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Perceptions of a Constructivist Approach in a Bilingual School Community

Tesis

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Prólogo

En el presente trabajo de tesis titulado *Perceptions of a Constructivist Approach in a Bilingual School Community*, estudio y analizo el uso del constructivismo como enfoque de enseñanza en una escuela primaria bilingüe privada, ubicada en la ciudad de Irapuato, Guanajuato. Esta institución tiene como objetivo formar ciudadanos íntegros y comprometidos con su aprendizaje a través del uso de estrategias constructivistas que permitan a los estudiantes convertirse en arquitectos de su propio aprendizaje mediante la aplicación de experiencias previamente adquiridas y de la interacción con sus compañeros y profesores.

El objetivo principal de esta investigación es proporcionar información sobre las percepciones del uso del enfoque constructivista en una institución que además de trabajar con los requerimientos de la Secretaría de Educación Pública (SEP), trabaja bajo los lineamientos de una organización llamada Bachillerato Internacional (BI).

Al realizar esta investigación establecí como base para el presente proyecto; una investigación cualitativa, misma que llevé a cabo en el Centro Educativo Alexander Bain Irapuato. Para llevar a cabo esta investigación, participaron profesores y personal directivo de la institución tanto del área de español como de inglés, los cuales proporcionaron sus percepciones sobre el uso del constructivismo.

Esta investigación, a través de cinco capítulos, destaca temas centrales como el constructivismo y el constructivismo social, ya que estos enfoques educativos pueden ser confundidos con facilidad. Igualmente aborda la teoría sociocultural, ya que tanto la cultura como las interacciones sociales se han convertido en factores de aprendizaje. De igual manera, este estudio presenta algunas estrategias de aprendizaje constructivista como el andamiaje y algunas de las ventajas y desventajas que se han presentado a través del uso del constructivismo en esta institución educativa y que también son objeto de la presente investigación.

Chapter One
Introduction

1.1 Introduction

The present study is concerned with the perceptions of a group of people who utilize constructivism as a teaching approach. It was carried out in a private bilingual school that works under the procedures of an international organization which promotes the use of the constructivist approach. In this chapter, I will explain the reasons why I decided to explore on this subject, the background, and the context of the study. Furthermore, I will describe the gap of this research, the purpose of the study, and its contributions.

1.2 Personal Motivation

The reason why I decided to carry out this research on the insights of a community of teachers, coordinators and principal on the constructivist approach is because working at the Alexander Bain School, teachers have to instruct classes using this approach. Thus, reflecting about personal possible areas of opportunity as a constructivist teacher (in the previously mentioned institution), I noticed that I was not sure about the way I was following the approach since I had not had any formal training. In other words, I did not receive training on how to be a constructivist teacher from this institution. Moreover, since as a student, I was educated in a different way, I may not be teaching my students in a proper constructivist way.

Furthermore, for the reason that I was teaching two sixth grade groups, I recognized that with one of the two groups it was easier to let them work more freely utilizing their own experiences and reflecting about their own understanding. I also noticed that by having more class time with one group, it was more feasible to let students achieve more varied and thoughtful tasks and reflections. Hence, I had some doubts about the time I was spending by

trying to be a constructivist teacher and the way I was teaching my students. That is, I was not really sure I was a real constructivist teacher.

For the reasons explained above, I considered it interesting to question other teachers about whether they faced the same problems I did and if they did, what were the ways they handled those difficulties. Therefore, I decided to carry out this study to elicit the teachers' insights of the use of the constructivist approach and to better understand what we do at our workplace.

1.3 Background and Context of the Study

According to Cetin-Dindar (2016), constructivism is "an active process of constructing knowledge based on learner's experiences" (p. 233). Thus, constructivism is an approach utilized to allow students to become active constructors of their knowledge by applying their previous experiences. Based on the idea of constructing knowledge from previous experiences there are several authors (Bodrova, 2004; Broomhead, 2005; Cetin-Dindar, 2016; Dixon-Krauss, 1996; Holland, 2015; Uredi, 2014; Yoders, 2014; among others) who have researched this topic. For instance, Dixon-Krauss (1996) and Yoders (2014) claim that the main contribution of constructivism is the ability learners gain to construct knowledge utilizing their personal experiences and ideas instead of obtaining a passive acquisition of skills and knowledge.

Broomhead (2005) and Uredi (2014) also suggest that this approach is a way in which students can be engaged in the construction of new knowledge or information by utilizing meaningful previous knowledge. Therefore, constructivism for these authors is seen as a teaching approach to achieve new information through experience and reflection about that understanding. Thus, learners bring their personal experiences to the classroom and use them to learn from them. Connecting this previous lived knowledge with new information, students are expected to learn in a more meaningful way.

This study aims to explore the insights of an elementary school principal, coordinators and teachers who work with the constructivist approach. Nevertheless, there is not sufficient research on the insights of individuals who work with this approach. Yildirim and Kasapoglu (2015), for instance, conducted a research related to the teachers' perception of the implementation of constructivist teaching-learning activities and of constructivist curriculum change. These authors carried out a research in order to measure the perceptions of 236 primary school teachers on a constructivist curriculum. The results provided insights about how this approach could be successfully implemented, the way teachers should plan, class arrangement, among others. Thus, there is a great amount of research concerned with the use of constructivism as a teaching approach, but not enough on the insights of a specific group of people who follow this approach as it is the purpose of the present study.

