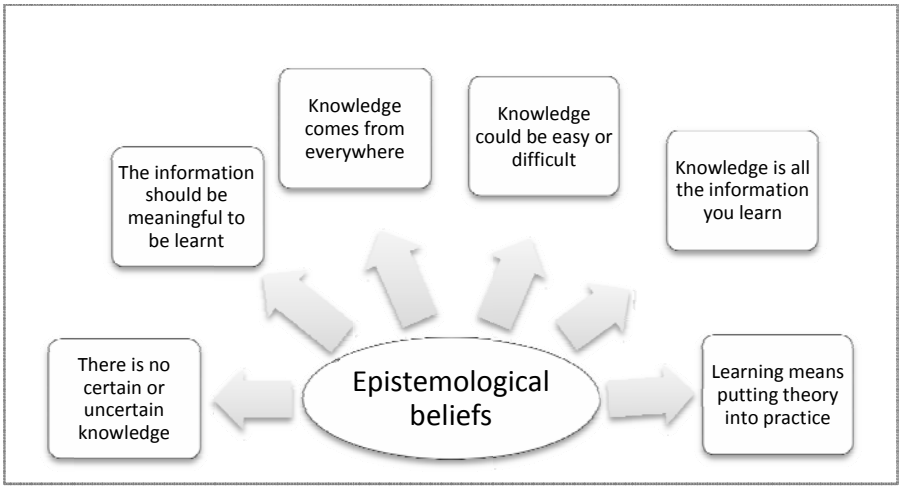

Figure 2. Perseo's Epistemological Beliefs

Figure 3, presents the answer for another question of this research: How epistemological beliefs influence his daily teaching? Perseo reflects his epistemological beliefs in his daily practice. This means that as he has constructivist epistemological beliefs, he also applies a constructivist teaching. He uses authentic material and, if necessary, he adapts that authentic material to his students' levels. At the same time, he tries to create a positive environment in class to make his students feel comfortable and keen to participate. For that reason he also implements technology in his classes and activities. He knows that all his students have a computer and internet access at home,

so he asks that homework include the use of technology. His activities also include projects and role-plays which allow his students to work cooperatively.

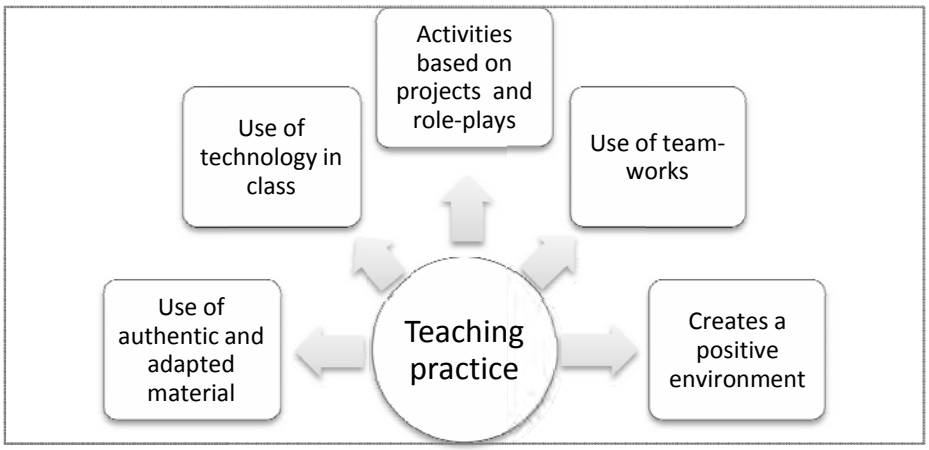

Figure 3. Perseo's Teaching Practice

4.3. Francisco's Epistemological Beliefs

In this section, Francisco's data analysis is presented. As in Perseo's description, you will first find a textural description; then a structural description which is followed by a composite description; finally, the models are presented (Figures) that resulted from the interviews and that answer the research questions.

4.3.1. Textural description

Francisco experienced his different school stages in a passive way. He experienced a traditional education during primary and secondary school in which he actually does not remember anything memorable: "Fue tradicional, eso de que tienes que estudiar y, o

sea, los maestros mayormente no tenían esas estrategias que tienen ahora. Y en la primaria te castigaban físicamente; y en la secundaria, pues, el maestro llegaba y daba su clase".

He only remembered teachers coming in and out of the classroom who said what to do: "Llegaba el maestro y decía que abran su libro (sic), vamos a hacer una actividad. Y nosotros empezábamos a hacer la actividad y medio explicaba. Los que no entendíamos le copiábamos al compañero lo que estaba haciendo."

He found secondary school teachers stricter than in primary school: "En la secundaria eran más estrictos. Ahí sí, entrabas y los maestros siempre estaban ahí contigo. Te exigían, te exigían que esto tienes que estudiar, este resumen tienes que hacer, este trabajo tienes que hacer y muy estrictos".

Then, in high school he felt that he was free and that if you wanted to you did what you were asked, still, they were strict: "En la prepa había más libertad. Si tú querías lo hacías pero también eran estrictos. Eran estrictos".

In university, he considered that he had very prepared teachers: "En la universidad me tocaron maestros muy preparados".

He had a teacher who he really admired because the teacher was not boring at all:

> Él dominaba la materia, explicaba muy bien y entonces yo dije que yo quiero ser un profesor así como él, un buen maestro que trabaja en su clase y está atento uno y algo placentero, no es aburrido. Él daba una introducción, una anécdota pero así interesante y lo relacionaba con su tema que iba a dar. Entonces, y el tema que iba desarrollando lo iba dando con ejemplos pero bien, bien, bien. Nos hacía reír.

However, he also had teachers who were not exactly good teachers: “Había maestros que sabían mucho y que estudiaron en Rusia pero no sabían enseñar”.

He felt that the activities that helped him to learn better were the classes and what people shared with him. Reading was a difficult task because it was not easy to understand the information and grasp the ideas for Francisco: “Las actividades que más me ayudaban eran las clases… yo aprendía de él, del maestro porque a mí me daba trabajo interpretarlo del libro… hasta ahora así, yo aprendo cuando los compañeros me explican o el maestro. Me da trabajo yo mismo.”

When he had an exam, he read books and shared comments with his classmate: “Pues estudiaba lo más que podía en los libros y comentaba con mis compañeros. Y eso enriquecía lo que estudiaba”.

He realized that he had already learnt when he was asked by his classmates and he could answer: “Me daba cuenta cuando me hacían preguntas y yo les explicaba a ellos. Y lo que no sabía ellos me lo explicaban”.

Now, he realizes that he has learnt when he can solve exercises related to the topic: “Primero lo leo y trato de tener una idea acá en la cabeza de lo que es, una imagen en la mente. Luego, lo aplico en un ejercicio. Y ya veo cuanto sé, lo leo, lo retengo aquí en la mente y lo aplico. Para mí así es… cuando no lo aplico, no”.

Francisco, expressed that he never questioned a teacher because he/she was the authority: “No me atrevía a cuestionarlos porque sentía que eran la autoridad. Y no me atrevía nunca”.

Moreover, he believes that a teacher should be a friend in the classroom and should know the subject very well: “Un buen maestro sería una persona que domina el área, que domina el área y que es un compañero más en el salón, no es un profesional que yo de aquí para acá. Si no que es un compañero más y que se identifica con los muchachos”.

The same happened with books, he never doubted what a book said: “Yo confío que son grandes, que son grandes personas que hacen ese libro. Y nunca lo he cuestionado pero sí. Yo confío en ellos, no los cuestiono”.

Francisco believes that learning is to know new things that can be useful in your life and that you are interested in: “Aprender es conocer cosas nuevas que puedas utilizar en tu vida y que te interesan a ti”.

He thinks that when you are interested in some knowledge it can take little time until you learn it: “Si te interesa, en poco tiempo. Si no uh! tienes que batallarle”.

He also considers that his students learn better when they are interested, have fun and they like it: “Creo que ellos aprenden mejor si les gusta, les interesa y se divierten. Haciendo un ejercicio junto con ellos, primero”.

He believes that each student learns differently and that it is necessary to fulfill their needs: “La mejor forma es haciendo, no me gusta tanto leer. Yo creo que los muchachos aprenden diferente todos, diferentes… y hay que llegarles la forma que ellos consideren”.

He believes that an examination does not always show what a person knows: “A veces sí saben pero no lo demuestran necesariamente (En un examen)”.

He evaluates his students with examinations, however, he realized that they learnt if they are able to do different types of exercises: “Aprendió cuando les pongo, por ejemplo, diferentes tipos de ejercicios. Por ejemplo, los ejercicios que hacemos en clase de completar, de hacer crucigramas, de relacionar y a veces les cambio el ejercicio”.

According to Francisco, there are many factors that contribute to learning:

> Lo que influye mucho es de que no están tus papás contigo, siempre hay esa inseguridad de que si vas a decir algo bien o te van a burlar (sic)… y habían muchas dudas en primaria, secundaria, hay muchas dudas pero no se externan por ese temor de que se van a reír, se van a burlar… que es principal que, que, que el maestro esteee, logre atravesar esa barrera que pone el muchacho como en mi caso, y hay varios muchachos que son inteligentes pero que hay esa barrera, entonces el docente tiene que tener esa habilidad para acercarse y hacer sentir cómodo al muchacho… igual si no tiene dinero, está pensando y preocupado si va ir a trabajar o no y no se concentra en lo que está estudiando. Yo pienso que para que un muchacho aprenda, tiene que tener muchas cosas estables, tanto su familia como su personalidad, su percepción de él y llevarse bien con los demás. Porque también una persona que tiene todo eso pero no se adapta socialmente con sus compañeros, le hacen la vida imposible…otro factor importante también es que esa forma de transmitirlo, sea dinámico, que no sea pasivo, ni aburrido, ni muy el maestro acá y los muchachos acá sino hablar ese mismo lenguaje de los muchachos prepararlos para que ellos estén cómodos y entonces llamar la atención.

Francisco described his experience as teacher:

> Primero que nada trato de captar su atención. Les cuento, por ejemplo, algo interesante para ellos. Y ya todos me captan…Y ya capto la atención y ya luego, bueno, ahorita vamos a… el tema que vamos a ver hoy y ya es éste y ya. …Y a veces pongo unas diapositivas, lo explicamos, luego hacemos un ejercicio y ya, les explico el tema, les saco las copias al ejercicio para afirmar bien lo que explicamos y se los doy. Luego, cambiamos los ejercicios y calificamos.

For his classes, he usually uses copies from different books that the students have to store so they can study later for their examinations:

> Tengo el *Grammary Way* y tengo el, el… varios libros tengo. Y de ahí voy sacando cuales voy a poner, cuales pienso que van a ser más accesibles para ellos… eso péguenlo en su libretita, esa copia, para que les sirva en su examen. Hay ejercicios que traen varias, cuatro o tres opciones. O hay ejercicios que traen… a veces elijo los que tienen imágenes.

He helps his students by doing an exercise with them and then, he leaves them alone: "Juntos primero y luego ya dejarlos solos. Les pongo otro similar pero ahora ustedes solitos les digo. Yo creo que así es mejor, porque tienen muchas dudas y cada rato, cada rato preguntan".

4.2.2. Structural description

Francisco experienced a traditional education through most of his school life, primary school, secondary school and even high school did not mean much to him. The activities he used to do were completely passive, they were presented as compulsory in order to pass the course but at the end they were pointless because he did not know why he was asked to do those activities. His teachers came to the classroom, explained what to do but they never contextualized knowledge. The book was the main tool in the class. Francisco built up his beliefs traditionally. He learnt that a teacher does not have to explain too much and an exercise was enough. He reaffirmed his belief that knowledge should be passive in secondary and high school. However, Francisco sees a teacher as a source of information who should know everything about the subject as he admired

teachers who know the subject very well. In university, Francisco had well prepared teachers who were fun at the same time, they always had a fun comment before the class and Francisco liked it a lot.

Reading was not an easy task for Francisco; he learnt better when somebody explained the topic to him. Cooperative work was the best way to study for him, he realized that he learnt when he could answer what his classmates asked him but then he realized that he learned when he could solve exercises related to the topic. He tries to have an idea in mind to see if he can turn theory into practice and then he learns. Francisco believes that knowledge comes from experienced people that should not be questioned as they have studied a lot. In the classroom, the authority is the teacher and what the teacher says should not be questioned, either. As he is from a town, he was taught that teachers are always right and should be respected. At the same time, a teacher should prepare the class for knowledge. For that reason, it is important to obtain students' attention.

Francisco considers that knowledge can be constructed only when the student feels interested in the topic and comfortable with the teacher, otherwise knowledge construction can become slow. Other factors that could slow down knowledge construction are family and economical problems. However, knowledge is usually evaluated with an exam that according to Francisco's beliefs does not always show what a person knows.

In his classes, Francisco reflects what he believes. He is a traditional teacher who comes to the class to teach what a book says. At the same time, he uses extra

exercises that also come from a book. Therefore, he still considers books as the main source of information.

4.3.3. Composite description

Francisco's experience shows that he internalized the way he was taught in school, in the first stages of his education. He was taught in a traditional manner and now he is teaching the same way. He was taught that teachers were an authority who was always right so they should not be questioned. It would seem that he underestimates what his students can do and who they are. This could be probably because in the past, he felt that way when he was a student. For that reason, he considers that if students are not well emotionally and economically, they will not be able to concentrate. He had the same background as his students, he was from a town and it seems that he felt less as a learner because he did not have a father who supported his family. He felt that his students could make fun of him at any moment and this made him a shy person. When he went to university he started seeing new attitudes from teachers. He saw teachers who knew the subject very well and made the classes fun. There, he decided how he would behave as a teacher. Nevertheless, he created a mixed view from his education and that is what he applied in classes. He took the traditional way to teach from basic levels and the fun of his university classes, and since he considers a teacher should know everything, he provides his students with all the knowledge they could need.

Therefore, Francisco's beliefs can be seen as traditional, and they can be organized as follows:

- Knowledge comes from experts.
- Knowledge from experts should not be questioned.
- Knowledge is absolute and certain.
- Knowledge acquisition becomes faster only if the student is interested and it is presented in a safe environment.
- Knowledge can be limited by family and economical problems.
- Knowledge cannot be tested just with an exam.
- Knowledge construction is given cooperatively.

Not all the beliefs are reflected in Francisco's teaching, however most of them are. He tries to create a comfortable environment for his students. In that way, he believes they will learn better and they will feel comfortable enough to express their doubts and questions about knowledge. He considers that his students have problems at home, so they are not able to work the same way in the classroom as a student from the city. Then, he considers that he would make their lives easier if he provides knowledge for students, if he would say exactly what they have to learn. The books are the tool that is used in the classroom as the bible. Therefore, cooperation, thinking skill development, teacher as a guide and students who reflect about their context do not exist in those classes.

4.3.4 Francisco’s models

From the information provided by Francisco, the following models emerged. Figure 4 describes the factors that gave origin to Francisco’s epistemological beliefs; such as family, activities in class, teachers’ attitude and his classmates. Francisco’s parents taught him that the teacher was an authority that must be respected. Everything that a teacher says is correct and should not be questioned. For that reason, teachers’ attitudes influenced his beliefs, as he knew that what a teacher did or said was correct, he just adopted the same attitudes and behavior in class. What is more, the activities in class taught him that knowledge should be memorized and its repetition would mean that he had learnt it. His classmates helped Francisco when he did not understand some information taught in class, at the same time when he knew a subject very well, he was able to explain to his classmates what they did not understand.

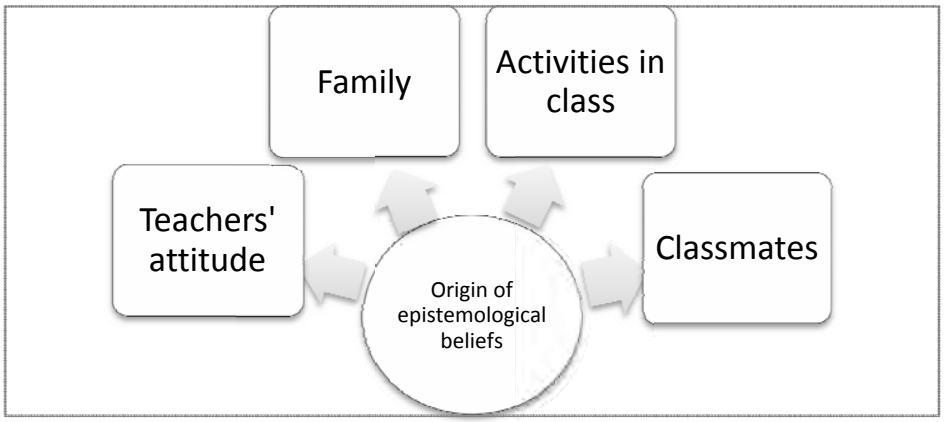

Figure 4. Francisco’s Origin of epistemological beliefs.

Figure 5 presents Francisco's epistemological beliefs. It answers the research question: What are teachers' epistemological beliefs? And it can be seen that Francisco's beliefs are more traditionalist even though he has some constructivist ideas, such as: meaningful information is easier and faster to learn and learning is faster cooperatively.

His traditional epistemological beliefs show that knowledge comes from experts. He said that experts have studied enough to be sure of what they say. It is almost impossible for experts to make mistakes according to Francisco. He considers that learning is difficult and for that reason it is slow. However, it could become faster if cooperation is given among students or learners. At the same time, information should be presented in a fun way, so that students will not get bored in class. Francisco considers that learning means memorizing the information; however, he also considers that knowledge is better acquired when learners are taught meaningful information.

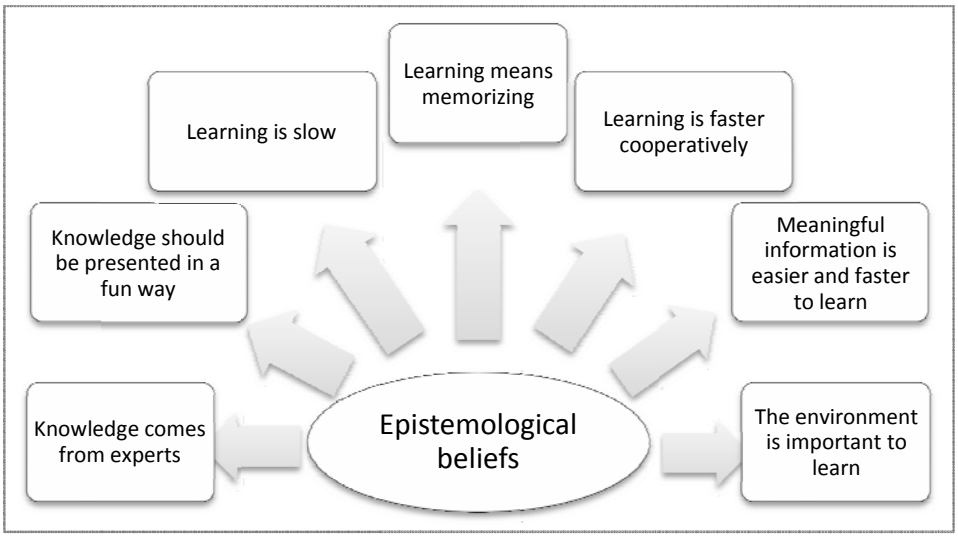

Figure 5. Francisco's Epistemological Beliefs.