This study takes place at the *Centro Educativo Alexander Bain* located in the city of Irapuato, Guanajuato, Mexico. This school's main objective is "to allow students to achieve a comprehensive preparation obtaining high academic achievement, appreciation for the arts, a taste for various sports and human formation that aid them to be positive and competitive agents of change" (Alexander Bain Irapuato, 2006). Moreover, as mentioned before, this educational center works under the guidelines of a worldwide organization called International Baccalaureate (IB). It is an educational association founded in Geneva, Switzerland in 1968. The mission of the IB is to prepare students to be caring, knowledgeable, and eager people who understand this globalized world by developing high quality and international education programs through the use of the constructivist approach as a learning model (Van Oord, 2007).

1.4 Identification of Gaps in this Study

In regards to the constructivist approach, Bodrova (2004) places the Russian Psychologist Vygotsky as its main proponent. She argues that the approach relies on the following four central Vygotskian propositions.

1. “Children construct knowledge.”
2. “The development cannot be considered apart from the social context.”
3. “Learning can lead the development.”
4. “Language plays a central role in mental development”. (ibid, p.8)

Moreover, since the IB organization also recognizes Vygotsky’s ideas about learning through social interactions, and the IB “emphasizes intellectual, personal, emotional and social growth through all domains of knowledge” (Bullock, 2011, p. 2), it seems to be a mismatch between the perception of the constructivist approach and the way we, teachers at the Alexander Bain School, apply it. This topic will be addressed in Chapter Four.

1.5 Purpose of the Study

The purpose of this study is to explore the insights of different teachers, coordinators, and the principal of the elementary section of the Alexander Bain School on the use of a constructivist approach. It is due to the expectation that they have to utilize constructivism as a way of learning and teaching. For this reason, the question which guides this research is the following one:

> *What are the community perceptions of the use of a constructivist approach in a bilingual elementary school in central Mexico?*

1.6 Contribution of the Study

I consider this research useful for those teachers who are involved in the use of the constructivist approach. Through this study, they can better understand the background of the approach, its advantages, disadvantages, and some strategies that can work in a constructivist classroom. Furthermore, this study can aid not only teachers, but anyone who follows the constructivist approach.

1.7 Organization of the Thesis

The primary purpose of this chapter is to provide an explanation about the research topic, the purpose, background, and context where the research has been carried out. In Chapter Two, I will discuss the literature concerned with the constructivist approach which supports this research, and the way IB Schools work. Chapter Three will examine the methodology, the methods applied to obtain data, the context, the setting, and the participants involved in this research. Chapter Four will present the analysis of the data collected from the different methods applied to conduct this research. Finally, in Chapter Five, I will provide the findings, implications, limitations, future research, and conclusion of this study. The following chapter will discuss the literature that supports this research.

Chapter Two
Literature Review

2.1 Introduction

In the previous chapter, I provided an explanation about the purpose of this research, my personal motivation to carry out this study and the context. All this was presented to offer a clearer idea and a better understanding of the research and the setting where the study was conducted. In this chapter I will provide an insightful explanation about how the IB works and the guidelines IB school have to follow, I will also discuss the literature that supports this study. The topics are addressed below:

a) The International Baccalaureate Organization;
b) Constructivism;
c) Sociocultural Theory;
d) The Zone of Proximal Development;
e) Scaffolding;
f) Constructivism in Bilingual Education.

2.2 The International Baccalaureate Organization

The IB is an educational organization founded in Geneva, Switzerland in 1968. Its main purpose is to prepare learners to develop a set of characteristics which allow them to understand this changing world. The IB develops high quality international education programs to improve teaching and learning in a community of diverse students, and it also influences the way international education is perceived throughout the world (IBO, 2008). This organization works with different schools around the world to offer an international education. For elementary school, which is the focus of this research, the name of the

program is Primary Years Program (PYP). To apply this program, the school year is divided in six transdisciplinary themes around which learning is planned.

The transdisciplinary themes are the following ones:

- Who we are;
- Where we are in place and time;
- How we express ourselves;
- How the world works;
- How we organize ourselves and
- Sharing the planet. (IBO, 2007)

First and foremost, these are the guide for teachers to develop a program of inquiry since both, teaching and learning, have to take place in a transdisciplinary way. It is noteworthy that educators from different areas participate in the students' learning process. For this reason, student's learning is not reduced only to traditional subjects, but to their improvement and examination. Each theme has global significance and is supported by knowledge, concepts, and skills from traditional subjects. Each theme has a line of inquiry in order to connect what learners already know with new knowledge. The lines of inquiry are the following ones:

1) "Who we are is an inquiry into the nature of the self, personal beliefs, values, physical, mental, social, spiritual health, rights, responsibilities, and human relationships which include families, friends, communities, and culture."

2) "Where we are in place and time is an inquiry into orientation of personal histories; the home and journey, discoveries, explorations and migrations of human kind."

3) "How we express ourselves is an inquiry in which students discover and express ideas, feelings, nature, culture, beliefs and values; the ways in which we reflect on, extend and enjoy our creativity."

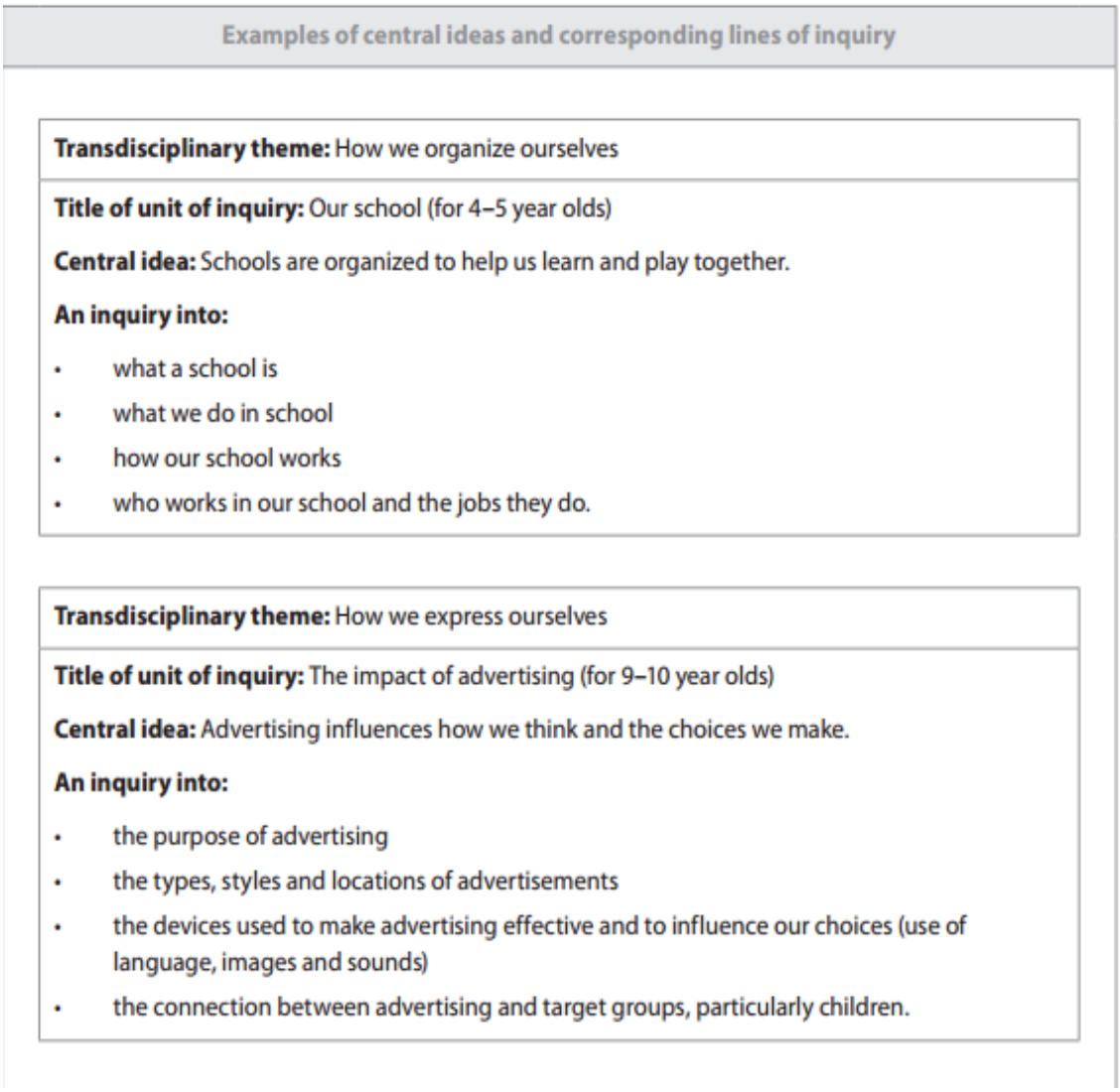
4) “How the world works is an inquiry into the natural world and its laws; the interaction between the natural world and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and the environment.”

5) “How we organize ourselves is an inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.”

6) “Sharing the planet is an inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.” (IBO, 2007, p. 12)

Learning is designed around these six transdisciplinary themes through six units called Units of Inquiry (IBO, 2007). Each unit contains a central idea related to the transdisciplinary theme and the lines of inquiry. The six units are completed throughout the school year and they take from five to six weeks each. In figure one there is an example of how they are connected.

The PYP program is recognized as a pedagogical model for international primary education which challenges learners from age three to twelve years to develop certain sets of beliefs in order to construct their knowledge (IBO, 2007). According to the PYP, students have to be encouraged to develop their natural curiosity and to be critical thinkers while interacting with the environment (IBO, 2007). Consequently, IB schools must utilize an approach that allows learners to construct meaningful and durable learning. In the following table, some examples of central ideas and lines of inquiry are provided.



Examples of central ideas and corresponding lines of inquiry

Transdisciplinary theme: How we organize ourselves

Title of unit of inquiry: Our school (for 4–5 year olds)

Central idea: Schools are organized to help us learn and play together.

An inquiry into:

- what a school is
- what we do in school
- how our school works
- who works in our school and the jobs they do.

Transdisciplinary theme: How we express ourselves

Title of unit of inquiry: The impact of advertising (for 9–10 year olds)

Central idea: Advertising influences how we think and the choices we make.