Figure 6 presents the answer to the question: How epistemological beliefs influence Francisco's daily teaching? As it is presented, his teaching is teacher-centered which can be also considered traditionalist. This is congruent to his epistemological beliefs that were also traditionalist. It seems like he feels he is the expert in the classroom so he has to provide knowledge to his students. However, the few constructivist epistemological beliefs that came out during the data analysis were not reflected in his teaching. This shows that Francisco is still in a process in which he is trying to change his beliefs or he could be stuck in his traditional teaching practice and he does not know how to modify his practice. It could be seen that Francisco has never thought or reflected on what he believes. He showed a lot of confusion as he answered the interview.

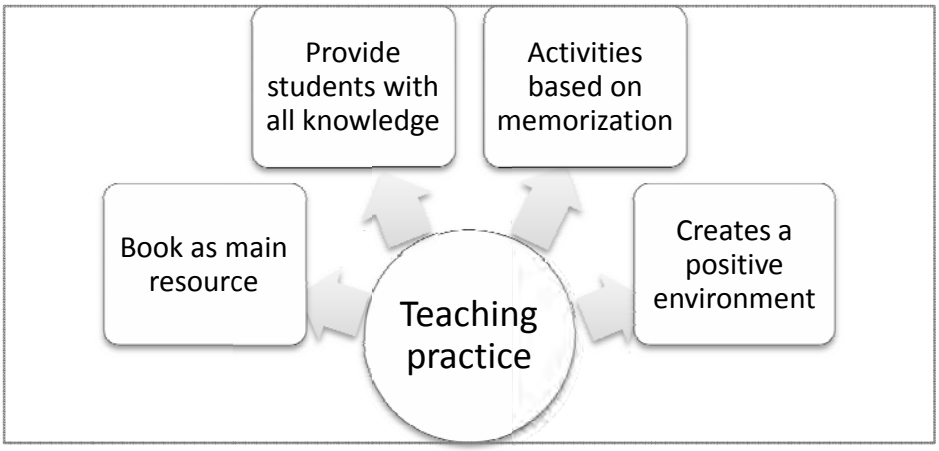

Figure 6. Francisco's Teaching Practice

4.4. Manuel's Epistemological Beliefs

In this section an interpretation of Manuel's interviews is presented. As in the previous sections the textural description followed by a structural and composite description are

presented. At the end of the descriptions, the models that emerged from the data and that answer the research questions are presented.

4.4.1. Textural description

Manuel had good memories of primary school; he remembered that it was a fun stage in which a lot of games were played in the classroom. He remembered that most of his teachers used to make a review as introduction to the class:

> Fue algo así como un poquito pasarla como jugando y aprendiendo, hasta donde yo recuerdo más o menos, y si los recuerdo bastante agradable, la mayoría si hacia una especie de antes de entrar a dar su materia, una especie de resumen de lo que habíamos visto, probablemente la clase anterior y luego ya presentaba más o menos su tema y nos mencionaba lo que pretendíamos abarcar en esa sesión y lo desarrollaba.

At this stage he was evaluated with examinations: “Primaria, secundaria yo recuerdo que la mayoría eran evaluaciones escritas”.

In secondary school, he experienced more work and fewer games: “La secundaria pues un poquito más serio, menos juego, mas trabajo y disciplina y entrar meramente a las cosas y cuestiones académicas”.

He was also asked to participate more in classes: “A partir de secundaria era más la participación…”

In High school and university he felt free to do what he wanted because he considers that most people have acquired discipline:

> …el bachillerato y la universidad pues hasta donde lo recuerdo más relajado porque creo yo que uno ya adquirió la disciplina básica y entonces ya nada más es cuestión, ya sabes lo que quieres y obviamente le echas ganas, y es cuestión de estar al ritmo o al día en lo que te asignan…

At this stage, he was evaluated in a written and oral form: “El bachillerato, en mi caso, fue escrito y de forma oral y nos tenían que evaluar los maestros que nos impartían las clases directamente”.

In university he had to work harder, he had more assignments:

> En la universidad conforme vas avanzando se torna un poco más difícil, te dan más trabajo, más tarea, más investigación, etcétera, pero una vez que ya te hayas disciplinado a través de los años en cuanto al estudio a lo que aprendiste, realmente no es difícil porque ya por decir, ya adquiriste ese hábito de estudio de disciplina…

During his major he could experience knowledge in real life:

> Yo estudié mi carrera de arquitectura en Mérida, y por ejemplo fuimos a la planta de concreto de cementos maya y vimos el proceso y todo eso para ver todos los aspectos en cuanto al cemento y por ejemplo visitamos algunas obras, todo ese proceso siento yo que ayuda mucho más a que ese proceso enseñanza-aprendizaje sea consolidado

The activities that helped him to learn more were changing through the different stages of his educational life:

> …el aprender pero a través jugando… viajes de prácticas de aprendizaje al campo, yo recuerdo que en esos aspectos como que el proceso enseñanza-aprendizaje era mejor, porque si vivías ciertas cosas… cuando participábamos y trabajábamos en equipo, las dinámicas que aplicaba el maestro o la maestra, ya sea según sea la materia, sí recuerdo como que sí eran partes de las clases en la cual sí como que había un poquito más de compenetración, de compresión, de lo que estamos aprendiendo…

Manuel realized that he had learnt when he could apply knowledge to life situations: “Yo me daba cuenta simplemente al utilizar estas cuestiones en la vida y aplicarlo para lo que me iba a servir, sentía yo que obviamente me era de buen uso y obviamente productivo”.

He remembered that in order to be prepared for an examination he used to be individualist: “Mi forma de estudiar en muchas ocasiones, en primaria y secundaria era un poco individual”. However, in high school and university he worked more cooperatively: “El bachillerato y la carrera, sí nos reuníamos, ya sea porque nos habían dado alguna actividad, tarea, etcétera, en equipo o grupo, o ya sea aun siendo individual, quizá un examen, o quizá algún trabajo, nos juntábamos en muchas ocasiones”.

Now, Manuel realizes that he learnt more analytically: “Yo me doy cuenta cuando lo pongo en uso, me sirve y tengo éxito al hacerlo, obviamente no todo lo que aprendo o creo haber aprendido, al ponerlo en práctica me da resultados, entonces, lo que trato de hacer es ir corrigiendo o buscando alternativas para ir mejorando”.

He explained his learning process:

> Me gusta tratar de sintetizar y subrayar si es que se puede las ideas importantes y de ahí tratar de sacar mapas conceptuales para ir teniendo un enfoque integral de lo que estas tratando de aprender, y obviamente de ahí, lo que yo leí no quiero memorizármelo, si no tener los conceptos importantes ya sintetizados o en un mapa conceptual, para que yo lo tenga en un momento dado, si yo tengo que explicarlo en mis palabras, trato de ser analítico.

Manuel said that he questioned his teachers; but as a way of asking for clarification: “Sí recuerdo haber cuestionado porque a veces pues obviamente uno como joven en ese

entonces, es alumno o estudiante, pues a veces te están explicando algo o enseñando algo y surge algo o alguna duda respecto a cómo funciona".

He believes that knowledge acquisition is given better when you can interact with knowledge: "Interactúas con lo que estas observando y con lo que estas aprendiendo y se da mejor el proceso enseñanza aprendizaje".

He believes that learning depends on the interest each person has:

> …cuando es una lectura intencional, de análisis, de estudio, pues obviamente depende, porque he tenido en mis manos que he percibido un poco complicadas, me cuesta un poco de trabajo, no por el significado de cada palabra, si no por lo que te trata de explicar, sino como tema y sin embargo, me he cruzado con libros de que los lees y está bastante claro las concepciones de las cual está tratando de transmitir el autor.

Learning also depends on the skills each person has developed: "Hay personas que son muy hábiles, muy capaces para ciertas materias, y hay personas que son para otras materias, pero yo creo que todo dependen de lo que uno sienta y pueda ir avanzando".

Therefore, due to the characteristics of each person knowledge is given: "Todos somos diferentes, ¿Sí? Y obviamente nuestra forma de pensar y de aprender, etcétera, etcétera. Entonces, obviamente hay alumnos que aprenden o se les llama, creo que lo habrás escuchado por ahí, algunos son musicales"

However, he believes that learning is more meaningful when it comprises doing something: "Creo que aprenden mejor cuando hay una variedad de actividades enfocadas a que ellos actúen, definitivamente es cuando he notado que más lo disfrutan, mas participan, mas…"

According to Manuel, if the teacher knows how to convey meaning to the students, learning would be successful: “Si un docente obtiene los recursos y los pone en práctica adecuadamente no debe tener problema, pero si no, pues yo consideraría, como te comentaba, em actuar, ver si me funciona e ir tratando de corregir analizando por dónde quizá me fue mal”.

At the same time, there are many distractions that could affect learning:

> …especialmente en la actualidad que los distrae, muchas cuestiones, quizá la televisión, internet…ehh etcétera, no sé los medios de comunicación, entonces yo no sé, me da la impresión, obviamente no sé cómo está la cuestión básica educativa en sus hogares, toda esa cuestión es… forma una cuestión compleja que los alumnos tengan esa disponibilidad de aprender.

Moreover, the students should be interested in learning something in order to learn it: “Para aprender uno tiene que estar interesado en lo que se va a aprender”.

Manuel defined learning as something that should be useful in life: “Aprender para mi es utilizar en la vida, en la práctica lo que aprendiste o lo que te enseñaron, para mí eso es aprender”. However, there is a process to follow in order to learn: “Participar, llevar a cabo las tareas, obviamente presentar y aprobar el examen”.

Passing an examination is a sign that a person learnt: “Calificación aprobatoria significa que aprendieron”.

In order to look for knowledge, Manuel searches for different sources:

> Bueno, como te decía hay varias, yo diría libros, internet, informática, bibliotecas, si hay fuentes directas, ¿No? Por decir algo… y vamos a hablar de inglés, por decir algo, yo necesito que estos muchachos hagan algún trabajo, probablemente alguna cuestión con el turismo pues ir a la misma fuente del departamento… ya sea a la secretaría de

> turismo o donde haya que ir, y ver investigar, ¿No? Ver, además de lo que ya te comenté, libros y todo lo demás.

In his classes, he considers the book as a tool that is always used:

> …el libro es una fuente importante además de guía, ¿No? Sabemos, que es lo que vamos a ver… emmm es importante puesto que los chicos ehhh, saben o se sienten… he notado que al llevar un libro como que sienten que van sobre algo o van sus objetivos sobre algo que vale la pena.

When Manuel wants to verify what he knows he does research in other sources:

> Pues simple y sencillamente ver lo que me explican de esa fuente, ¿Tiene sentido? ¿Tiene lógica? Y no solo quedar con eso, buscar otras fuentes alternativas e investigar, ver, buscar, buscar otros autores, otros libros ,otras fuentes, internet, etcétera… bibliotecas e ir si tengo dudas ¿No? Pero si yo veo que en general coinciden en ciertas cosas, bueno quiere decir que esa parte es adecuada.

On the contrary, he can also identify when knowledge is not correct:

> Lo leo, tú con tu experiencia, yo con mi experiencia, y nos damos cuenta de que la forma en que tratan o como lo redactó el autor o los autores o como se trata de explicar los temas no es que estén mal, si no la forma como que es inadecuada para el proceso enseñanza-aprendizaje, para mí eso no sirve.

4.4.2. Structural description

Manuel experienced his different educational stages as something that was normal to him. He remembered that he started his education with games. He had fun in primary school. According to what he said, he had a traditional education in which the teacher came to the classroom, explained the topic and played games with the students,

however games were very important and were part of the primary activities. Then in secondary school he explained that games were not the primary activity anymore. Subjects were taken more seriously and he felt that the academic area had more emphasis. He was asked for more assignments; there was more discipline so it required more effort. Then, when he came to university he saw a different world because it actually required more time and effort. However, he considered that at the time discipline was already established and even when there was more work required and it included doing research, it was not so hard. He had the opportunity to see in real life many of the processes he was taught in school through trips and visits to places where the knowledge was put into practice, and that helped him to have clearer ideas.

The activities that helped Manuel to learn were the practices in the classroom. He liked to see the activities taught in theory put into practice, and collaborative work was also helpful to learn. Actually, when he had to prepare for an examination he met his classmates and worked in a team to study. They used to explain to each other things that were not clear enough for the rest of the group. Manuel realized that he had learnt when he could apply knowledge in something practical such as exercises or real life situations. However, he considers that he has become more analytic now. He prefers doing synthesis and creating mental maps to structure knowledge and have clearer ideas. He also looks for application; he tries to apply all that he knows in life.

According to Manuel, knowledge happens when the learner interacts with knowledge and is able to observe and experiment with it; however, Manuel also considers that the learner should be interested in knowing, that is why the guide should present knowledge in a useful and understandable way. There are some times that knowledge is not difficult

but the way it is presented can confuse the learner and make it difficult. Another factor is the skills each person has developed. He considers that every person is different so we all learn in different ways. There are some people more skillful in some subjects than others but it depends on the learning styles and the mental processes. However, when learning is meaningful, it becomes more enjoyable.

Knowledge should be useful in life, that is the easiest way to make it last. There are many sources to have access to knowledge, such as books, the internet, the libraries, and there are direct sources like people themselves and institutions. However, books in his classes are the basis of knowledge. He uses books every day as a way to support students because he considers that if there is no book his students feel there is no objective, which means that he does not establish the objective for his classes, so he expects the book to do it.

In order to check if the knowledge he is using is correct, he looks up other sources until he verifies that the same knowledge is used in those sources. He also looks for logic; hence, if he cannot apply it in his context it is not useful either. What is more, his experience is also useful to verify certainty in knowledge.

In his classes, he asks his students to apply what they learn in classes. He tries to work with dynamic activities so his students do not get bored and at the same time find learning interesting. His students seem to react positively to the activities in the classroom and the book is the basis for everything he teaches.

4.4.3. Composite description

Although Manuel's education was dynamic, fun and there was interaction among students in primary school, he was also exposed to traditional education during secondary and high school. It seems that what happened first is what has permeated his learning process, which shows that he has constructed sophisticated beliefs.

As his first activities were games and interaction among students he developed the belief that learning should be fun and interesting. During secondary and high school discipline was important for Manuel's development. Then, in university he discovered that knowledge should be also useful in life in order to really learn it. According to Manuel, knowledge comes from different sources that could be books, encyclopedias, people, institutions, etc., it depends on the type of knowledge you need.

He considers that when knowledge is repeated in different sources it is certain. Knowledge is constructed better when people work cooperatively and they are able to apply it in real situations. Actually, he felt comfortable when he had the opportunity to experience knowledge in real life, see it or be exposed to situations in which he could understand knowledge in a better way.

Therefore, Manuel considers;

- Knowledge occurs when it is constructed cooperatively and it can be applied in daily situations.
- Knowledge could be slow or quick depending on the interest of the student and how the teacher presents the new information.

- Knowledge comes from expert people who are able to write books knowledge comes from everywhere.

Although Manuel has developed constructivist beliefs, for some reason it seems that he has not been able to implement this kind of teaching in class. Still, traditional teaching has permeated his classes. It looks as if he would like to implement a more constructivist teaching but the conditions do not allow him. What is more, he considers the book as the main tool in classes. He would like to use posters, flashcards and computers but the institution does not have the equipment and the infrastructure for him to do it. Then, the book is the most adequate tool for him.

He asks his students to work in teams, so that cooperative work is given. They work on projects in the classroom. Still, traditional explanations are given, students are not usually asked to investigate by themselves.

4.4.4 Manuel's Models

From the information provided by Manuel during his interviews, the following models emerged. In figure 7, is presented the answer to the question: What is the origin of epistemological beliefs? Here are presented the factors that influenced the formation of Manuel's epistemological beliefs, such as: teachers' attitude, classmates, activities in class and family. His family was the basis of his belief construction, however when Manuel was at school he experienced for himself what worked for him. His teachers' attitude helped him to feel more comfortable and express his questions. His classmates taught him that cooperative work was more appropriate if he wanted to broaden his

perspective. Actually there were times in which knowledge was more easily acquired. And finally, the activities in which he could put into practice what he had learnt in theory were helpful to establish that learning was accomplished when he could do something with that knowledge.

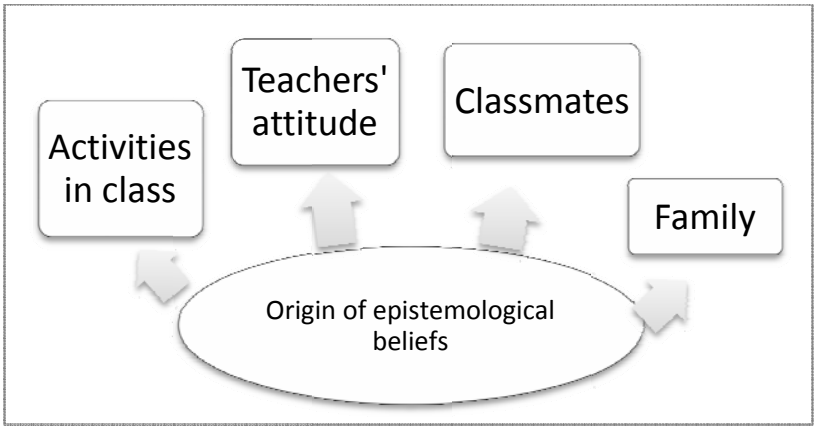

Figure 7. Manuel's Origin of Epistemological Beliefs

In figure 8, is presented the answer to the question: What are Manuel's epistemological beliefs? And as can be noticed, Manuel has constructivist beliefs. He considers that knowledge is better acquired cooperatively; however it also depends on the learners' attitudes. He believes that learning is also accomplished when the learner can interact with and observe the knowledge. At the same time, he considers that everything can be a source of knowledge and when the information is repeated in different sources it means that it is real and certain.

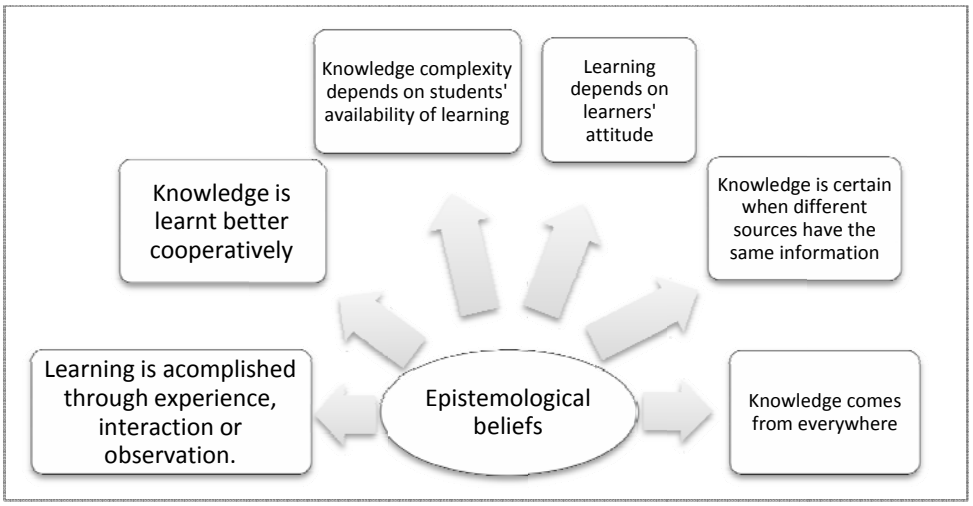

Figure 8. Manuel's Epistemological Beliefs

Figure 9, presents the answer to the question: How do epistemological beliefs influence a teacher's daily practice? Manuel in shown to have constructivist epistemological beliefs which actually have a lot of influence on his daily teaching as it is usually constructivist as well. However, due to the institution requirements, he uses a textbook that is used in all classes. Manuel justified the use of this book by saying that he has realized that his students do not feel comfortable with copies or other material and having a textbook makes students feel safer in some way. Manuel has the need to provide information to his students; it does not seem that he asks his student to investigate by themselves the information required, even when they work in teams. However, he consults different sources in order to provide that information. He tries to be sure that he will teach true information.

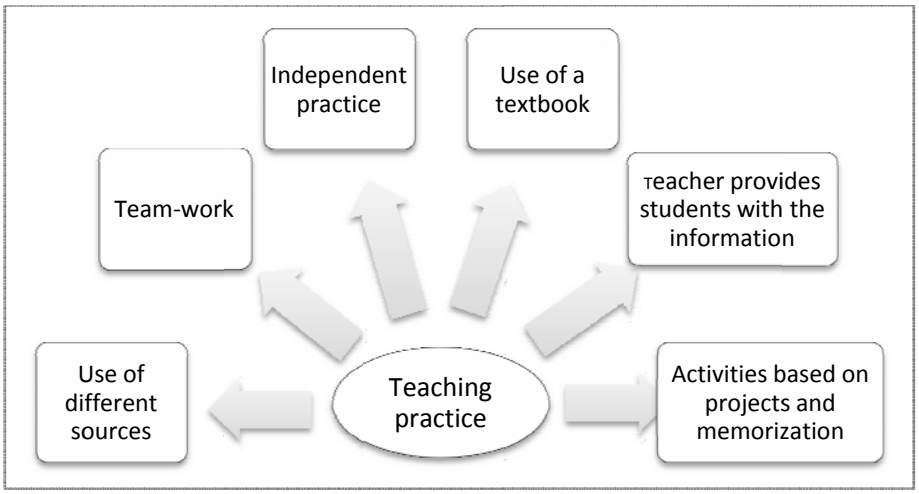

Figure 9. Manuel's Teaching Practice

4.5. Rachel Epistemological Beliefs

In this section, Rachel's results are presented from the interviews. Again, a textural description in presented followed by a structural and composite description. At the end of the descriptions, the models that emerged from the data obtained are presented. Each model answers a research question.

4.5.1. Textural description

Rachel described her education at primary, secondary school and high school as traditional since she was never asked to participate actively in class: "el maestro daba todo y no había eso de yo participo".

Participation was not allowed freely: "Cuando ya querías participar y decir tu opinión, los maestros te decían y te veían así como el que se estaba revelando".

Her school day was limited to a set of activities that the teachers assigned such as; dictation and answering questionnaires:

> …abre tu libro de historia y al ratito ya lo estábamos cerrando que porque ya hicimos el cuestionario y ya pasábamos a otra materia y otro ejercicio y luego venía el receso. Y así, variedad de materias pero pues nada más era un ejercicio; así como que cambiábamos pero pues por nada más tareas.

The specific activities that she remembered were questionnaires and book activities: “Cuestionarios, lo que venía en el libro porque era así de que vamos a hacer el cuestionario del libro, o vamos a copiar de la página tal de no sé qué libro”.

She needed somebody to push her to do homework, otherwise she did it slowy: “Me gustaba que me regañaran, que me presionaran, que dijeran que tal fecha es la última para entregar tareas o que estuvieran detrás de mí.

At the same time, she had an experience in which she felt limited: “Primero de primaria yo era muy participativa y entonces la maestra empezó a hablar con mi mamá y le dijo que me pasaba mucho de hablar”.

In secondary school, she also experienced traditional education in which the teacher only came to the class, assigned homework, then he graded and he left: “Es que el maestro llegaba, daba su clase, te dejaba una tarea, la calificaba y se iba. No había eso de participar porque como éramos muchos. Sí participábamos pero así de memorizarse que el cuestionario tal”.

In that stage, apart from the traditional activities she also experienced other activities such as laboratory experiments: “nos llevaban al laboratorio, por ejemplo de física, para un experimento”.

Her evaluations consisted of a written examination which had a higher score than homework: “En la secundaria era igual el examen que valía más; las tareas más o menos”.

For that reason, every time she had to study she only memorized to pass it: “en la prepa es donde sí me acuerdo que el examen valía setenta, tareas treinta y era que pasaba porque era memorizar para el examen”.

She saw the change when she went to university. As it was completely different from what she was used to, she had to participate but she did not know how to do it: “Tenías que participar; te exigían participar y pues uno ya estaba acostumbrado a que todo lo dice el maestro”.

She had different types of teachers:

> …había desde el muy estricto que le gustaba que le cumplieras con las tareas y que yo participara, que participaras y todo estaba pendiente…otro maestro, que a pesar de que preparabas tú lo que ibas a hacer o participar en la clase, el maestro no estaba preparado…hubo maestros que era así como que si quieres venir a la clase, vienes, o desde el principio de la clase decían que quién quiere un siete, no me acuerdo cuál era la calificación mínima, y de una vez se lo pongo para que ya no venga…

Rachel through all her educational stages was good at memorizing information: “mayormente yo era buena pero para memorizar…me gustaba mucho los juegos de memoria, todo lo que tuviera que retener algo”.

At the same time, she recognized that she was not conscious of what she said: “No sabía ni lo que estaba diciendo pero estaba recitando lo que memoricé”.

Learning for her was saying what she had memorized: “Pues si me preguntaban en la calle que cuándo fue la segunda guerra mundial y lo recitaba pues eso era aprender, ya había aprendido algo”.

She accepted that learning would be easier for her if she was provided with the specific information she had to know: “A mi persona o para mí, yo aprendería más rápido si las cosas me las dijeran tal y como debe ser, explícito, ¿No? Esto es así y esto funciona así y te sirve para esto. No tanto rollo”

Rachel explained her learning process that includes memorization as follows:

> Primero investigo, luego lo leo, lo tengo que leer como tres veces porque luego no lo entiendo [risas]. Y ya luego empiezo a pensar que si he visto algo así en mi vida cotidiana acerca del tema y trata de relacionarlo para poder, como que, estructurarlo y entenderlo mejor… primero necesito memorizarlo y ya luego, así como que con el tiempo, con la experiencia, así como que lo voy aplicando, o le voy entendiendo mejor o digiriendo.

Rachel has developed a set of beliefs about knowledge. Learning for her is to put into practice what you have in theory: “Poner algo en la práctica…aprende mejor cuando experimentan lo que están aprendiendo.”

She believes that people’s attitude has to do with the learning of knowledge: “…influye mucho la actitud de ellos”. She also believes that when people use in their lives what they have learned means that they really learned it.

She trusts in the information provided by experts: “si la información viene de algún instituto o universidad, no sé, que pienso que tiene prestigio o tiene calidad en sus trabajos, que han salido a la luz y cosas así, de ahí considero que es buena”.

Books are good tools in classes because they have been tested by experts: “bien porque, no sé, los libros a lo mejor ya han sido probados por gente experta”.

She used to look for the information she needed in books but now, the internet has become her favorite tool: “antes era en los libros. Ahora en Internet y en enciclopedias”.

Rachel also mentioned factors that could accelerate or slow down learning such as, continuing practice, students’ goals, preparation, time, and context:

> Si no lo practicas diario, siento que a lo mejor eso no te da la habilidad o te ayuda para que seas más rápido para aprender algo… si la persona no tiene metas, entonces, es difícil de que quiera aprender… La preparación que tengan, el tiempo, dedicación, su contexto, creo que varias cosas serían.

In order to verify the information she obtains, she looks for other sources and checks if the information is repetitive in those different sources. Another way is when she can experiment with knowledge or see it: “Es lo correcto pues porque en varios lugares veo que coincide la misma información o varias personas tienen la misma información, o lo veo, o lo experimento”.

In relation to her experience as a teacher, she has always based her teaching on books and the activities in them. The activities she uses in the classroom are based on what the book asks her to do:

> …todo con base a los libros… no había eso de que juegos ni nada de eso. Como eran niños pues tenía yo que ser la que les diera todo, ¿No? Cualquier duda pues conmigo… lo que hacían era con base a práctica sobre los ejercicios del libro… porque te digo que sí había manualidades pero eran… no era hacerlas en el libro pero eran algo que dictaba el libro.

The information she taught was also based on books as she had the teacher's book and it also had how to teach the information and the activities. Actually the planning of classes was based on the teacher's book: "Mayormente del libro porque como ya teníamos también el libro del maestro. Como que todo estaba en bandeja de plata: lo que tenías que dar, cómo darlo y los tiempos, todo así. Todo ya estaba planeado en el libro del maestro".

The way she teaches depends on the level of her students. She considers that beginners need more attention and information and advanced students need more a guide or facilitator:

> Si apenas son estudiantes principiantes trato de ser como que, más que una guía, el que les ofrezca el conocimiento, los temas. No sé, es que dependiendo de qué nivel sea, sería el rol que podría desempeñar. Si es un nivel intro pues, yo siento, que sería así como que tratar de darles todo o tratar de buscar algo que les interese del tema para poder dárselos. De manera que a ellos les interese y les agrade. Y si es un nivel alto, pues, una guía y un facilitador; así de que cualquier duda, siempre estoy abierta a sus preguntas. No darles todo ahí porque pues ya sería más que nada lo que ellos necesitan, no lo que yo tenga que darles todo el tema o algo así.

She realized that her students had learnt when she saw them using what she had taught. She avoided games because of the school, and she replaced games with examples:

> …mi idea de que ya hayan aprendido era que lo usaban, que hablaban el inglés, hablaban de los temas o del vocabulario que veíamos, lo relacionaban con las lecturas que hacían, todo eso. Ahí es donde según yo, veía que habían aprendido…me acuerdo que teníamos que ver la diferencia entre algo ficticio y algo verdadero, no sé, y darles ejemplos así como que de su vida diaria para que pudieran entender un poquito las palabras, no sé. Dando ejemplos más que nada porque en lugar de hacer dinámicas…

The role of her students according to Rachel is to ask questions when necessary; she does not ask them to look for more besides what she teaches:

> …no sé, a veces siento que los subestimo pero no les exijo de que investiguen en otros lados. Porque aparte de que no hay donde investigar porque la verdad la biblioteca tiene libros de hace mil años y la Internet no funciona. No hay mucho de donde sacar. Únicamente de que sean participativos y si hay dudas, pues que pregunten. Si no entienden algo, su rol pues, que no se queden con dudas. Que digan todo lo que tengan que decir y si estoy mal, también, que me corrijan y cosas así. No sé, pero de que ellos hagan, traer un tema ya preparado o algo así, se me haría difícil. A lo mejor los estoy subestimando pero así creo que es en la prepa de ahí de bachilleres.

When she has to teach extra classes, she tries to include games and competitions: "Trato de hacer dinámicas, por ejemplo, juegos o, no sé, como tipo concursos de pregunta-respuesta. No sé, algo diferente a lo que vieron en sus clases normales de inglés para cambiar un poquito la mente".

She said that her role as teacher is different according to the level of students, too:

> Pues trato de poner lo más simple a los que están empezando para que no se frustren porque a veces les veo su cara y como que no entienden lo quiero decirles. Y a los de sexto como que ya les pongo algo más variado y a ellos ya no les pongo temas como que del verbo *to be*, ni modales, nada de eso. En dado caso que no entiendan pues ya les explico acuérdate que cuando viste el verbo *to be* era así y así. Pero no les digo ah miren acuérdense que esto va con esto y esto va con esto.

Rachel described a dynamic class as a class that contains games, interaction among students and the teacher but at the same time you work:

> Según yo, es donde empiezas, bueno, donde se incluye el juego, la interacción con los compañeros, que no solamente es escribir, escribir, escribir. A lo mejor sí hay alguna parte donde tengas que escribir pero que no desde el inicio te digan toma el ejercicio,

> hazlo y hasta que acabe la hora, ¿no? Si no que empieza así como que con un juego, te relajes ¿no? Y ya luego te ponen a trabajar y que termine bien, digo, con otro juego a lo mejor. [Risas].

4.5.2. Structural description

Rachel had a traditional education in which the teacher came to the classroom, said what to do, and then checked the activity and that was the end of the class. Her teachers provided the students with all the knowledge. The activities were questionnaires that they had to memorize for the exam. Therefore, since the beginning of her school life Rachel was exposed to a very specific way of teaching which included: the teacher knows everything and the students have to listen to what the teacher says and learn it that way. The participations were limited to answer the questionnaires and she had to face a difficult situation because she participated excessively according to her teacher, then her mother was told to ask Rachel not to speak so much in class, just when necessary. In secondary school, participation was not essential because there were a lot of students and time was not enough for all of them to participate. She went through this type of education from primary school to high school and she was never asked to participate in class, at least, not as part of the grade. Then, Rachel got used to that form of class.

When she came to University, she found a different environment from what she was used to. There, she had to participate, give her opinion which was actually difficult because of her previous education. She had different types of teachers, some were very strict and some others were the opposite, they were nice teachers who allowed students to do anything that they wanted to. Then, university caused a shock in Rachel and what

she knew as school and education. Memorization was part of her learning process but in university memorization was not enough. She was asked to do more than just memorizing information. Rachel recognized that memorization was not the most convenient strategy because she, actually, did not know what she was saying every time she repeated the information. Consciously, she could not understand what she repeated.

Nowadays, Rachel needs to read many times, and still memorize the information; but now, she also reflects on knowledge and relates it to something in her life. She believes that when you can apply knowledge in reality, in your life, means that you have already learnt. Therefore, for Rachel, knowledge is acquired through a set of activities that includes reading, memorization, reflection and application.

Moreover, Rachel believes that knowledge occurs only if the learner is interested and he has developed mental skills that would help the learner to accelerate knowledge acquisition. However, other factors that can affect positively and negatively are the time spent in practicing, context, and learner's goals.

Rachel trusts in books and information coming from prestigious universities and institutions since she considers that they are the experts in those places who have the certain knowledge to provide reliable information. The same happens with books which according to Rachel's thoughts, have been tested by experienced people who know what they do and are experts in the field studied. Therefore, when she needs to investigate something she consults books, the internet and encyclopedias.

In her classes, Rachel bases what she teaches on textbooks. She says that planning also comes in the teacher's book and it also says what to teach and how to teach it. Then, everything is the book, so she only has to teach it. When she is going to teach, her role can change according to the students level. She says that if it is a beginner group, she tries to make the class interesting to the students or link the new information to what they have learnt previously. At the same time, she says that she provides all the knowledge to students although she considers that she sometimes underestimates them. With advanced levels she tries to be a facilitator, she tries not to give every single thing but to make students remember what they learnt in other classes. Then, the students' role in her classroom is not to keep questions or doubts about what is being taught but to participate actively and to present questions to the teacher, in this case, Rachel. She never asks them to investigate since there is not much information and few places they could investigate. She tries to be dynamic in her classes but she always returns to memory games, questions and answers.

4.5.3. Composite Description

Rachel was exposed mostly to traditional education. This type of education prevailed during primary, secondary and high school. Then, she became shy and non participative. For that reason, it was difficult for her when she entered university and was asked to participate, reflect and express her opinion. Hence, it is possible to perceive that educational life affected what she believes now.

She started creating her beliefs from these stages, in which she was taught that participating was thought to be unwelcome which at the same time affected her development through the rest of her educational levels. However, in university these beliefs were crushed by new activities and ways of teaching. Although she experienced different types of teaching, she recognized that reflection and opinion were prevalent in most classes.

Rachel's beliefs have changed, because memorization used to comprise all her learning process. Now, memorization is just part of her learning process, because analysis and reflection are also present.

Rachel believes in certain knowledge, only when it is provided by an expert. When she does not receive knowledge from an expert she looks for more information until she realizes that most sources say the same. She trusts that experts have studied enough to write books and have done enough research to be sure about knowledge. Therefore, according to Rachel;

- Knowledge comes from experts in the subjects.
- Knowledge is constructed through a process of reading, memorization, reflection and application.
- Knowledge can be easy, difficult, quick or slow, depending on the characteristics of the learner and the interest he shows in the subject.
- Knowledge is only certain when you are able to find the same information in different sources or when it comes from an expert.

In her classes, Rachel actually provides her students with all the knowledge, she does not ask them to search. Her activities come from the books which actually confirm her beliefs. At the same time, she asks their students to memorize when she uses the activity of questions and answers, which again confirms what she expressed in her beliefs.

It seems that her beliefs have changed through the different educational stages; however, she does not identify how to put all those beliefs into practice. Now, she believes knowledge has different stages to be acquired, but that is not the process that she follows when she teaches. Her teaching looks traditional. So, her beliefs have changed but the core beliefs are still present which makes her teaching traditional.