An inquiry into:

- the purpose of advertising
- the types, styles and locations of advertisements
- the devices used to make advertising effective and to influence our choices (use of language, images and sounds)
- the connection between advertising and target groups, particularly children.

Table 1. Examples of central ideas and corresponding lines of inquiry (*Making the PYP happen*, 2007, p. 13).

The PYP provides schools with a curriculum framework of essential elements such as knowledge, concepts, skills, attitudes and action. All these elements are offered in order to build a challenging curriculum which must be transdisciplinary (as mentioned before) because it focuses on issues that go across multiple subject areas. Additionally, since the IB system attempts schools and professors to offer a high quality education by asking students to develop social, communicative, research, and thinking skills (IBO, 2008), the class program is organized according to three curricula: the written curriculum (explains what PYP students will learn), the assessed curriculum (details the principles and practice of effective

assessment), and the taught curriculum (sets out how educators teach the PYP) (ibid). These curricula are the means whereby students will work in order to achieve educational outcomes in an IB institution. To show how these three curricula are interconnected, they are presented in the table below.

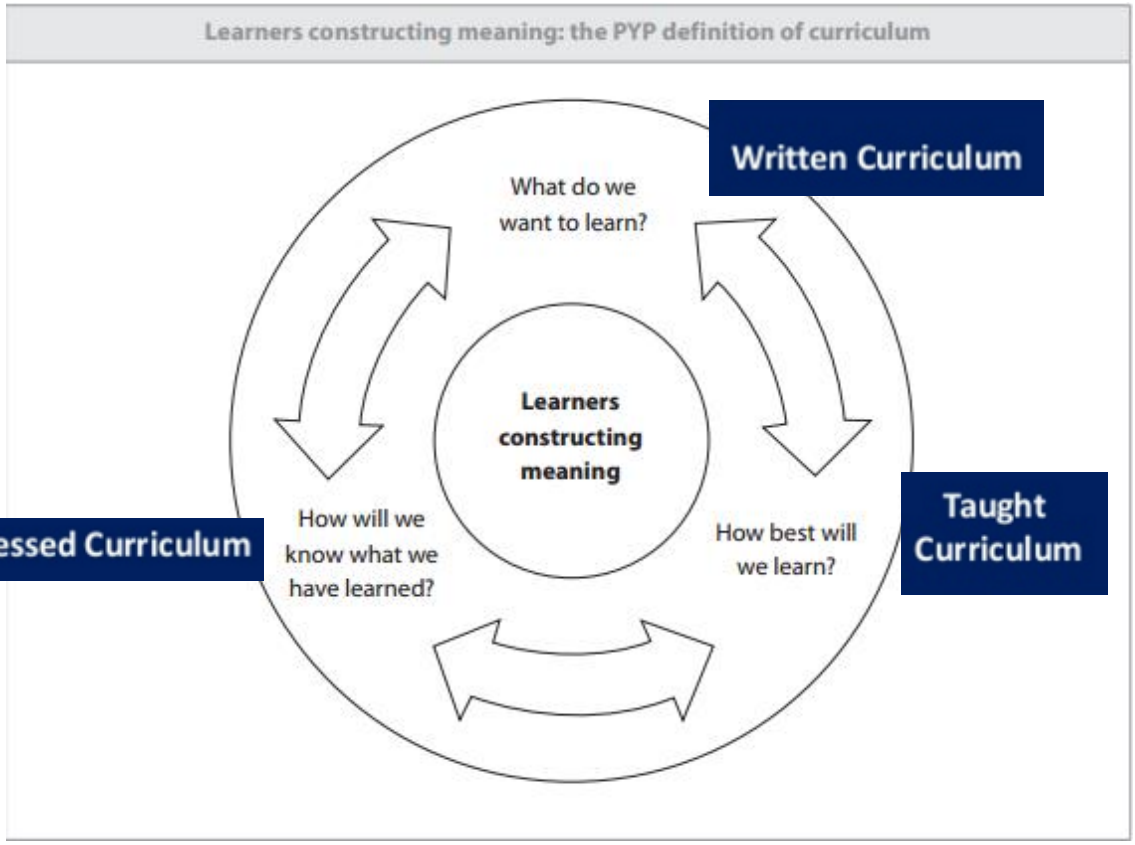


Table 2. The PYP Curriculum Framework (*Making the PYP happen*, 2007, p. 9).

The first curriculum, the written, is created taking into account what students should do and learn on a daily basis to develop the target knowledge and skills of the program. This curriculum must take into account student's needs, interests, and competencies when being developed. It takes into consideration the characteristics, capabilities and interests that are normal for the age group and the different speeds at which students learn. Moreover, it tries to find a balance between intellectual, social and personal characteristics, as well as the maturity of the students in the group (IBO, 2008). For the IB, it works as a way to balance what students must learn with the skills they have to develop, and to demonstrate it by

carrying out a social service through five elements: knowledge, concepts, skills, attitudes, and action. The following table explains the curriculum elements:

Essential elements of the written curriculum	
Knowledge	Significant, relevant content that we wish the students to explore and know about, taking into consideration their prior experience and understanding.
Concepts	Powerful ideas that have relevance within the subject areas but also transcend them and that students must explore and re-explore in order to develop a coherent, in-depth understanding.
Skills	Those capabilities that the students need to demonstrate to succeed in a changing, challenging world, which may be disciplinary or transdisciplinary in nature.
Attitudes	Dispositions that are expressions of fundamental values, beliefs and feelings about learning, the environment and people.
Action	Demonstrations of deeper learning in responsible behaviour through responsible action; a manifestation in practice of the other essential elements.