4.5.4 Rachel's models

Taking into account the information provided by Rachel, the following models emerged. Figure 10 answers the question: What is the origin of epistemological beliefs? The factors that influenced the creation of Rachel's epistemological beliefs were family, teachers' attitude and the activities in classes. The teacher's attitude in primary school affected Rachel as the teacher limited when she tried to participate. Then, her mother supported the teachers' advice of not to speak a lot in class, therefore, Rachel's participation was limited. What is more, the activities in classes suggested memorization all the time. Then, all these factors influenced the creation of Rachel's beliefs which can be seen more as barriers that were created to limit Rachel's development.

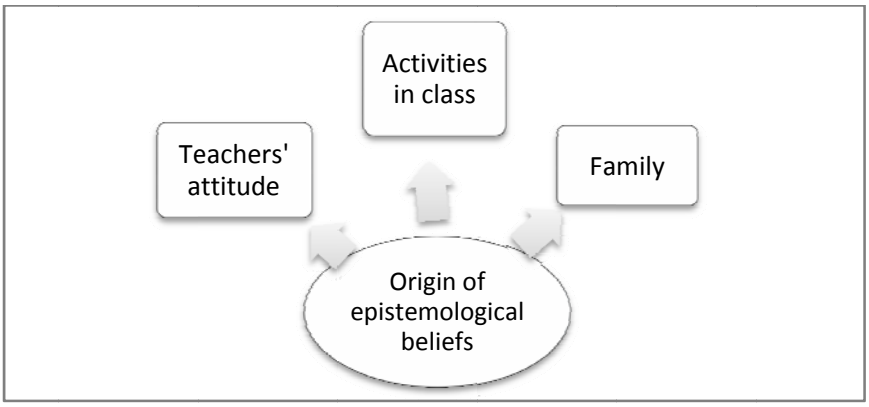

Figure 10. Rachel's Origin of Epistemological Beliefs

In figure 11, the answer for the question is presented: What are Rachel's epistemological beliefs? Therefore, this figure presents Rachel's epistemological beliefs which seem to be more traditional. Rachel believes that knowledge comes from expert people, she trusts in them because they have the experience to say what is correct. What is more, knowledge is certain if the same information is found in different sources. She believes that learning is faster when the person is interested in learning. For that reason she considers that the information should be presented in context but in a simple way, by saying just what is necessary to learn. For Rachel, learning means memorizing and then putting into practice what has been memorized. She considers memorization as an important part in the process of learning.

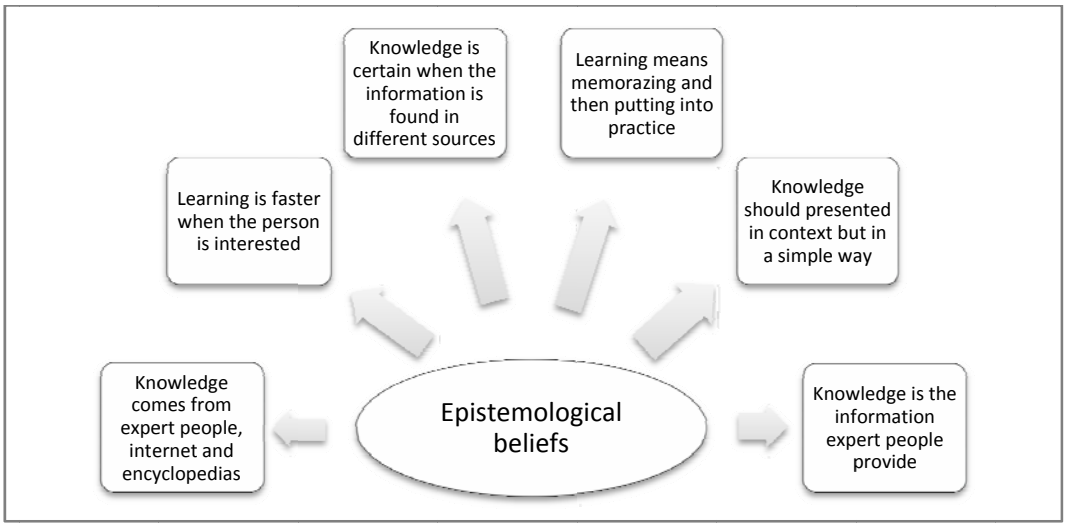

Figure 11. Rachel's Epistemological Beliefs

In figure 12, I present the answer for the question: How do epistemological beliefs influence the teaching practice? In this case, we can see that Rachel's epistemological beliefs influence her teaching practice for sure. In her practice, Rachel feels she is the expert in the classroom so she feels the responsibility of providing students with all knowledge. Even though she creates a positive environment in the class and encourages students' participation, Rachel's activities are based on memorization and she uses the textbook as the main resource for her class. So we can see that she teaches in a traditional way that at the same time fits her epistemological beliefs.

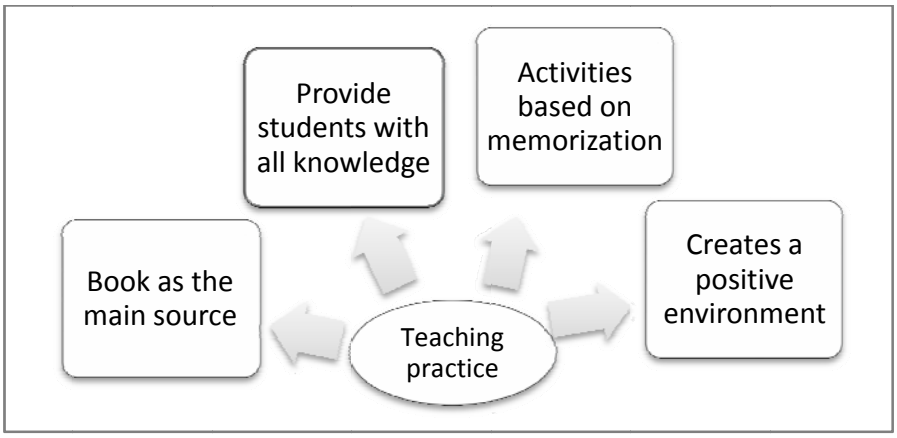

Figure 12. Rachel's Teaching Practice

4.6. Julian's Epistemological Beliefs

This section presents the results from Julian's interviews. Firstly, you will find a textural description followed by a structural and composite description. Finally, the models are presented that emerged from the data obtained and which answer the research questions.

4.6.1. Textural description

Julian, since primary school experienced a bad attitude from a teacher:

> Tuve una maestra que para mí fue muy gandalla, dijo: lo que pasa muchachos es que ustedes, bueno no…niños, ustedes nunca van a aprender nada, porque, porque tienen cerebro de sapo, y la gente con cerebro de sapo como ustedes nunca va a salir adelante, sí, ustedes por más que estudien aquí van a morir.

However, he thought the teacher was wrong and then he met other teachers who gave a positive message to him:

> …los otros tres años de primaria tuve buenos maestros, y me dijeron no, sí se puede, tu puedes lograr lo que quieras, sobre todo un maestro en sexto de primaria, que este, por azares del destino me gané un premio, un concurso en conocimiento y entonces me gané un premio a Xcaret…

He experienced a traditional education in primary as well in secondary school:

"El maestro entra explica y nosotros trabajamos en los libros, hacemos preguntas, pero realmente no hacíamos preguntas y pasábamos la copia o copiábamos".

However in secondary school he had what he considered good teachers:

> En la secundaria los primeros dos años tuve buen maestro de, que no sabía mucho inglés, o sea era maestro de español, pero si se preocupaba por enseñar… lo que me gusto de ese maestro es que se ponía, o sea en el salón, era la figura del maestro y de los alumnos, pero de ahí te daban confianza, o sea se ponían por decirlo así a tu nivel ¿No?, y te decían no, no estaba muy viejo tampoco, entonces creo que por eso, entonces decía: no chavo, y relajeaba con nosotros y jugaba con nosotros voleibol y todo el tiempo. A veces se quedaba, inventaba cosas así a su esposa decía que tenía que hacer mucho trabajo y se quedaba en Caobas para quedarse a jugar con nosotros.

In the last year, he learnt to be competitive: "En tercer año pues sólo tuve un maestro que sólo era de matemáticas, entonces ese, sólo él veía matemáticas y nada más que matemáticas. Era un poco problemático, llevaba sus traumas a la escuela y siempre nos regañaba, y con él aprendí a ser competitivo o competente".

Julian said that it was easy to cheat in the exercises: "En la secundaria en todas las materias al final de los ejercicios traía la clave de respuesta, solo volteabas el libro y ahí estaban las respuestas, entonces si no sabias nada pues lo copiabas y ya".

Then, in high school he had the opportunity to meet other kinds of good teachers:

> Bueno maestros, sobre todo la maestra de español, la que me daba español, taller, este… estructura socioeconómica de México y esas materias así ¿No? Y ella estaba muy preparada, era una maestra que para mi viene de ser buena que demasiado estricta, porque en todas las demás materias echaba relajo menos en su clase de ella… el otro maestro que es el de química, que nos enseñaba…o sea nos enseñaba más o menos, dictaba mucho, o sea casi toda la clase la pasaba dictando, pero convivía mucho con nosotros.

In this stage, he started doing different activities such as debates: “La maestra de comentario de texto, ella no, ella llegaba, preparaba su material, nos hacía participar y fue la primera maestra que nos puso a hacer debates”.

He expressed what it means to be a good teacher for him: “Entonces siento que un buen maestro ha sido la combinación entre saber de tu materia o estar dispuesto a prepararte para una materia que te corresponde y llevar una buena relación con los alumnos”.

In university, Julian felt insecure because he came from a small town; however he experienced a lot of support from his teachers:

> Sobre todo la maestra de material didáctico a la hora de presentar materiales yo era muy inseguro, tartamudeaba, todavía tartamudeo pero tartamudeaba mucho en inglés, cuando hablaba en inglés y en español. Y como que con ella agarré más seguridad, me daba confianza porque era una maestra comprensiva pero a la vez exigente, o sea me cumples, yo entiendo que a veces no puedes hacer la tarea pero quiero que hagas las cosas bien…Hay un maestro que siento que no era su vocación ser maestro, entonces en sus clases utilizaba mucho spanglish y causaba mucha risa, era muy gracioso y yo a veces he tomado parte de eso.

Julian used to work more traditionally on his learning which means that he used memory frequently:

> …antes era más de cuestionarios y de *copy paste*, así de escribe tal cuestionario y responde tal cual… Ahora me ponen a razonar. Antes yo decía, el autor tal dice esto y se aplica así. Ahora me dicen, tienes que cuestionar lo que dice el autor, o sea el autor es una persona como tú, que tal vez ha estudiado más, ha leído más pero en fin es un ser humano que se puede equivocar.

He considers that memorization is good at the beginning of any learning because it provides a solid basis of knowledge: “La memorización fue buena porque me construyó una base sólida de mis conocimientos, por ejemplo, cómo te aprendes la reglas de las agudas y las esdrújulas pues memorizándolas, ¿No?”.

He considers that after memorization, he is able to make judgments about knowledge: “Ahora que ya tengo un conocimiento sólido ya siento que si puedo ser capaz de emitir un juicio y de decir, bueno estoy de acuerdo con tal autor y lo que dice este otro autor no es cierto por esto y por esto”.

However, his way of memorization has changed. He used to memorize by repeating what he wanted to learn, now he memorizes by relating knowledge to something fun. “¿Cómo memorizo?, repitiendo varias veces… repito esta palabra es esto, repito y relaciono… relaciono el sonido con algo que sea medio chistoso o que me traiga a la memoria esa frase y ya”.

Julian believes that you show what you have learnt when you can criticize and talk about a topic: “Me doy cuenta que lo aprendo cuando puedo aplicarlo o cuando puedo criticarlo o cuando puedo cuestionarlo o puedo hablar del tema”.

At the same time, when you have knowledge you are able to provide an opinion about that knowledge:

> …aprender para mí significa poder adquirir cierto conocimiento para que de ahí con base en ese conocimiento determinar tu postura, por ejemplo, ya aprendí esto de determinado autor pero yo no estoy de acuerdo ¿Por qué? Porque dice esto, esto y esto éste otro autor, o sí, estoy de acuerdo con él por esto…

He believes that the way to evaluate knowledge is by asking about the elements that comprise it. In order to evaluate his students, Julian sets a situation and asks them to analyze it:

> Sé que aprendieron cuando a la siguiente semana les pregunto y me contestan o cuando les digo, plantéenme una situación y los elementos que vimos. Nunca les pido la definición, pero les pido mediante una situación que identifiquen los elementos que vimos. Si ellos logran identificarlos y señalarlos siento que ya han aprendido.

He thinks that when you need to look for information the internet has a lot of data available. Books are good; still, things can be easier: "Lo primero son las bases de datos, o sea internet. Los libros son muy buenos pero para que venir a una biblioteca si puedes acceder a las bases de datos de cualquier sitio, en lugar de sacar libros y andarlos cargando".

Julian believes that there is no right or wrong knowledge. That is why it is important to know the context in which some knowledge is applied; therefore, you can judge if it fits your context: "Tener el contexto del texto y después ver posturas que se opongan y ya poder de ahí tomar una, o sea yo qué creo, yo que pienso de ese autor…Como la lecturas que tenemos ahorita están más relacionadas con la educación pues me baso en mi experiencia".

When the knowledge can be applied to your context it means that it is true but in your context, it might be different in another context: “Porque se apropia a mi realidad, porque va de acuerdo con mis experiencias, de acuerdo con… tal vez las ideologías, claro que mi creencias han cambiado muchísimo han cambiado pero va más con mi realidad, con lo que yo he vivido, entonces yo digo, para mí esto es real.”

Knowledge can be learnt quickly or slowly depending on what you want to learn, the skills that each has developed, if you are interested and the environment:

> …depende de lo que quieras aprender…y también de las capacidades que cada persona haya desarrollado…si te gusta aprendes más rápido…siempre he creído que si te gusta la materia, porque eso funcionó conmigo, se aprende. Pero ahorita me estoy dando cuenta que también tiene que ver el maestro, porque ahorita estoy recordando que con los maestro que convivieron mejor conmigo yo le echaba más ganas porque trataba de no defraudarlos y es lo que estoy viendo…

Julian believes that knowledge should be presented in a way in which the teacher does not tell the students the precise information but in a way in which the students are able to discover it, because it has worked for him.

> …la mejor forma de aprender para mi siento que es llevarle al alumno una situación en la que pueda aprender algo, orientarlo si desea algo pero no decírselo así deliberadamente esto vas a aprender… Porque siento que es la manera en queeee yo estoy aprendiendo ahora y siento que me está funcionando. Sí es cierto, antes por ejemplo practicaba mucho la memorización y estudiaba bastante, perooo me acordaba de eso no sé tal vez un año y era muy bueno en los exámenes, muy buenísimo en los exámenes, sacaba muy buenas notas, pero cuando llega el momento de aplicar así como que pues...o sea de que me creen una situación diferente pues no.

4.6.2. Structural description

Julian was exposed to bad treatment from a teacher who marked him in a negative way which resulted in a positive belief in primary school. That teacher wanted the students to believe that it was not possible for them to become professional people. Still, Julian did not accept the teacher's comments. There, he started building up his beliefs about the importance of supporting the students and not making them feel less than the rest. Fortunately, he met some teachers that always supported him emotionally as well as pedagogically. In primary school, Julian received a traditional education in which the teacher came to the classroom, assigned homework and finally he checked it, but it was easy to copy the answers from other classmates and the book. For the examination, he just had to memorize what he was asked and that was enough to pass the examination.

In secondary school, he met different types of teachers and even when his English teacher did not know so much about the subject he did his best and that motivated Julian. Again, Julian always enjoyed the coexistence between teacher and students, for that reason it has become a primary factor in Julian's teaching to create a positive environment in which students feel comfortable. Therefore, most of the beliefs he has built up were created during his educational life. Moreover, in high school Julian experienced a set of activities that were different from the ones he was used to, especially from a teacher who taught him Spanish and other subjects. He developed his thinking skills through the activities and learnt that knowledge can be seen from different perspectives.

During these stages, Julian never dared to question his teachers because they represented an authority who knew it all, or at least that was what he thought in that

moment, because as time went by he realized that knowledge coming from experienced people is not always accurate to all contexts, so he could state an opinion based on his experience, and the knowledge he had about his context. Memorization became part of his daily way of studying.

When he went to University, he saw a different world that made him feel insecure and in which he felt strange and different from his classmates. However, the support teachers gave him encouraged Julian not to give up and continue. Eventually, when he acquired self-confidence he was able to question what a teacher said, to state his opinion and give reasons. His beliefs changed.

Julian does not believe in right or wrong knowledge. With his experience as teacher, he has realized that knowledge is adapted to contexts and if that knowledge fits your context, it means that it is true, otherwise it does not mean that it is wrong because when someone writes about it, it is because in some way the person has experienced what he has expressed. Therefore, for Julian, knowledge comes from the experiences each person has through their lives, which at the same time increases as people experience more life situations.

Julian believes that knowledge should not be evaluated with examinations but in a more constructivist form. In his evaluations, he gives more importance to the application of knowledge than the memorization of it. Although when he was a student he used to memorize now he considers reflection and analysis in a better way to know and to show that you really acquired knowledge. Moreover, knowledge should be useful for something, which means that knowledge should be useful at some point in life.

Julian considers that knowledge can be difficult or easy depending on the interest students have with respect to it, the thinking skills they have developed, the way it is presented and the environment the teachers create in the classroom. Julian considers these factors important as they are the ones that have been present through all his learning; moreover, they have also been present in his teaching experience.

4.6.3 Composite description

Julian started creating his beliefs from the first steps of his educational life. Primary school was important for him to feel that everything was possible if he wanted and had the purpose to do it. His teachers were the key for him to keep believing that he could become a professional in the field he chose. At the same time, his teachers taught him that the teacher and students' relationship was important to have positive attitudes in the classroom and to create a bond between students and teachers, which at the end would affect positively the students learning process.

He experienced traditional activities like, dictation, questionnaires and memory activities. However, in high school he realized that there was more than memorizing. Opinion was important as well as reflection, which at the same time should be supported and not only invented. He learnt that it was necessary to give reasons. This is what he is now teaching to his students, that all knowledge is valid as long as you have reasons to support it. According to what Julian said, it can be supported when you experienced it, you see it, or you prove it.

In university again, teachers were the key to encourage Julian to study and not to give up. Although he felt insecure he kept going and finally he became self-confident. As Julian changed his learning process, his beliefs also changed. First, he was taught in a traditional way, but as time went by, he could adapt to a more sophisticated way of learning. He considers memorization is an important step to acquire knowledge as it establishes a basis that later allows the learner to store enough information to decide what is the most accurate.

Therefore, Julian believes that there is no certain knowledge as it might change according to the context. Knowledge can be right in a certain context but it might not apply to another context so it would become wrong. For that reason, knowledge could reside in daily life situations (experience), expert people, or books. Julian believes that knowledge should be evaluated in a practical way. He considers that putting knowledge into practice in the best way to demonstrate that somebody has acquired knowledge.

Julian believes that knowledge is constructed only when it will be useful for the person who is learning it. It also depends on the interest of the learner and the way knowledge is presented by the teacher. This will determine the time the student will need to learn specific knowledge.

In his classes, Julian seems to reveal what he believes. He tries to make his students participate in a more active way than traditionally; he looks for the application of what he teaches, even though his students were not used to that type of teaching. He has applied the creation of a positive bond to encourage students to learn. His activities include presentations and exercises where students have to do something with what

they know. He becomes a facilitator that provides knowledge but he also asks his students to develop thinking skills and he helps them to become autonomous through the activities.

4.6.4 Julian's Models

From the information provided by Julian, the following models emerged. Figure 13, presents the answer for the question, what is the origin of epistemological beliefs? is presented. Julian is shown to be influenced by his family, his teachers' attitudes and the activities he did in class. Julian's family told him that a teacher is a person that should be respected at any time. As Julian is from a small town, traditions are very important and respect for authorities was taught. Julian had teachers that marked him in a positive way even when the attitude of those teachers was negative. They taught him that if he is interested in something he can learn it. The activities in class also marked the way he would understand how learning was accomplished. In his first levels of education, Julian was exposed to memorization activities, but in the further levels he was taught that there was more than memorization. There was also reflection, understanding and application.

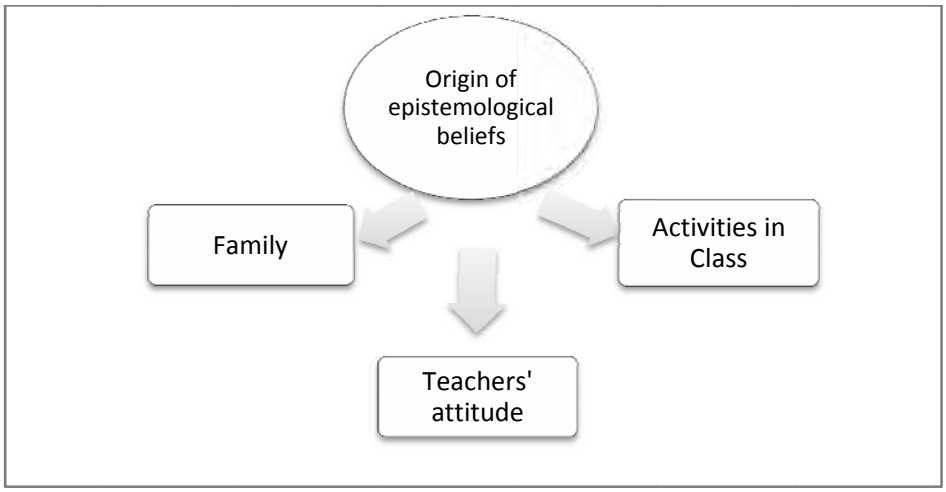

Figure 13. Julian's Origin of Epistemological Beliefs.

Figure 14 presents the answer for the question: What are Julian's epistemological beliefs? Even though Julian was first taught in a traditional way at school and his parents taught him to respect and do what the teacher said, he has more constructivist epistemological beliefs. Julian believes that learning means talking, criticizing or questioning information. He considers that there is no certain knowledge but different contexts in which knowledge can be applied and some others in which it is impossible to apply the same knowledge due to the characteristics of different contexts. He also considers that knowledge can be acquired quickly or slowly but it would depend on the abilities developed by the learner and the interest he/she has. He considers that knowledge should be presented and evaluated in context. That is, knowledge should be presented in a way that the learner could see the applicability and evaluated in a way that the learner puts that applicability into practice. For Julian, the classroom environment plays an important role in encouraging students to learn. For that reason, he tries to create a positive environment in his classes.

Even though most of Julian's beliefs are constructivist, he considers that knowledge comes from expert people who write books and articles; however, he clearly states that even when knowledge comes from experts it does not mean that they are always correct.

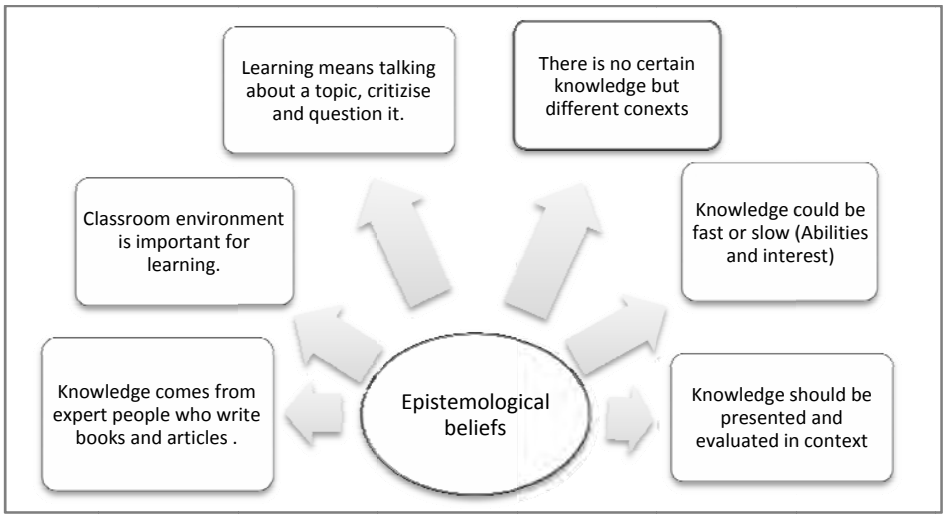

Figure 14. Julian's Epistemological Beliefs

In figure 15, the answer to the question is portrayed: How do epistemological beliefs influence Julian's teaching practice? We can see a more constructivist teaching that fits Julian's beliefs. Then, it can be concluded that Julian's epistemological belief influences what he does in the classroom. He uses different material in the class and tries to combine what his students learn in other subjects and what he teaches to assign projects and at the same time show the applicability of knowledge. He also creates a

positive environment and encourages autonomy in his students. He tries to make his students reflect on knowledge.

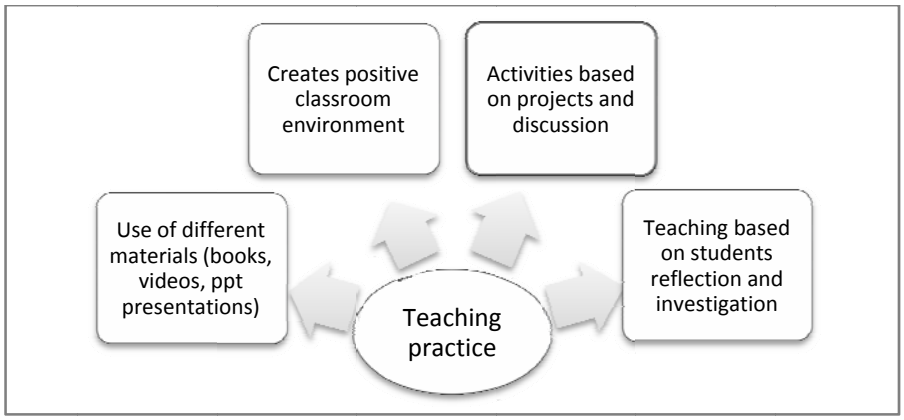

Figure 15. Julian's Teaching Practice

4.7 General Models

So far, the findings have been described of each participant separately. However, it is important now to contrast individual findings to make the final conclusions. Therefore, the following paragraphs present the models that emerged from the similarities and differences in all the participants.

In figure 16 are presented the similarities found in all the participants referring to the origin of their epistemological beliefs. All of them are shown to be influenced by their families, teachers' attitudes and the activities assigned in class. Family is an institution that starts forming individuals as they are born, they transmit their beliefs referring to culture, habits, and manners. That is why some of the beliefs formed by the participants

showed respect towards teachers' thoughts and activities. Parents would never suggest questioning what a teacher says which might be the result of the Mexican culture. Moreover, the teachers' attitudes were shown to have a strong influence in the formation of participants' beliefs. The difference is that some of the attitudes caused constructivist epistemological beliefs in some participants (Perseo and Julian) and traditionalist beliefs in other participants (Rachel and Francisco). The same happened in relation to the activities done in class. Although the participants described a similar education during their first levels (primary and secondary school) and the activities were similar, they adopted different beliefs regarding knowledge. This could mean that there are other factors that influenced their epistemological beliefs that were not mentioned in the interviews.

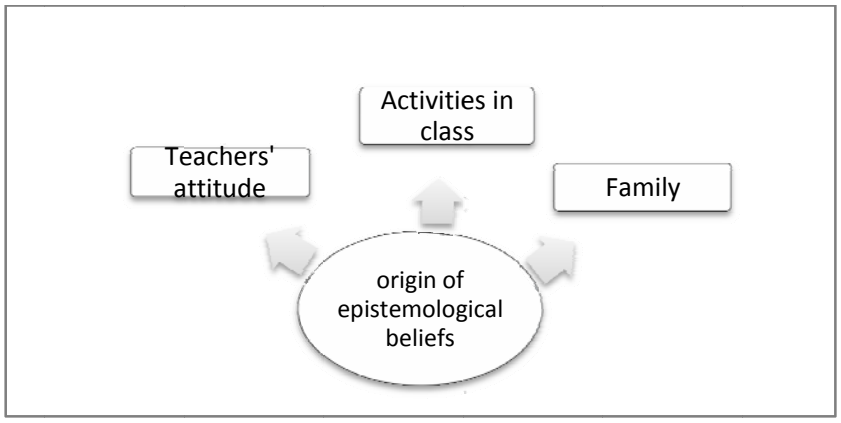

Figure 16. General Origin of Epistemological Beliefs

Figure 17 presents the dimensions that correspond to traditional epistemological beliefs that came out from the interviews made by all the participants. If we come back to

Francisco and Rachel's models we will be able to identify these beliefs in these dimensions. They consider that knowledge comes from experts as they have the experience and the knowledge to provide it to others. What they say is considered the truth and it is difficult for them to make mistakes. For that reason, they also consider that knowledge is certain, since it comes from expert people so it must be true or it cannot be considered reliable information. Knowledge should be presented in a simple way. It means that the teacher has to present the information just as it should be learnt. This can be linked to the belief that learning means memorizing. Therefore, if a teacher presents new information in a simple way, students will be able to memorize and repeat just what they are required to know without reflecting or linking this new information to previous knowledge.

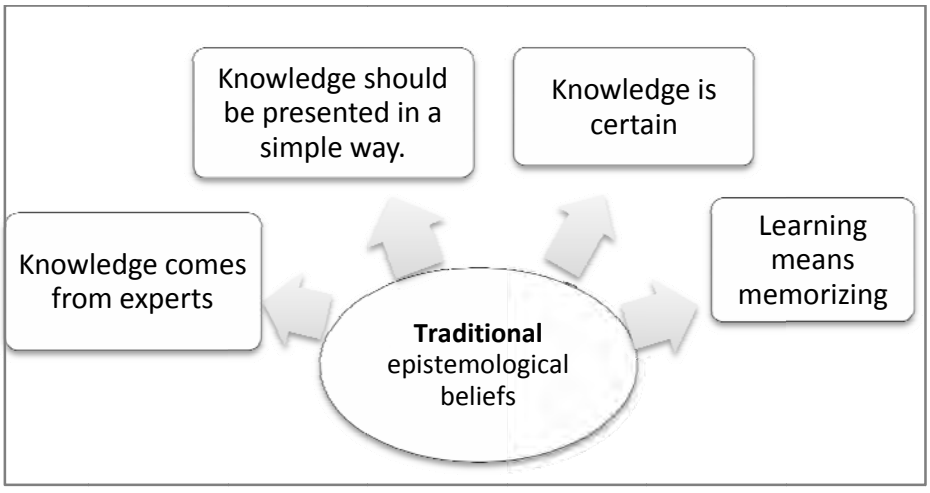

Figure 17. Traditional Epistemological Beliefs

Figure 18 presents the dimensions that correspond to constructivist epistemological beliefs that came out from the interviews made. In these dimensions fit the beliefs of

Perseo, Manuel and Julian fit these dimensions. These dimensions include the belief that knowledge comes from everywhere, which means that everything and everybody could be a source of knowledge. There is no certain or uncertain knowledge but different contexts in which knowledge can be applied and others in which some knowledge does not fit due to contextual characteristics. Knowledge is easier and faster to learn when it includes meaningful information; this means, learners learn faster when they feel identified in some way with the information presented. Knowledge complexity depends on students' availability and attitude; it means that students will learn the information only if they feel interested in it. That is why meaningful information is preferred when new information is presented. Knowledge is better learnt cooperatively, which means that working in teams, pairs or groups helps learners to achieve learning with a broader view. Learning is accomplished through experience, interaction or observation which refers to the idea that when the learner interacts, observes or experiences what he/she is learning, then the assimilation of the information can be faster. Finally, this dimension; learning is a slow process states that learning cannot be achieved quickly because learners need to carry out a process that requires real understanding and adapting the information to their contexts and own situations.

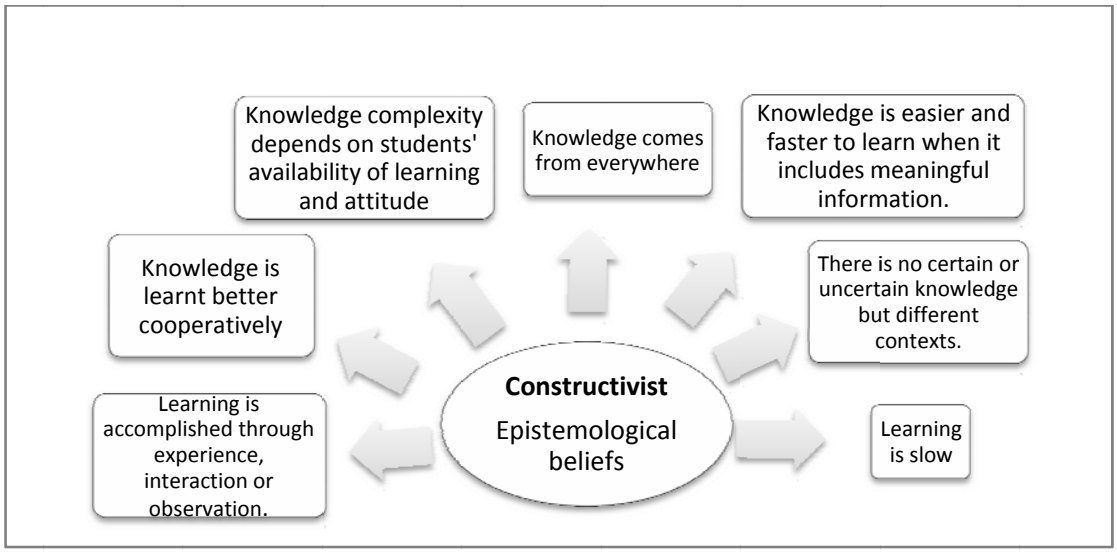

Figure 18. Constructivist Epistemological Beliefs.

Figure 19, presents the dimensions that correspond to traditional teaching practice. These dimensions include the use of books as the main source, which is represented by teaching and using a textbook just as the bible where one follows it step by step. To providing students with knowledge is a practice that refers to teachers that just transmit the information without asking for reflection or analysis. Finally, as the dimension says, activities based on memorization are the activities that require learners to memorize information for answering just as it is presented by the teacher or the book. In this type of teaching we found Francisco and Rachel's teaching practice. The results place Francisco and Rachel in the traditional domain in epistemological beliefs and teaching practice which establishes compatibility between beliefs and teaching practice.

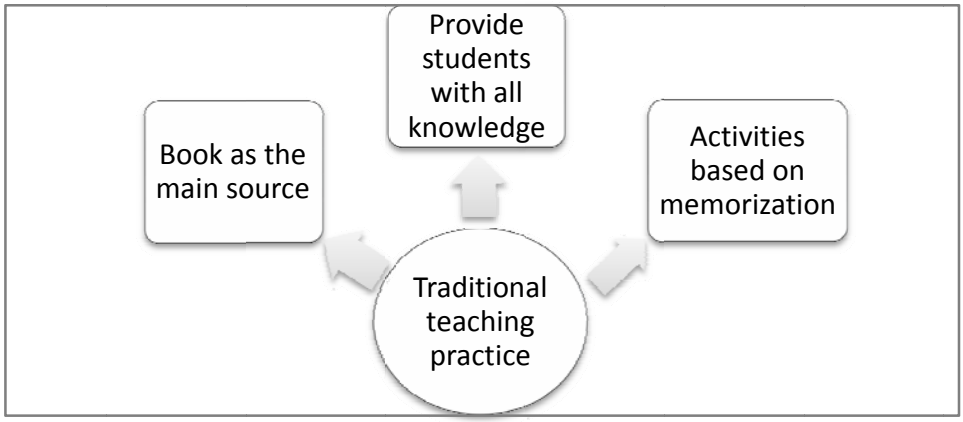

Figure 19. Traditional Teaching Practice

Figure 20, presents the dimensions that correspond to constructivist teaching practice. These dimensions embrace the use of team-work to encourage cooperation. It could be pairs or small groups that will work together to accomplish an assignment. Another dimension would be teaching based on students' reflections and/or investigation. This is teaching students to become independent by investigating different sources and comparing their findings and reflecting about them; this could be with the dimension based on projects and discussion in which the teacher is just a guide during the process and monitors what the students are doing. The use of different materials to present new content is crucial to approach all kinds of learning styles and give at the same time a broader idea about the content. This is also a dimension in this type of teaching. Finally, the creation of a positive classroom environment is becoming more important. For teachers, making students comfortable in their classes is an important role in the class. In this type of teaching, we find Perseo and Julian. In the case of Manuel, he was found to have a mixture between constructivist and traditional teaching practice, although his beliefs were reported to be constructivist.