Table 3. Table of the essential elements involved in the written curriculum (*Making the PYP happen*, 2007, p. 10).

Through the PYP written curriculum an equilibrium between the "acquisition of essential knowledge and skills, development of conceptual understanding, demonstration of positive attitudes and taking responsible action" (IBO, 2007, p. 10) is needed. As a result, these five elements are interconnected. That is to say, learners must acquire new understanding by utilizing certain concepts as a means of learning. At the same time learners construct new knowledge, they have to develop specific skills and attitudes which will allow them to prove what they learnt. Basically, this curriculum presents what students are intended to learn and develop.

The second curriculum, the assessed, has as main objective to provide feedback on the learning process involving the recollection and analysis of information about students' performance. It is designed to apply the knowledge and put it into practice. In order to

perform this curriculum both, teachers and students, are engaged in evaluating students' progress. In other words, teachers identify students' needs, but learners have also the possibility to evaluate themselves and other classmates through reflection (IBO, 2008). This curriculum is fundamental in order to recognize or verify whether the other two curricula work or not because the assessed curriculum determines if the educational aims placed are being met or not. Moreover, the results of the assessed curriculum offer teachers the opportunity to analyze whether the other two curriculums need to be modified or not.

In contrast with traditional curriculum models, the PYP perceives students' development as a continuum of personal, social, and academic growth in which they can be evaluated by engaging in a variety of tasks. Such tasks may support learners to be critical thinkers utilizing experiences and knowledge while being evaluated, as well as demonstrating the skills they have developed over a specific period of time. As a result, teachers assess IB students by two different kinds of assessment: summative and formative.

Summative assessment aims to give teachers and students an insight into students' understanding of the recently acquired knowledge. This is the culmination of the teaching and learning process, and it can assess several elements simultaneously. It measures understanding of the main themes and prompts students towards action. Formative assessment gathers and provides information used to plan the next stages of learning. This kind of assessment also interlocks learning with new skills. It aids teachers and students to better understand what the students have already learned, what they can do and how they can apply those new skills. Formative assessment is then, a way to provide continuous feedback about the students' learning or development. It fosters interest for learning and develops self-assessment capacity (IBO, 2008). These two types of assessments are useful tools utilized throughout the development of each one of the units of inquiry, since they provide teachers better opportunities to identify students' development.

The third curriculum, the taught, is a direct replication of the written one. It identifies how schools should teach the PYP written curriculum. Through this curriculum educators may provide learners a variety of suitable ways to construct knowledge and to make it meaningful.

The taught curriculum requires structuring a purposeful inquiry that aims to motivate and engage students participating actively in their own learning. This curriculum emphasizes the way tasks or activities must be carried out in order to encourage students to construct solid knowledge while being reflective, so as to develop their critical thinking (IBO, 2009). Besides this, the taught curriculum is utilized to encourage learners to make use of their previous knowledge working in a collaborative way. Thus, the IB contends that the learning theory behind this program relies on constructivism, which encourages not only students, but also teachers and administrators to learn by following this approach (IBO, 2007).

Comparing with the other two curricula, this one seems to be the most important, due to the fact that it illustrates the way teachers accomplish a comprehensible international education through a collaborative and transdisciplinary planning, and by following a constructivist approach. What is more, through this curriculum, the written curriculum takes action and provides learners the opportunity to develop the practice and skills for future assessment, giving the path of utilizing the assessed curriculum.

One of the main goals of the PYP is for the students to become more analytical and more knowledgeable about their societies by embracing learning through inquiry and frequent student-teachers interactions. Therefore, the purpose of all IB program is "to develop internationally minded people, who recognizing their common humanity share guardianship of the planet, helping to create a better and more peaceful world" (IBO, 2013, p. 2). In the interest of accomplishing these goals, IB institutions use the constructivist approach as a learning system. This, in order to construct self-understanding and knowledge of the world utilizing the student's prior knowledge, social skills and reflecting upon it. For IB schools the approach utilized is seen as a model in education which incorporates learning by building on previous knowledge and in which the different disciplines imparted at the school are interconnected. Therefore, since constructivism is an essential approach used to learn in an IB institute and is the central concern of this research, it will be discussed in the following section.

2.3 Constructivism

When it comes to teaching, there are several methodologies that can be applied to provide students with the necessary tools to acquire the target knowledge. Learning methods vary from institution to institution and according to each school's philosophy. In the case of IB institutions, constructivism is the learning approach that has to be practiced inside and outside the classroom. This approach, according to Araya, Alfaro and Andonegui (2007), has been used from Pre-Socratic and Xenophanes philosophers' time. Moreover, according to its main supporters there are different kinds of constructivism.