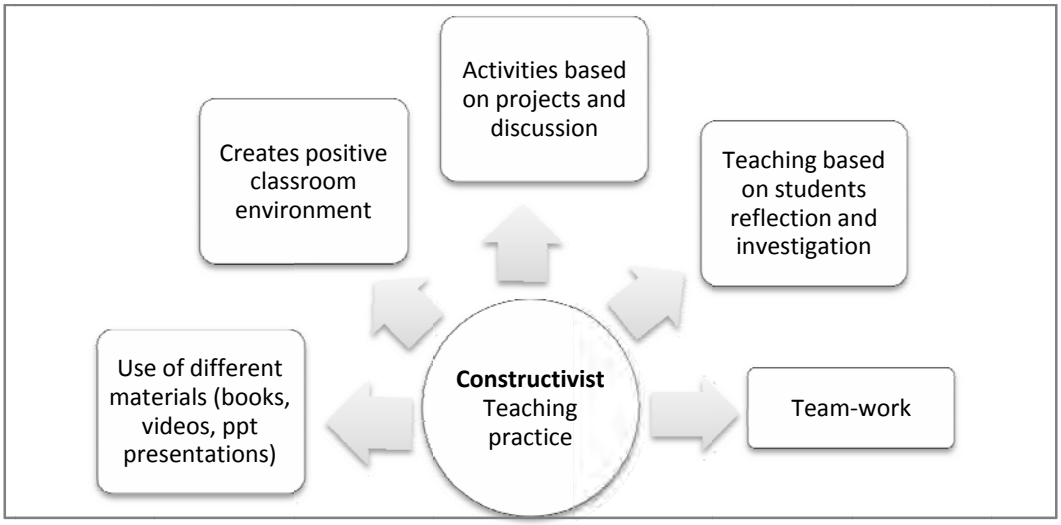

Figure 20. Constructivist Teaching Practice.

In this chapter the data obtained from the participants during the interviews was analyzed. The data was first analyzed individually. Each individual description included a textural description, structural description, composite description and the models that came out and answered the research questions: What is the origin of epistemological beliefs? What are teachers' epistemological beliefs? How do epistemological beliefs influence teachers' teaching practice? After this, the general models that came out from the result of all the participants' models were analyzed.

CHAPTER V

DISCUSSION AND IMPLICATIONS

5.1 Conclusions and Connections to Previous Research.

This chapter presents the conclusions made as a result of all the processes that were carried out during this inquiry. First, the findings from previous research are contrasted with the findings in this research. Then, the conclusions drawn from this research are stated.

Epistemological beliefs clarify what people think about knowledge, but epistemological beliefs do not necessarily confirm what teachers do in their classes. In this research, some of the epistemological beliefs did not match the behavior described by teachers in the classroom. This is similar to the findings of Goelz, Piper & Wiseman (2004) and Pecharroman & Pozo (2006) who also found that beliefs did not always match the teaching practice. However, Goelz, Piper & Wiseman stated that this was due to external factors. Those external factors make teachers behave in some way even though they think something different such as the school requirements or rules, or the number of students in a classroom. In Colegio de Bachilleres there are 50 students in a classroom and it is difficult to teach in those conditions. Another factor would be the program of the subject which has many themes to cover and the lack of time to teach all of them in an accurate way or as a teacher would like to.

In this research it was found that the participants build their beliefs from primary school, which seems to be one of the key elements in the formation of epistemological beliefs in the participants. Contrary to Bustos' findings (2001) which found that professional

teaching influenced bilingual teachers' beliefs but he did not mentioned anything related to participants' prior experiences as students. For the participants in this study, what a primary school teacher says or does in the classroom can affect a student positively or negatively (Brownlee, Purdie, And Boulton-Lewis, 2001) but it also depends on the perspective of the student. For example, Julian was motivated to do his best although his teacher told him and his classmates that they were going to be farmers because that was what their parents were, and then their situation was not going to be different. In the case of Rachel, according to her teacher, she spoke excessively. Then, she just stopped participating in class. Rachel did not share her opinion and when she was required to participate she repeated the book or the teacher's previous information.

The participants as students, created their first beliefs based on what they experienced during their first levels of education, but in this study the participants described primary school as the key factor. However, the participants faced changes in their beliefs and these evolved as time went by. Brownlee, Purdie, And Boulton-Lewis (2001) also found that at some point, EB change into more sophisticated beliefs. As well as, Cano & Cardelle-Elawar (2004) who found that EB change from simplistic to more complex as people progress through school.

In the case of teachers who have constructivist beliefs, they are also shown to be more active in their classes and to look for new and different activities in order to keep the class dynamic and motivating. This matches Buel and Alexander's (2005) findings which showed that students with more constructivist beliefs seemed to be more motivated. In this case, these were not students but teachers who show more enthusiasm; however, they also showed more motivation in looking for new activities for their students. In the

case of the participants with traditional beliefs, they followed the pattern they had from their previous teachers, because they kept the same line of traditional activities such as filling in the blanks and explaining the topic without asking students for active participation.

Just as in Oguz' findings, (2008) the participants in this study believe that learning depends on the interest and the abilities developed by the students. If a student is not interested, they will make no effort to learn the subject; for that reason, the participants consider important the creation of a good environment between students and the teacher. At the same time, they consider that showing the students the usefulness of knowledge could be a way to motivate students.

However, in this study, the participants with constructivist beliefs (Perseo and Julián) consider that there is not an unchanging truth (Chai, Khine, and Teo, 2006; Chan, s/f). It means that the truth depends on the context. For example, Perseo considers that there is nothing wrong unless an expert says something different. Julián considers that every context is different so every piece of knowledge is seen different too. He considers there are experts in different fields but they can be wrong in determined contexts.

Chai, Khine, and Teo also found that some participants believed in experts as authorities who establish knowledge and truth. This is the case of participants who hold traditional beliefs (Rachel and Francisco), they believe in experts as people who have the truth. They believe that when an expert states something it is because it is true, since experts have studied and read enough to be reliable. For that reason, their first resource in class is books. The reason why they do this is because they believe that books have been

tested by experts so they must be right. They do not think they need any other kind of material.

Wadsworth (2007) found from his participants that they believed knowledge was simple and that there is a fixed ability to learn. This finding does not match the beliefs found in the present study. Even participants with the most traditional beliefs consider that knowledge is complex and that there is not a fixed ability so the ability to learn can be improved (Schommer & Walking, 1997).

Francisco underestimates his students as he does not believe they are capable to do activities and independent work outside the classroom. Kittleson (2006) found that teachers sometimes underestimate students' ideas. That is why Kittleson suggested the creation of a learning environment that scaffolds productive EB in students.

Kimber (2001) found that students holding naïve epistemological beliefs faced difficulties when entering university because it was difficult to understand the class if it was not expository. They also faced problems with assignments that required more than just the reproduction of material. This is the situation that Rachel faced when she entered university. She was used to learn by memory and she did not know how to express her own opinion.

In his findings, Gómez (2003) stated that most teachers were congruent in their EB and their teaching practices. In this study, four out of five participants show congruence between EB and their teaching practice. However, Manuel was shown to have a mismatch between them.

Hunter (2006) stated that knowledge is constructed by learners' authentic experience and peer collaboration. In this study this statement is confirmed since the participants agreed that in order to acquire knowledge it is important that the learner interacts with knowledge and that collaborative work helps learners to broader their view and understanding.

As Moustakas (1994) expresses, every person experiences in a different way the same phenomenon. There were beliefs in some participants that did not appear in others. It could be seen that every one paid more attention to the areas that their teachers emphasized or diminished when they were students. At the same time, the participants were not conscious of their beliefs and it became a phenomenon by the time they were interviewed because they had to be conscious of what they thought to answer the questions. Thus, it can be said that the phenomenon did not exist for the participants until they were aware of their beliefs.

Phenomenology says that knowledge emerges from self-evidence. But the reality of every person is different because the objective reality can be interpreted in different ways, which makes it subjective. As in the participants, who had similar experiences in primary school but at the end they came out with different beliefs. All of them adopted a different reality or interpreted it in a different way. They created their knowledge in contact with their social environment and when they attended school they restructured what they believed.

Descartes (in Moustakas, 1994) stated that we are connected in some way to every particle in the world that surrounds us. It seems that every experience lived by a person

at school could be a determinant in the creation of knowledge. The entire environment that is around us has a relation or cooperates to the creation of our realities, which at the same time allow us to construct our knowledge and our epistemological beliefs.

The participants agreed that learning is better accomplished if the information is presented in context and in a meaningful way for the students. As social constructivism says, it is not possible to separate learning from its social context. That is why we create knowledge in interaction to others and the real world, which, as I have already mentioned, is different for every person. At the same time, it is important to make our students work on projects and in teams because in that way they will be able to discover and construct by themselves their own knowledge according to their realities and their experiences.

For the participants knowledge cannot be taught out of context because students will not be interested; besides, the information would not be clear enough and learning could become slow and difficult. At the same time, social constructivism states that learning depends on the learner's internal drive to understand. For that reason they need to feel motivation to learn. That is why the materials and the way the teacher approaches the information to be taught become crucial.

As the teacher participants showed, much of our beliefs are formed at school, through teachers' attitudes and the activities in class; however, our first contact with the world is through our family that transmits culture to us. They teach us habits, customs, manners and in that way they transmit a culture that we will repeat in future years. That would be

the beginning of our beliefs construction. Later at school we will know a different reality through the eyes of teachers and classmates.

Our beliefs keep changing during our education; however, primary school seems to have an important influence through all the epistemological beliefs formation. All the participants mentioned an event or situation that they went through when they were in primary school that marked them and established their beliefs. Some of them changed as time went by, but some others kept their beliefs. From primary school to university there could be seen changes in beliefs; however, in some participants these beliefs seemed to be superficial and in some others changes were drastic.

Once a person has formed and stated his beliefs, it is difficult to change them, or at least it is difficult to change the behavior those beliefs have on people. The participants showed a change in their beliefs from primary school to university but not all of them could modify their teaching practice. It is meant, some of them kept the activities and attitudes their teachers in primary school did. For that reason, our teaching practice does not always reflect our epistemological beliefs.

From this study it can be concluded:

- Family is responsible for the creation of our first epistemological beliefs.
- Epistemological beliefs keep changing and restructuring as we experience new event at school and in our social environment.
- Primary school is a determinant in the modification of our epistemological beliefs.
- EB do not necessarily explain what we do in out teaching practice. External factors also contribute to the way we behave.

- Some participants appear to be confused about what they believe and what they consider things should be.

5.2 Recommendations

It would be relevant to apply this study to all teachers of *Colegio de Bachilleres*; in that way, authorities would be able to identify if teachers are prepared enough for the methodology they have imposed in the institution. As it was found that primary school teachers have a big influence in the creation of epistemological beliefs, I consider it important to investigate primary school teachers' epistemological beliefs. They could be sending a wrong idea about knowledge, knowledge acquisition, and knowledge construction. The new trends of teaching are asking for the formation of reflective individuals, capable of making decisions and able to learn how to learn. Therefore, there is a need for the right type of teachers to prepare capable students.

I consider it is necessary to emphasize the research on the origin of epistemological beliefs. During the data analysis it was found that the participants were exposed to similar experiences during primary, secondary and even high school. However, their beliefs did not show the same congruence as in their experiences. Therefore, it would be necessary to know what was the factor that made them have traditional or constructivist beliefs.

At the same time, it would be important to investigate the factors that influence teachers to have a type of belief that in their teaching practices they do not reflect those beliefs. It is meant, why do teachers have constructivist epistemological beliefs and a traditional

teaching practice or vice versa? Probably the curriculum is not well structured or the time is not enough.

At the same time, one should consider it necessary to combine quantitative and qualitative studies in order to have a holistic view of the situation. It is important that high school teachers get immersed in the research of important phenomena happening in their institutions. Moreover, not only high school teachers but also basic level teachers should participate in the research of this phenomenon. In other contexts, epistemological beliefs have been compared with the use of learning styles, teaching styles, teaching practice and other variables that lead to knowing the students and the teachers' population. Therefore, it is important that Mexican teachers know their own student population.

5.3 Reflection

There is a need for training courses for high school teachers. They do not reflect on their practice and sometimes they are not aware of certain circumstances happening in their own classrooms. They are not even aware of how their own learning process is carried out. It has been proved that making teachers reflect on their epistemological beliefs could generate a change in beliefs and behavior. Moreover, in Quintana Roo, research in this educational level has not been explored as at University. Actually there is a need for research at the basic level which was found to be a crucial stage for the participants.

Teachers working in small towns sometimes underestimate what their students are able to do, instead of encouraging them to do their best and find new ways to improve their

academic performances. Teachers could be limiting students' development as individuals and future workers. In this way, teachers could be creating negative perspectives not only about a subject but also about knowledge and learning.

Culture plays an important role in the formation of epistemological beliefs. Mexico is characterized for being a country full of tradition and where older people are respected and seen as wise people. That is why, students are usually taught that teachers are always right and they should not be questioned. However, we should also teach that questioning a teacher is not being disrespectful but is a way to show that we are interested in learning more and is a good step to becoming autonomous.

It is important that all teachers reflect on the following: What is the purpose of teaching for me? What is the message I want my students to receive? What do I realize from this reflection? What am I going to do about it?

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Appendix 1

Interview guide

Parte 1

1. ¿Cuál es su nombre?
2. ¿Qué carrera estudio?
3. ¿A qué se dedica? Cuánto tiempo tiene de experiencia?
4. ¿En donde desempeña su trabajo?
5. ¿Ha laborado en otras instituciones? Cuáles?
6. ¿Qué es lo que más le gusta de su trabajo? ¿Por qué?
7. ¿Por qué eligió trabajar como profesor? Y por qué de inglés?
8. ¿Cómo fue su enseñanza en las diferentes etapas su vida?… (Tus profesores, tus clases, ¿cómo eran?
9. ¿Qué le gustaba de su enseñanza, de sus profesores y de las actividades que realizaba en clase?
10. ¿Cuestionaba lo que sus profesores le decían? ¿Por qué?
11. ¿Cómo era un día de clases normal en la primaria, secundaria y preparatoria?
12. ¿Cuáles eran las actividades que más le ayudaban a aprender?
13. Cuando tenias que estudiar para un examen, ¿Qué tipo de actividades realizaba?
14. ¿cómo se daba cuenta que había aprendido un tema?
15. ¿Cómo era evaluado en clase?
16. ¿Te gustaba o te desagradaba la forma en que te evaluaban? ¿Por qué?

Parte 2

17. ¿Y ahora, Cómo se da cuenta cuando ya ha aprendido un tema? ¿Qué tanto ha cambiado de cuando era un estudiante?
18. Entonces ¿qué es conocer o aprender para usted?
19. ¿Me podría describir su proceso de aprendizaje? Por ejemplo, ¿cómo aprendiste inglés? ¿Cuál fue el proceso?
20. ¿Cómo sabe que lo que aprende es lo correcto? Por ejemplo, una definición, ¿cómo sabe que es la definición correcta?
21. ¿Cuántas veces necesita leer algo antes de poder explicarlo con sus propias palabras?

22. Conocer un tema requiere de mucho o poco tiempo? ¿De que depende?
23. Cuando necesita investigar sobre un tema… ¿dónde investiga o cuáles son sus fuentes de consulta?
24. ¿Qué tan complicado puede ser aprender? ¿Existen factores que puedan evitar el aprendizaje o que puedan facilitarlo?

Parte 3

25. Dime como es un día normal en su aula de clase (desde que entras hasta que terminas la clase)
26. ¿Qué tipo de actividades realiza en clase para fomentar el aprendizaje de sus alumnos?
27. ¿Lleva algún libro en la clase? ¿con qué frecuencia lo utiliza? ¿Qué tanta ayuda le proporciona el libro?
28. ¿Utiliza material de apoyo o extra? ¿Cuál? En qué se basa para la elección del material?
29. ¿De dónde obtiene la información del tema que enseña? Utiliza otras fuentes de información? ¿Por qué esas?
30. ¿Fomenta el estudio independiente de sus alumnos? ¿Cómo?
31. ¿Cómo crees que sus alumnos aprenden mejor? ¿Con que tipo de actividades? Y ellos como se comportan con respecto a las actividades?
32. Si tus alumnos mostraran alguna actitud negativa ante sus actividades o clases, que haría al respecto?
33. Cómo sabe que sus alumnos aprendieron o no el tema enseñado?
34. ¿Qué criterios utiliza para evaluar a sus alumnos y saber que aprendieron lo que usted enseño?
35. ¿De qué crees que depende que los alumnos aprendan o no un tema?
36. ¿A qué cree que se deba que algunas personas aprendan más rápido que otras?
37. ¿Cuál es su postura o su actitud ante un estudiante que le cuesta entender su materia?

Appendix 2

Significant statements

Perseo

me tocó una maestra que tenía, aparte de ser maestra, tenía estudios de psicología y se dio cuenta que yo era una persona hiperactiva entonces como que me empezó a dar una especie de atención especial

en quinto semestre me toco un profesor muy rígido, que no era tan buena onda pero sabía enseñar muy chido y también sabía despertar esa parte de mi. A mí me encanta que me dejen con la curiosidad, que, que me guste saber

Qué es lo que me gustaba de mi enseñanza de la primaria… que me retaban, mentalmente hablando…en la primaria me ayudaban mucho los maestros

repasaba, era la clásica frase de repasar, es que haces tu tarea y te aprendes tu tarea por ejemplo, eso en primaria

tenían una clase preparada, o sea su clase, tenía una clase preparada tenía una clase bien secuenciada, incluía a todos los alumnos, no sentía que iba a sentarme en una silla, por ejemplo recuerdo que tenía un profesor de matemáticas de la Adolfo López Mateos, donde estudie, que era muy padre su clase de matemáticas porque tenía un concurso, toda la clase tenía un concurso, entonces era un concurso de moverte de lugares, si tu llegabas al lugar más, más, más alto exentabas la materia, entonces, eso estaba padre porque todas las clases era una competencia, entonces se ponía muy chido.

En la secundaria tuve que arreglarme, tuve que hacer un arreglo de materias, ¿no? Por ejemplo, que materias se me hacían quizá difíciles, te digo la hacía primero… priorizaba y ya después hacía el resto

en la prepa y con el perdón de todos los profesores, la prepa la pase durmiendo, la prepa la pasé durmiendo porque primero y segundo semestre pues te adaptas

era un maestro que entraba con un librito, te hacía hacer veinte mil unidades y se acabo, presentabas el examen pero si te aprendías el libro ya esta

recuerdo que tenía un profesor de historia, que, que era más que nada una clase donde tú ibas, leías, compartías tu experiencia, criticabas las cuestiones históricas, dabas tu punto de vista, o sea, se debatía todo, entonces había muchísimo, muchísimo intercambio de ideas y la hora se te pasaba (chasquido) así

una vez tuve un profesor con el que tuve problemas, porque primero que nada el profesor era un ególatra y aparte era visco entonces ehh… este profesor, si se puede llamar profesor, llegaba y hablaba de todo

menos de su materia y cuando era el examen, el examen estaba dificilísimo porque lo sacaba del libro, ¿no?

aprendía de la vida, aunque suene como a cliché, de la gente con la que convivía y de los maestros con los que convivía, emmm y a parte de las clases

con esta maestra de literatura, como me daba libertad de leer, opinar, criticar, todo, o sea me divertí mucho en esa clase

la primera persona en años en años en años que me hacía temblar, pero me hacía temblar no porque como persona me diera miedo, porque como persona es un dulce la maestra. Me hacía temblar porque retaba mi cabeza a un punto que llegaba en shock… es una persona que se puede sentar y tiene el plan de su clase así (chasquidos) y se desarrolla así, igual las dos horas se te pasan volando

llevaba psicolingüística, me gusto muchísimo la clase de psicolingüística porque el profesor era una persona organizada, los tiempos perfectos, las clases de discusión como debe ser una clase, muy, muy diferente de su materia anterior

Este profesor ehh era igual, lo mismo una pérdida de tiempo su clase, porque igual te aprendías el libro y pasabas la materia, o sea, no había debate, no había crítica, nomas era aprenderse un libro y ya está

A mí me encanta que me dejen con la curiosidad, que, que me guste saber

Me gusta jugar, o sea me gusta sentirme que estoy en movimiento no que me estanco, cuando una clase me estanca así como que qué flojera! Me aburren muchísimo las clases donde me dejan kilos y kilos de lectura y tengo que hacer reportes de lectura pero que no tienen un fin… está bien que tenga que hacer reportes de lectura pero que tengan un fin en su momento

me gusta que me presenten nueva información de una manera que yo entienda porque me es clara y lo puedo ver, lo puedo sentir de manera tangible

eso es lo que más me molestaba, que lo práctico te lo ponían sobre papel y yo me decía a mí mismo, bueno, eso ya más en la prepa, “Para qué me enseñan algo práctico si lo van a poner sobre papel

Con estudiar me refiero a que revisaba los documentos que tenía que estudiar, veía las partes que no entendía, las investigaba, si no las investigaba las analizaba, después de analizarlo si ya no sabía, hablaba con el maestro para que me explicara o si no con un profesor.

hay cosas que tu sabes que que... no están bien, porque hay cosas que autoridades que han descrito, que hay manuales que las cosas se hacen así. Es como por ejemplo, gramática del inglés, supongamos, entonces hay cosas que ya están establecidas así y así, entonces, es que regla es así, no?

Cuando yo no cumplo con alguna de las reglas que están diciendo porque ya hay un manual ya establecido que así lo dice pues está mal. Pero realmente, siempre estas mal a razón de que hay alguna autoridad o alguien que se supone que creo preceptos y de alguna forma no terminas de encajar en eso

En la prepa sí, sí llegué a cuestionar a muchísimos profesores

hay cosas que dependiendo de su grado de complejidad y de tu grado de análisis mental puede ser tan algo fácil como sumamente difícil y también como te facilitan o complican las cosas… el profesor te presenta el tema de manera amigable, entendible y que te da curiosidad, te presenta materiales, donde buscar información, pero se revisan esos recursos en tiempo y forma y se hace, no? Y aparte, como tú tienes ese tipo de motivación por parte de ellos y también tuya, pues dices, ah bueno pues yo voy a hacer la tarea… También puede ser algo muy complejo. Por ejemplo si el maestro se cree un experto en todo o es un experto en todo, pero a la vez no saber ser, no sabe transmitir de manera efectiva y afectiva el conocimiento, te da recursos, pero te los complica. No te da recursos que sean sencillos, entendibles aunque tengan su grado de complejidad.

una persona a veces es buenísima en el inglés porque hay factores, o hay una clase o hay un entorno completo que te hace que te guste. Si te gusta, de despierta la curiosidad, te dan ganas, trabajas, etc. Cuando algo no te gusta pues te da mucha flojera, no te gusta y con eso mismo viene la motivación que se va por los suelos, el desanimo, el prejuicio", "una persona es buena en algo por cómo se lo presentan.

estudio, lo que significa, internamente la analizo, veo sus puntos, las organizo, los esquematizo, los priorizo, todo lo que termine en "izo" y luego aplico

Saber hacer, por ejemplo, se la teoría de lo que hay, porque sé que tiene un receptor, se que tiene un micrófono, se que funciona porque es habilitada por una pila, solo sé, es lo teórico, se que la onda de sonido se graba, se almacena, etc. Ok, también se utilizar el aparato, si ya lo sé utilizar, entonces, ahora, ¿se componerlo? Quizá, porque sé que piezas lo componen y también puedo repararlo, entonces si sé lo que es eso

a través de los fallos o de equivocarse pueden aprender

si yo logro que ellos hablen que se comuniquen aunque sea con errores pero que se comuniquen y traten de que… y yo los vea tratando siento que aprendieron

lo domino, puede analizarlo y puedo contrastarlo con otras cosas, por ejemplo cuando es teórico, porque si me dicen compara esto con esto por esto y esto y esto. Cuando yo sé que puedo hacer algo práctico, o sea puedo convertir algo teórico en algo práctico

algunos vienen de escuelas donde los papás desde el principio, como a mi me metieron a una escuela de idiomas, entonces me lo presentaron de manera distinta y aprendí más rápido y entonces a los alumnos que no tuvieron esa oportunidad entonces han tenido esa instrucción tradicional errónea de muchos profesores de aquí entonces cuando llegan, cuando llegan ah ah mi clase les cuesta un poquito más de trabajo, por eso, no?

si él sabe que es algo que le causa una deficiencia pues entonces es algo que tiene que dedicarle más horas más empeño entonces es una persona que también sabe autoevaluarse conoce en que esta mal y a que tiene que ponerle mas esfuerzo y que cosas no requieren tanta atención

cuando yo me empeño tanto con mi alumno para que lo haga coartándole a él su creatividad lo que a él le gusta etc etc entonces ahí si considero que podría ser calificado como malo

Es que el conocimiento es todo. Es una cuestión filosófica que está muy chida, o sea, el conocer, realmente muchos profesores por ejemplo, creen o desde mi perspectiva, quizá yo estoy equivocado, pero muchos profesores consideran que saber, es si yo sé como ellos saben, o sea, si yo sé como ellos saben, entonces… sé, pero realmente quizá se les olvida que todos tienen una visión de las cosas.

un concepto tiene que ser aplicado, es como que te digan, por ejemplo no sé, “amor” defínelo, todos tienen una definición, millones, metafóricas, literales, etc, hasta científicas hay de lo que es el amor, pero no, si no lo aplicas y no lo sabes, no

averiguo de todos lados, averiguo de expertos, averiguo de libros, averiguo de internet, de la tele, del periódico, donde sea hay información. Inclusive un carpintero puede dar información de tal cosa, no? Entonces voy a donde tenga que conseguir la información

un profesor es una persona que, que tiene que tener el conocimiento, tiene que saber cómo impartirlo, y tiene que tener la apertura para adquirir más conocimiento

presentado de una manera en que sea significativa para los alumnos, porque si le presentan (que sabemos como maestros que les va a ser útil) pero no se los damos con una aproximación tan tan buena que para ellos sea interesante y atractiva va a ser muy difícil que la puedan aplicar, entonces ahí si se pierde mucho

debe ser mas actualizado al contexto… no es lo mismo hot dogs que tamales… cuando se lo presentas de una manera en la que él tiene un rol un poquito más importante que yo, porque él tiene que hacer las cosas y yo nada mas diciendo si esta bien o si esta mal, entonces es ahí cuando, cuando se los facilito

todos tienen una visión de las cosas, o sea, yo puedo verlo bi-lateral el conocimiento, transmisionista pero por ejemplo, quien dice para una misma manzana sobre una mesa no significa muchas cosas para bastantes personas

no hay conocimiento erróneo, solo conocimiento que no ha sido pulido o sea tu me puedes… ehh, para un niño de tres años que te diga, oye ¿de dónde vienen los bebes? Los traen las cigüeñas, pero lo saben porque todo su contexto se los dice, pero no había un conocimiento. Llegan a cierta edad donde van a aprender que todo es un proceso natural, etc, etc

trato de hacerlas muy dinámicas, todas, todas, siempre hay movimiento

es una clase sumamente práctica porque yo normalmente nada más presento el contenido, les presento la información, les ayudo a entender algunas cosas trabajamos en pronunciación y hacemos el "role-play

Todos los materiales son o auténticos o adaptados, o sea significa que yo me siento a hacer

trabajo mucho con los handouts, las imágenes, diseñe los blogs completos, trabajo con el facebook, con los alumnos de 5º y 6º semestre que se la viven ahí, tienen un grupo que es el que se les da en facebook para solo sus materias y se trabaja, trabajo con presentaciones de PowerPoint, con audio que yo bajo de internet, con videos que a veces yo hago para que ellos vean o grabo a algunos alumnos para ellos también vean, se den cuenta de las cosas y más que nada eso

en inglés técnico mucho role-play, repetición, trabajo en grupo, creación de proyectos, en inglés por ejemplo crearon su restaurant y tenían que presentarlo en inglés

tienen que ver videos, trabajo en grupo, trabajo en los blogs, trabajo extra desde casa, pueden tomar clases ellos a través de youtube", "el uso de la tecnología me facilito mucho la vida, a mí y a ellos porque pueden encontrar muchos recursos y hacen las cosas en casa

lo que hago usualmente es crear una atmosfera en la que puedan tener una confianza para poder hablar conmigo, decirme las cosas que pierdan ese miedo a intentar, pierdan el miedo a intentar cuando realmente ven que no es tan malo fallar porque a través de los fallos o de equivocarse pueden aprender

creándoles un espacio en el que realmente sientan que van dos horas a divertirse y a aprender

De esa forma se los aplico, o sea, si tengo que hablar de algo, los ejemplos más… la plaza, el bulevar, los amigos, sky bar, emmm, los precios de ir a comprar ropa a la plaza, las dietas por ejemplo que hacen, las horas de ejercicio etc etc

Francisco

“fue tradicional, eso de que tienes que estudiar y, o sea, los maestros mayormente no tenían esas estrategias que tienen ahora. Y en la primaria te castigaban físicamente; y en la secundaria, pues, el maestro llega y da su clase”

“Llegaba el maestro y decía que abran su libro (sic), vamos a hacer una actividad. Y nosotros empezábamos a hacer la actividad y medio explicaba. Los que no entendíamos le copiábamos al compañero lo que estaba haciendo.”

“en la secundaria eran más estrictos. Ahí sí, entrabas y los maestros siempre estaban ahí contigo. Te exigían”, “te exigían que esto tienes que estudiar, este resumen tienes que hacer, este trabajo tienes que hacer y muy estrictos”

“Él dominaba la materia, explicaba muy bien y entonces yo dije que yo quiero ser un profesor así como él, un buen maestro que trabaja en su clase y está atento uno y algo placentero, no es aburrido”. “Él daba una introducción, una anécdota pero así interesante y lo relacionaba con su tema que iba a dar. Entonces, y el tema que iba desarrollando lo iba dando con ejemplos pero bien, bien, bien. Nos hacía reír”.

“había maestros que sabían mucho y que estudiaron en Rusia pero no sabían enseñar”.

“Las actividades que más me ayudaban eran las clases”, “Yo aprendía de él, del maestro porque a mí me daba trabajo interpretarlo del libro”, “Hasta ahora así, cuando los compañeros me explican o el maestro. Me da trabajo yo mismo”.

“pues estudiaba lo más que podía en los libros y comentaba con mis compañeros. Y eso enriquecía lo que estudiaba”.

“me daba cuenta cuando me hacían preguntas y yo les explicaba a ellos. Y lo que no sabía ellos me lo explicaban”.

. “primero lo leo y trato de tener una idea acá en la cabeza de lo que es, una imagen en la mente. Luego, lo aplico en un ejercicio. Y ya veo cuanto sé, lo leo, lo retengo aquí en la mente y lo aplico. Para mí así es… cuando no lo aplico, no

“no me atrevía a cuestionarlos porque sentía que eran la autoridad. Y no me atrevía nunca”

Un buen maestro sería una persona que domina el área, que domina el área y que es un compañero más en el salón, no es un profesional que yo de aquí para acá. Si no que es un compañero más y que se identifica con los muchachos”

“yo confío que son grandes, que son grandes personas que hacen ese libro. Y nunca lo he cuestionado pero sí. Yo confío en ellos, no los cuestiono”.

“Aprender es conocer cosas nuevas que puedas utilizar en tu vida y que te interesan a ti”.

“Si te interesa, en poco tiempo. Si no, uh tienes que batallarle”.

“creo que ellos aprenden mejor si les gusta, les interesa y se divierten. Haciendo un ejercicio junto con ellos, primero”.

“la mejor forma es haciendo, no me gusta tanto leer. Yo creo que los muchachos aprenden diferente todos, diferentes… y hay que llegarles la forma que ellos consideren”.

“A veces sí saben pero no lo demuestran necesariamente (En un examen)”.

“a aprendió cuando les pongo, por ejemplo, diferentes tipos de ejercicios. Por ejemplo, este los ejercicios que hacemos en clase de completar, de hacer crucigramas, de relacionar y a veces les cambio el ejercicio”.

“lo que influye mucho es de que no están tus papás contigo, siempre hay esa inseguridad de que si vas a decir algo bien o te van a burlar… y habían muchas dudas en primaria, secundaria, hay muchas dudas pero no se externan por ese temor de que se van a reír, se van a burlar… que es principal que que que el maestro esteee, logre atravesar esa barrera que pone el muchacho como en mi caso, y hay varios muchachos que son inteligentes pero que hay esa barrera, entonces el docente tiene que tener esa habilidad para acercarse y hacer sentir cómodo al muchacho… igual si no tiene dinero, está pensando y preocupado si va ir a trabajar o no y no se concentra en lo que está estudiando. Yo pienso que para que un muchacho aprenda, tiene que tener muchas cosas estables, tanto su familia como su personalidad, su percepción de él y llevarse bien con los demás. Porque también una persona que tiene todo eso pero no se adapta socialmente con sus compañeros, le hacen la vida imposible…otro factor importante también es que esa forma de transmitirlo, sea dinámico, que no sea pasivo, ni aburrido, ni muy el maestro acá y los muchachos acá sino hablar ese mismo lenguaje de los muchachos prepararlos para que ellos estén cómodos y entonces llamar la atención”.

Primero que nada trato de captar su atención. Les cuento, por ejemplo, algo interesante para ellos. Y ya todos me captan…Y ya capto la atención y ya luego, bueno, ahorita vamos a… el tema que vamos a ver hoy y ya es éste y ya. …Y a veces pongo unas diapositivas, lo explicamos, luego hacemos un ejercicio y ya, les explico el tema, les saco las copias al ejercicio para afirmar bien lo que explicamos y se los doy. Luego, cambiamos los ejercicios y calificamos".

"tengo el *Grammary Way* y tengo el, el… varios libros tengo. Y de ahí voy sacando cuales voy a poner, cuales pienso que van a ser más accesibles para ellos"…Eso péguenlo en su libretita, esa copia, para que les sirva en su examen.", "Traen varias opciones. Hay ejercicios que traen varias, cuatro o tres opciones. O hay ejercicios que traen… a veces elijo los que tienen imágenes".

"Juntos primero y luego ya dejarlos solos. Les pongo otro similar pero ahora ustedes solitos. Yo creo que así es mejor, porque tienen muchas dudas y cada rato, cada rato preguntan".

Manuel

"fue algo así como un poquito pasarla como jugando y aprendiendo, hasta donde yo recuerdo más o menos, y si los recuerdo bastante agradable", "la mayoría si hacia una especie de antes de entrar a dar su materia, una especie de resumen de lo que habíamos visto, probablemente la clase anterior y luego ya presentaba más o menos su tema y nos mencionaba lo que pretendíamos abarcar en esa sesión y lo desarrollaba"

La secundaria pues un poquito más serio, menos juego, mas trabajo y disciplina y entrar meramente a las cosas y cuestiones académicas". He was also asked to participate more in classes. "A partir de secundaria era más la participación…"

…el bachillerato y la universidad pues hasta donde lo recuerdo más relajado porque creo yo que uno ya adquirió la disciplina básica y entonces ya nada más es cuestión, ya sabes lo que quieres y obviamente le echas ganas, y es cuestión de estar al ritmo o al día en lo que te asignan…

. "el bachillerato, en mi caso, fue escrito y de forma oral y nos tenían que evaluar los maestros que nos impartían las clases directamente.

en la universidad conforme vas avanzando se torna un poco más difícil, te dan más trabajo, mas tarea, mas investigación, etc., pero una vez que ya te hayas disciplinado a través de los años en cuanto al estudio a lo que aprendiste, realmente no es difícil porque ya por decir, ya adquiriste ese habito de estudio de disciplina…

yo estudie mi carrera de arquitectura en Mérida, por ejemplo a la planta de concreto de cementos maya y vimos el proceso y todo eso, para ver todos los aspectos en cuanto al cemento y por ejemplo visitamos

algunas obras, todo ese proceso siento yo que ayuda mucho mas a que ese proceso enseñanza-aprendizaje sea consolidado

…el aprender pero a través jugando… viajes de prácticas de aprendizaje al campo, yo recuerdo que en esos aspectos como que el proceso enseñanza-aprendizaje era mejor, porque si vivías ciertas cosas… cuando participábamos y trabajábamos en equipo", las dinámicas que aplicaba el maestro o la maestra, ya sea según sea la materia, si recuerdo como que si eran partes de las clases en la cual si como que había un poquito más de compenetración, de compresión, de lo que estamos aprendiendo…

"yo me daba cuenta simplemente al utilizar estas cuestiones en la vida y aplicarlo para lo que me iba a servir, sentía yo que obviamente me era de buen uso y obviamente productivo".

"mi forma de estudiar en muchas ocasiones, en primaria y secundaria era un poco individual".

. "el bachillerato y la carrera, si nos reuníamos, ya sea porque nos habían dado alguna actividad, tarea etc., en equipo o grupo, o ya sea aun siendo individual, quizá un examen, o quizá algún trabajo, nos juntábamos en muchas ocasiones".