Werstch (1985) mentions that the most important proponents of constructivism are Piaget and Vygotsky since they did research to better understand the way human beings learn. He also argues that these proponents take into consideration the importance of utilizing self-information, knowledge construction, and human interactions among other characteristics while learning. Vadeboncoeur (1997) supports this idea discussing that according to these two proponents' ideas, two types of constructivism appeared: Piagetian and Vygotskyan's. "Piagetian constructivism is aligned with an emphasis on education for individual cognitive development while forms of Vygotskyan constructivism are aligned with an emphasis on education for social transformation" (ibid, p. 15). Phillips (1995) also defends the notion that there are different kinds of constructivism. He emphasizes that Piaget's constructivism focusses on the "biological/psychological mechanisms to be found in the individual learner" (p. 7). In contrast, Vygotsky's constructivism "focuses on the social factors that influenced learning" (ibid, p. 7).

Thus, on one hand, there is Piaget's perception of constructivism. This insight is centered on self-learning, for the reason that he believed human beings construct knowledge throughout their dealing with the environment and previous knowledge (Pass, 2004). On the other hand, Vygotsky's theory relies on "the understanding of human cognition and learning as social and cultural rather than individual phenomena" (Kozulin, 2003, p.1). In other words, Vygotsky's notions of learning come from a collaborative learning rather than in an individual or isolated way (Moll, 1992). Thus, for the reason that these two main proponents

have influenced the constructivist framework, I will sometimes use the term social constructivism too.

2.3.1 Emerged Constructivism

From these two different perspectives emerged two approaches: constructivism and social constructivism, which are two similar, but different ways of learning. Constructivism, which is the center of this research, is seen as a theory that offers knowledge in which human beings are active creators of that knowledge (Araya, Alfaro & Andonegui, 2007). This theory is then seen as a way to construct knowledge by an individual. Yaris (2015) corroborates this theory arguing that "the central premise of constructivism is that learners create (or construct) new understanding by actively building upon prior knowledge and experiences. Learners are said to create meaning as internal representations based upon their experiences, rather than acquiring meaning directly from external sources" (p. 12). Thus, the use of constructivism is a way of utilizing the individual's previous knowledge without taking into consideration other characteristics.

Dixon-Krauss (1996) complements this idea remarking that the main contribution of the constructivist approach is the ability that learners gain when constructing knowledge utilizing their own personal experiences and ideas instead of obtaining a passive acquisition of skills and knowledge from a teacher. Thus, this approach focuses on allowing learners to construct knowledge by connecting self-experience and reflecting about it.

Muijs and Reynolds (2005) argue that "the basic principle underlying the constructivist philosophy is that all knowledge is constructed rather than directly perceived by the human senses (smell, sight, touch…)" (p. 61). Constructivism is, therefore, a process in which the learner's knowledge is constructed from own experience and personal understanding of the world. For this reason, students learn differently and in different steps according to their lived experiences (ibid). Therefore, some authors (Kirschner, Sweller & Clark, 2010) criticize the use of this approach discussing that constructivism benefits those students who possess more prior knowledge.

Schechter (2001) mentions that if it is true, this approach offers learners a different way of learning since "learning [through] constructivism involves not only learning new concepts, but also unlearning old habits and preconceptions" (p. 53). Thus, according to this argument, for some learners it may be better to remove bad or traditional learning habits in order to develop learning skills which allow them to acquire new knowledge. For instance, learners who are invited to make use of schemata (what learners already know) or previous knowledge, may be more willing to participate in class than those ones (in a traditional classroom) who have to provide a memorized answer.

Von Glasersfeld (1995) also points out that constructivism is:

> …an unconventional approach to the problems of knowledge and knowing. It starts from the assumption that knowledge, no matter how it be defined, is in the heads of persons, and that the thinking subject has no alternative but to construct what he or she knows on the basis of his or her own experience. What we make of experience constitutes the only world we consciously live in. It can be sorted into many kinds, such as things, self, others, and so on. But all kinds of experience are essentially subjective, and though I may find reasons to believe that my experience may not be unlike yours, I have no way of knowing that it is the same. The experience and interpretation of language are no exception. (p. 1)

Accordingly, constructivism has been seen as a way to build knowledge but based on what every individual knows, which may challenge teachers to adapt the curriculum of a class to every learner experience. Moreover, it might also make difficult to standardize testing in order to identify or to measure what learners have acquired. Thus, to make constructivism a more effective learning approach, some constructivists have offered other variety of frameworks (Muijs & Reynolds, 2005). Some of those frameworks include the Vygotsky's theory about the use of social interactions. It will be addressed in the following section.

2.4 Sociocultural Theory

With the time, culture has become an important learning factor in which the individual mental functioning and social context influence knowledge construction. Bullock (2011) supports this idea arguing that:

> …over the past 20 years, the influence of the culture in which a child grows and develops has been a focal interest for educators. It has become widely accepted that the environment or situation where an activity takes place has an impact on those who participate. How a group of people interacts with each other, their values, and styles of communication shape their ways of learning. (p. 13)

Bruner (1996) agrees with the notion that culture is an important learning factor since he believes that "learning and thinking are always situated in a cultural setting and always dependent upon the utilization of cultural resources" (p. 4). Bodrova (2004) recognizes sociocultural theory as a way to afford learners with a more standard context or cultural environment, and that it is more important than students' beliefs. She also argues that it stimulates learning due to the fact that as a context provides more information about a situation or problem, which allows learners to construct knowledge about it.