"yo me doy cuenta cuando lo pongo en uso, me sirve y tengo éxito al hacerlo, obviamente no todo lo que aprendo o creo haber aprendido, al ponerlo en práctica me da resultados, entonces, lo que trato de hacer es ir corrigiendo o buscando alternativas para ir mejorando".

"me gusta tratar de sintetizar y subrayar si es que se puede las ideas importantes y de ahí tratar de sacar mapas conceptuales para ir teniendo un enfoque integral de lo que estas tratando de aprender, y obviamente de ahí, lo que yo lei no quiero memorizármelo, si no tener los conceptos importantes ya sintetizados o en un mapa conceptual, para que yo lo tenga en un momento dado, si yo tengo que explicarlo en mis palabras, "trato de ser analítico".

"sí recuerdo haber cuestionado por que a veces pues obviamente uno como joven en ese entonces, es alumno o estudiante, pues a veces te están explicando algo o enseñando algo y surge algo o alguna duda respecto a cómo funciona".

"interactúas con lo que estas observando y con lo que estas aprendiendo y se da mejor el proceso enseñanza aprendizaje".

…cuando es una lectura intencional, de análisis, de estudio, pues obviamente depende, porque he tenido en mis manos que he percibido un poco complicadas, me cuesta un poco de trabajo, no por el significado de cada palabra, si no por lo que te trata de explicar, sino como tema y sin embargo, me he cruzado con libros de que los lees y está bastante claro las concepciones de las cual está tratando de transmitir el autor.

“hay personas que son muy hábiles, muy capaces para ciertas materias, y hay personas que son para otras materias, pero yo creo que todo dependen de lo que uno sienta y pueda ir avanzando”.

“todos somos diferentes, si? Y obviamente nuestra forma de pensar y de aprender, etc., etc. Entonces, obviamente hay alumnos que aprenden o se les llama, creo que lo habrás escuchado por ahí, algunos son musicales”.

“creo que aprenden mejor cuando hay una variedad de actividades enfocadas a que ellos actúen, definitivamente es cuando he notado que más lo disfrutan, mas participan, mas…”

“si un docente obtiene los recursos y los pone en práctica adecuadamente no debe tener problema, pero si no, pues yo consideraría, como te comentaba, em actuar, ver si me funcionar e ir tratando de corregir analizando por dónde quizá me fue mal”.

…especialmente en la actualidad que los distrae, muchas cuestiones, quizá la televisión, internet…ehh etc, no se los medio de comunicación, entonces yo no sé, me da la impresión, obviamente no sé cómo está la cuestión básica educativa en sus hogares, toda esa cuestión es… forma una cuestión compleja que los alumnos tengan esa disponibilidad de aprender.

“para aprender uno tiene que estar interesado en lo que se va a aprender”.

“aprender para mi es utilizar en la vida, en la práctica lo que aprendiste o lo que te enseñaron, para mi eso es aprender”.

“participar, llevar a cabo las tareas, obviamente presentar y aprobar el examen”

“calificación aprobatoria significa que aprendieron”.

Bueno, como te decía hay varias, yo diría libros, internet, informática, bibliotecas, si hay fuentes directas, ¿no? Por decir algo… y vamos a hablar de inglés, por decir algo, yo necesito que estos muchachos hagan algún trabajo, probablemente alguna cuestión con el turismo pues ir a la misma fuente del departamento… ya sea a la secretaría de turismo o donde haya que ir, y ver investigar, ¿no? Ver, además de lo que ya te comente, libros y todo lo demás.

…el libro es una fuente importante además de guía, ¿no? Sabemos, que es lo que vamos a ver… emmm es importante puesto que los chicos ehhh, saben o se sienten… he notado que al llevar un libro como que sienten que van sobre algo o van sus objetivos sobre algo que vale la pena.

Pues simple y sencillamente ver lo que me explican de esa fuente, tiene sentido? Tiene lógica? Y no solo quedar con eso, buscar otras fuentes alternativas e investigar, ver, buscar, buscar otros autores, otros libros ,otras fuentes, internet, etc… bibliotecas e ir si tengo dudas no? Pero si yo veo que en general coinciden en ciertas cosas, bueno quiere decir que esa parte es adecuada".

Lo leo, tú con tu experiencia, yo con mi experiencia, y nos damos cuenta de que la forma en que tratan o como lo redactó el autor o los autores o como se trata de explicar los temas no es que estén mal, si no la forma como que es inadecuada para el proceso enseñanza-aprendizaje, para mí eso no sirve".

Rachel

"el maestro daba todo y no había eso de yo participo".

"cuando ya querías participar y decir tu opinión, los maestros te decían y te veían así como el que se estaba revelando".

…abre tu libro de historia y al ratito ya lo estábamos cerrando que porque ya hicimos el cuestionario y ya pasábamos a otra materia y otro ejercicio y luego venía el receso. Y así, variedad de materias pero pues nada más era un ejercicio; así como que cambiábamos pero pues por nada más tareas.

"cuestionarios, lo que venía en el libro porque era así de que vamos a hacer el cuestionario del libro, o vamos a copiar de la página tal de no sé qué libro".

"me gustaba que me regañaran, que me presionaran, que dijeran que tal fecha es la última para entregar tareas o que estuvieran detrás de mí.

"primero de primaria yo era muy participativa y entonces la maestra empezó a hablar con mi mamá y le dijo que me pasaba mucho de hablar".

"Es que el maestro llegaba, daba su clase, te dejaba una tarea, la calificaba y se iba. No había eso de participar porque como éramos muchos. Sí participábamos pero así de memorizarse que el cuestionario tal".

"nos llevaban al laboratorio, por ejemplo de física, para un experimento".

“En la secundaria era igual el examen que valía más; las tareas más o menos”.

“en la prepa es donde sí me acuerdo que el examen valía setenta, tareas treinta y era que pasaba porque era memorizar para el examen”.

“tenías que participar; te exigían participar y pues uno ya estaba acostumbrado a que todo lo dice el maestro”.

había desde el muy estricto que le gustaba que le cumplieras con las tareas y que yo participara, que participaras y todo estaba pendiente…otro maestro, que a pesar de que preparabas tú lo que ibas a hacer o participar en la clase, el maestro no estaba preparado…hubo maestros que era así como que si quieres venir a la clase, vienes, o desde el principio de la clase decían que quién quiere un siete, no me acuerdo cuál era la calificación mínima, y de una vez se lo pongo para que ya no venga…

“mayormente yo era buena pero para memorizar…me gustaba mucho los juegos de memoria, todo lo que tuviera que retener algo”.

“No sabía ni lo que estaba diciendo pero estaba recitando lo que memoricé”.

“Pues si me preguntaban en la calle que cuándo fue la segunda guerra mundial y lo recitaba pues eso era aprender, ya había aprendido algo”.

“a mi persona o para mí, yo aprendería más rápido si las cosas me las dijeran tal y como debe ser, explícito, ¿no? Esto es así y esto funciona así y te sirve para esto. No tanto rollo”

“Primero investigo, luego lo leo, lo tengo que leer como tres veces porque luego no lo entiendo [risas]. Y ya luego empiezo a pensar que si he visto algo así en mi vida cotidiana acerca del tema y trata de relacionarlo para poder, como que, estructurarlo y entenderlo mejor… primero necesito memorizarlo y ya luego, así como que con el tiempo, con la experiencia, así como que lo voy aplicando, o le voy entendiendo mejor o digiriendo”.

“Poner algo en la práctica…aprende mejor cuando experimentan lo que están aprendiendo.”

“…influye mucho su actitud de ellos”.

“si la información viene de algún instituto o universidad, no sé, que pienso que tiene prestigio o tiene calidad en sus trabajos, que han salido a la luz y cosas así, de ahí considero que es buena”.

“bien porque, no sé, los libros a lo mejor ya han sido probados por gente experta”. She used to look for the information she needed in books but now, the internet has become her favorite tool. “antes era en los libros. Ahora en Internet y en enciclopedias”.

Si no lo practicas diario, siento que a lo mejor eso no te da la habilidad o te ayuda para que seas más rápido para aprender algo… si la persona no tiene metas, entonces, es difícil de que quiera aprender… La preparación que tengan, el tiempo, dedicación, su contexto, creo que varias cosas serían.

“es lo correcto pues porque en varios lugares veo que coincide la misma información o varias personas tienen la misma información, o lo veo, o lo experimento”.

…todo con base a los libros… no había eso de que juegos ni nada de eso. Como eran niños pues tenía yo que ser la que les diera todo, ¿no? Cualquier duda pues conmigo… lo que hacían era con base a práctica sobre los ejercicios del libro… porque te digo que sí había manualidades pero eran… no era hacerlas en el libro pero eran algo que dictaba el libro.

“mayormente del libro porque como ya teníamos también el libro del maestro. Como que todo estaba en bandeja de plata: lo que tenías que dar, cómo darlo y los tiempos, todo así. Todo ya estaba planeado en el libro del maestro”.

si apenas son estudiantes principiantes trato de ser como que, más que una guía, el que les ofrezca el conocimiento, los temas. No sé, es que dependiendo de qué nivel sea, sería el rol que podría desempeñar. Si es un nivel intro pues, yo siento, que sería así como que tratar de darles todo o tratar de buscar algo que les interese del tema para poder dárselos. De manera que a ellos les interese y les agrade. Y si es un nivel alto, pues, una guía y un facilitador; así de que cualquier duda, siempre estoy abierta a sus preguntas. No darles todo ahí porque pues ya sería más que nada lo que ellos necesitan, no lo que yo tenga que darles todo el tema o algo así.

…mi idea de que ya hayan aprendido era que lo usaban, que hablaban el inglés, hablaban de los temas o del vocabulario que veíamos, lo relacionaban con las lecturas que hacían, todo eso. Ahí es donde según yo, veía que habían aprendido…me acuerdo que teníamos que ver la diferencia entre algo ficticio y algo verdadero, no sé, y darles ejemplos así como que de su vida diaria para que pudieran entender un poquito las palabras, no sé. Dando ejemplos más que nada porque en lugar de hacer dinámicas…

…no sé, a veces siento que los subestimo pero no les exijo de que investiguen en otros lados. Porque aparte de que no hay donde investigar porque la verdad la biblioteca tiene libros de hace mil años y el Internet no funciona. No hay mucho de donde sacar. Únicamente de que sean participativos y si hay dudas, pues que pregunten. Si no entienden algo, su rol pues, que no se queden con dudas. Que digan

todo lo que tengan que decir y si estoy mal, también, que me corrijan y cosas así. No sé, pero de que ellos hagan, traer un tema ya preparado o algo así, se me haría difícil. A lo mejor los estoy subestimando pero así creo que es en la prepa de ahí de bachilleres.

“trato de hacer dinámicas, por ejemplo, juegos o, no sé, como tipo concursos de pregunta-respuesta. No sé, algo diferente a lo que vieron en sus clases normales de inglés para cambiar un poquito la mente”.

Pues trato de poner lo más simple a los que están empezando para que no se frustren porque a veces les veo su cara y como que no entienden lo quiero decirles. Y a los de sexto como que ya les pongo algo más variado y a ellos ya no les pongo temas como que del verbo *to be*, ni modales, nada de eso. En dado caso que no entiendan pues ya les explico acuérdate que cuando viste el verbo *to be* era así y así. Pero no les digo ah miren acuérdense que esto van con esto y esto van con esto.

Según yo, es donde empiezas, bueno, donde se incluye el juego, la interacción con los compañeros, que no solamente es escribir, escribir, escribir. A lo mejor sí hay alguna parte donde tengas que escribir pero que no desde el inicio te digan toma el ejercicio, hazlo y hasta que acabe la hora, ¿no? Si no que empieza así como que con un juego, te relajes ¿no? Y ya luego te ponen a trabajar y que termine bien, digo, con otro juego a lo mejor. [Risas].

Julian

“tuve una maestra que para mí fue muy gandalla”, dijo: lo que pasa muchachos es que ustedes, bueno no…niños, ustedes nunca van a aprender nada, porque, porque tienen cerebro de sapo, y la gente con cerebro de sapo como ustedes nunca va a salir adelante, si ustedes por más que estudien aquí van a morir”.

…los otros tres años de primaria tuve buenos maestros, y me dijeron no si se puede, tu puedes lograr lo que quieras, sobre todo un maestro en sexto de primaria, que este, por azares del destino me gane un premio, un concurso en conocimiento y entonces me gané un premio a Xcaret,”.

“El maestro entra explica y nosotros trabajamos en los libros, hacemos preguntas, pero realmente no hacíamos preguntas y pasábamos la copia o copiábamos”.

En la secundaria los primeros dos años tuve buen maestro de, que no sabía mucho inglés, ósea era maestro de español, pero si se preocupaba por enseñar… lo que me gusto de ese maestro es que se ponía, ósea en el salón, era la figura del maestro y de los alumnos, pero de ahí te daban confianza, ósea se ponían por decirlo así a tu nivel no?, y te decían no, no estaba muy viejo tampoco, entonces creo que por eso, entonces decía: no chavo, y relajeaba con nosotros y jugaba con nosotros voleibol y todo el tiempo, a veces se quedaba, inventaba cosas así a su esposa decía que tenía que hacer mucho trabajo y se quedaba en Caobas para quedarse a jugar con nosotros.

“En tercer año pues solo tuve un maestro que solo era de matemáticas, entonces ese, solo él veía matemáticas y nada más que matemáticas. Era un poco problemático, llevaba sus traumas a la escuela y siempre nos regañaba, y con él aprendí a ser competitivo o competente”.

“En la secundaria en todas las materias al final de los ejercicios traía la clave de respuesta, solo volteabas el libro y ahí estaban las respuestas, entonces si no sabias nada pues lo copiabas y ya”.

“bueno maestros, sobre todo la maestra de español, la que me daba español, taller, este… estructura socioeconómica de México y esas materias así ¿no? Y ella estaba muy preparada, era una maestra que para mi viene de ser buena que demasiado estricta, porque en todas las demás materias echaba relajo menos en su clase de ella… el otro maestro que es el de química, que nos enseñaba…ósea nos enseñaba más o menos, dictaba mucho, ósea casi toda la clase la pasaba dictando, pero convivía mucho con nosotros”.

“La maestra de comentario de texto, ella no, ella llegaba, preparaba su material, nos hacía participar y fue la primera maestra que nos puso a hacer debates”.

“Entonces siento que un buen maestro ha sido la combinación entre saber de tu materia o estar dispuesto a prepararte para una materia que te corresponde y llevar una buena relación con los alumnos”.

sobre todo la maestra de material didáctico a la hora de presentar materiales yo era muy inseguro, tartamudeaba, todavía tartamudeo pero tartamudeaba mucho en inglés, cuando hablaba en inglés y en español. Y como que con ella agarré más seguridad, me daba confianza porque era una maestra comprensiva pero a la vez exigente, o sea me cumples, yo entiendo que a veces no puedes hacer la tarea pero quiero que hagas las cosas bien…Hay un maestro que siento que no era su vocación ser maestro, entonces en sus clases utilizaba mucho spanglish y causaba mucha risa, era muy gracioso y yo a veces he tomado parte de eso.

…antes era más de cuestionarios y de copy paste, así de escribe tal cuestionario y responde tal cual… Ahora me ponen a razonar. Antes yo decía, el autor tal dice esto y se aplica así. Ahora me dicen, tienes que cuestionar lo que dice el autor, o sea el autor es una persona como tú, que tal vez ha estudiado más, ha leído más pero en fin es un ser humano que se puede equivocar.

“la memorización fue buena porque me construyo una base solida de mis conocimientos, por ejemplo, cómo te aprendes la reglas de las agudas y las esdrújulas pues memorizándolas, ¿no?”.

ahora que ya tengo un conocimiento sólido ya siento que si puedo ser capaz de emitir un juicio y de decir, bueno estoy de acuerdo con tal autor y lo que dice este otro autor no es cierto por esto y por esto.”

¿Cómo memorizo?, repitiendo varias veces… repito esta palabra es esto", "Repito y relaciono… relaciono el sonido con algo que sea medio chistoso o que me traiga a la memoria esa frase y ya".

"me doy cuenta que lo aprendo cuando puedo aplicarlo o cuando puedo criticarlo o cuando puedo cuestionarlo o puedo hablar del tema".

…aprender para mí significa; poder adquirir cierto conocimiento para que de ahí con base en ese conocimiento determinar tu postura, por ejemplo, ya aprendí esto de determinado autor pero yo no estoy de acuerdo ¿por qué? Porque dice esto, esto y esto este otro autor. O si estoy de acuerdo con él por esto…

Sé que aprendieron cuando a la siguiente semana les pregunto y me contestan o cuando les digo, plantéenme una situación y los elementos que vimos. Nunca les pido la definición, pero les pido mediante una situación que identifiquen los elementos que vimos. Si ellos logran identificarlos y señalarlos siento que ya han aprendido.

Lo primero son las bases de datos, o sea internet. Los libros son muy buenos pero para que venir a una biblioteca si puedes accesar (sic) a las bases de datos de cualquier sitio, en lugar de sacar libros y andarlos cargando".

"Tener el contexto del texto y después ver posturas que se opongan y ya poder de ahí tomar una, o sea yo qué creo, yo que pienso de ese autor…Como la lecturas que tenemos ahorita están más relacionadas con la educación pues me baso en mi experiencia".

"Porque se apropia a mi realidad, porque va de acuerdo con mis experiencias, de acuerdo con… tal vez las ideologías, claro que mi creencias han cambiado muchísimo han cambiado pero va más con mi realidad, con lo que yo he vivido, entonces yo digo, para mí esto es real."

depende de lo que quieras aprender…y también de las capacidades que cada persona haya desarrollado…si te gusta aprendes más rápido…siempre he creído que si te gusta la materia, porque eso funcionó conmigo, se aprende. Pero ahorita me estoy dando cuenta que también tiene que ver el maestro, porque ahorita estoy recordando que con los maestro que convivieron mejor conmigo yo le echaba más ganas porque trataba de no defraudarlos y es lo que estoy viendo…

…la mejor forma de aprender para mi siento que es llevarle al alumno una situación en la que pueda aprender algo, orientarlo si desea algo pero no decírselo así deliberadamente esto vas a aprender… Porque siento que es la manera en queeee yo estoy aprendiendo ahora y siento que me está funcionando, si es cierto antes por ejemplo practicaba mucho la memorización y estudiaba bastante, perooo me acordaba de eso no se tal vez un año y era muy bueno en los exámenes, muy buenísimo en los exámenes, sacaba muy buenas notas, pero cuando llega el momento de aplicar así como que pues...o sea de que me creen una situación diferente pues no.