Since considerable framework for the sociocultural theory was provided by Vygotsky, it is also known as Vygotsky´s theory (Lantolf, 1999). This theory distinguishes the individual's interactions as a way of learning and approaching knowledge (ibid). Through this theory, learning becomes one of the main mechanisms of one's development. It identifies learning as a social process in which interactions with others enable individuals to develop cognition (Turuk, 2008). Sociocultural theory then, promotes students' learning from interactions with others and with their social and cultural environment.

Turuk (2008), discusses that once learners accomplish a task assisted by teachers or other more skillful peers, then they personalize it empowering them to carry it out by themselves.

Thus, well done interactions can serve as a scaffold to learn new tasks. For instance, whether students are allowed to perform a task in which other classmates will bear most of the responsibility for such task, these students may eventually learn and adopt the necessary skills to take on that task independently. Becoming independent and more skillful might be achieved through social interactions and collaborative work, which is one of the characteristics of the IB funds of teaching and learning (IBO, 2007).

Social constructivist theorists discuss that learning is a social experience through which individuals construct knowledge within their own cultural environment (Jaramillo, 1996; Kozulin & Presseisen, 1995; Oxford, 1997; Vygotsky, 1978). Thus, through social experiences, learners will be able to construct knowledge through language. The sociocultural theory then, bolsters social constructivism through learners´ social experiences. These experiences further generate individual cognition and higher structures of mental activity by learning from more knowledgeable peers and adults. This activity is mostly constructed through communication among them and their environment.

Lantolf (1999) argues that "mental development arises as a consequence of the interaction of two distinct processes, one with biological roots and the other with sociocultural origins" (p. 418). Thus, children who first perform a task under the supervision and assistance of other people, may later take the responsibility of other tasks by taking control autonomously. It demonstrates that even though "learning is individual [and] no two students will leave one class with exactly the same understanding" (Sutton, Cafarelli, Lund, Schurdell, & Bichsel, 1996, p. 413). Individuals learn from others while socializing and sharing culture. In other words, sociocultural theory seems to be a way to aid learners to take responsibility for their own education by learning with others and being aware of how knowledge is constructed. Another recognized aspect of this theory is that it does not only emphasizes social interaction, but it also focuses on how cultural beliefs and attitudes impact the way instruction and learning take place. For instance, Lantolf, Thorne, and Poehner (2015) mention the same in their own theory where they argue that, "while human neurobiology is a necessary condition for higher mental processes, the most important forms of human cognitive activity develop through interaction within a social and material environments, including conditions found in

instructional settings" (p. 207). From a social constructivist perspective, learning is approached not only through learners' qualities and practices, but also in the different contexts of social practice that they have experienced (Lave & Wenger, 1991).

This model proposes that human beings portray a genetic code which is a function of learning when individuals interact with their environment. Therefore, sociocultural theory could be a way to explain how learners develop cognition through social interactions. It suggests that the way to acquire thinking and social skills is by internalizing what they see and how they interact with their environment. Moreover, it can only be achieved when adults and more skilled peers assist the less skillful learners until they master the required skills and achieve the proper cognitive processes on their own. This approach is effective to provide help in the ZPD. This term could be understood as the gap between what learners are already able to do and what they cannot still achieve on their own. This area of development will be discussed in the following paragraphs.

2.4.1 The Zone of Proximal Development (ZPD)

Educators need to choose the best option from a pool of alternatives to be more effective while assisting their students. The ZPD seems to be one of those alternatives which according to Wass and Golding (2014) has been applied by some educators around the world since the early 1950s. The idea to benefit from the ZPD in a classroom comes from the notion of recognizing what the student's learning and cognitive needs are. Moreover, the ZPD allows students to monitor their own learning process and to recognize the domain of knowledge they can acquire while being scaffolded working with more skillful peers or teachers (Wass & Golding, 2014). This zone focuses "on the relation between instruction and development" (Chaiklin, 2003, p. 39)

According to the IB Organization (2008), new knowledge is constructed on previous experiences if there is support and understandable input for learning to take place. Thus, through the use of the ZPD, which falls ahead of the zone of previous knowledge, students

may independently construct knowledge. Simplifying, if new information is not understood, it cannot be connected to previous knowledge and without this association, students cannot construct new knowledge. This concept seems reliable for the reason that Walz (1982) comments, if new knowledge cannot be understood, it cannot be related to earlier knowledge. In fact, it will not become part of profound learning. Vygotsky (1978) defines the ZPD as a way in which new learning can take place if there is assistance. The ZPD lies beyond the zone of previous knowledge, which is where a learner can work individually without support and anything outside the ZPD is not able to be learned.

The Vygotskyan´s pedagogical definition of the ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Baquero, 1997, p. 3). According to this definition, we can assume that there is a relationship between learning and development since after a period of time working with the assistance of the more experienced peers, the less talented learn from them and become autonomous. Simplifying, working with more experienced people provides other learners the opportunity to develop their own skills in order to be able to accomplish similar tasks by themselves. The ZPD's main premise is the difficulty a learner can face in order to be able to learn.

Dixon-Krauss (1996) sees the ZPD as "encompassing the gap between the child´s level of actual development determined by independent problem solving and her level of potential development determined by problem solving supported by an adult or through collaboration with more capable peers" (p. 15). From this point of view it is believed that the ZPD may come about when students are offered several opportunities to attain new information and they must do it in a social environment. The ZPD describes the area between a learner's stage of independence and the learner's stage of assistance. Thus proficiency and understanding of new concepts enclosed within the learner's ZPD could emerge by promoting learning among students and sharing internal and external experiences (Jaramillo, 1996).
However, Fani and Ghaemi (2011) claim that by utilizing the ZPD is assumed that all learners share the same level of knowledge and that it encourages learners to develop intellectual

abilities instead of developing their own potential. Baquero and Terigi (1997) discuss that some of the most important characteristics of Vygotsky´s social constructivist theory rely on the ZPD, in which children with assistance and collaboration from teachers or classmates can achieve the target knowledge. Even though some authors argue that this theory has been only focused on children, leaving away the use of this strategy for those learners who are older (Fani & Ghaemi, 2011); others claim that adults with scholar experience can learn through this theory (Bodrova, 2004; Ceci, 1991). Maftoon and Sabah (2012) discuss that the ZPD "plays a crucial role in transformative experiences of all types and is not limited to children and other novice learners. Careful listening, intense dialogue, and emotional support sustain the cooperative construction of understanding, of scientific discovery, and of artistic forms" (p. 39). Thus, through transdisciplinary activities, social interactions, and assistance from others; IB students construct knowledge whether they are children or not.

Employing collaborative work and tasks in which students develop curiosity are two of the most essential characteristics requested for IB institutions to consider the ZPD in the classroom (IBO, 2008). Through the units of inquiry (previously mentioned) teachers are expected to scaffold their learners in order to take them to a new level of conceptual understanding by moving them through the ZPD. Whereby, more proficient learners facilitate the construction of knowledge for the less proficient. This is where scaffolding is related to ZPD, since it may help to understand how the intended instruction within a learner's ZPD can promote the appropriated learning and development. The next section discusses the way scaffolding can be used to allow learners to work under a social constructivist approach.

2.4.2 Scaffolding

Since the ZPD's main purpose is to identify what a learner can do independently and collaboratively, it is important to offer him or her the most suitable activities and strategies to succeed his or her work. Thus, scaffolding is a worthy way to provide learners with these opportunities for learning and utilizing their prior knowledge (Wood &Wood, 1996).

According to Fernández, Wegerif, Mercer, and Rojas-Drummond (2015), scaffolding is a "cognitive support given by teachers to learners to help them solve tasks that they would not be able to solve working on their own" (p. 40). This technique can be used to provide learners with intellectual abilities first, solving assignments with others and then, on their own by becoming more independent. Through the scaffolding process, students are helped to reach higher levels of comprehension and skill improvement. These are, for instance, activities and strategies that an instructor can offer to learners to build and reinforce knowledge in an IB school.

Consistent with the IB (2008), applying scaffolding by the teachers and peers, some learners may feel supported to carry out assignments throughout a concrete context for understanding and avoiding, or at least, reducing learners' anxiety. There is a great variety of strategies used for scaffolding. Some of them could be vocabulary activities that should take place before learners read a difficult text, also the use of visual aids, graphic organizers, structured collaborative groups, teacher language, tutoring, and others. The purpose of utilizing scaffolding in a constructivist system is to provide learners countless opportunities for cognitive learning, and to promote independence and personal responsibility to challenge learners to increase their own learning and use of strategies. Learners who become more prepared can be encouraged to share their knowledge with their peers and to assist them to apply this knowledge.

Some of the activities and strategies that instructors offer to learners to construct knowledge are based on social interactions, which used in a social constructivist classroom, can facilitate teachers to gain insight into the child's understanding. The IB Organization (IBO, 2008) claims that by promoting scaffolding, teachers provide learners with the opportunity to interact with more knowledgeable learners or teachers who may take a tutor role. The intention of scaffolding students through a tutoring role is that the less proficient learner gradually matches the expert's level of knowledge. In this way, less advanced learners have the opportunity to construct knowledge based on others' experiences and through explicit modeling instruction.

Lantolf, Throne, and Poehner (2015) define scaffolding as "the amount of assistance provided by the expert to the novice rather than in terms of the quality, and changes in quality, of mediation that is negotiated between expert and novice" (p. 214). Therefore, by scaffolding, the less skillful learners will depend less and less on the assistance from a more expert peer or teacher.

Eshach, Dor-Ziderman, and Arbel (2011) support the use of scaffolding, but as a temporary condition of interaction between a more experienced and a less experienced learner. That is, the main purpose of utilizing scaffolding in a classroom is to transform the novice learner into an expert one, but not just by providing him the answers of a problem. In other words, through a certain period of time, the less skillful student must be engaged in the learning process in order to understand and acquire the necessary skills to solve a problem. Thus, scaffolding allows learners to carry out this process by the guidance of a more experienced person in a certain period of time. For this reason, teachers who utilize this technique in their classrooms need to be educated in order to allow their students to use it properly. Teachers must also be careful about the period of time less skillful learners are scaffolded (ibid, 2011).

Regarding teaching under a social approach, scaffolding seems to be a complicated, but great option to allow learners to obtain from the teacher or the most qualified peers the temporary assistance that the learners may not be able to easily obtain on their own to become knowledgeable and independent, if it is used carefully. Through social experiences which are an essential part of any language, IB institutions promote the use of at least two languages, the mother tongue and a second one. For this reason, bilingual education in IB schools needs to be addressed in the following section.

2.5 Constructivism in Bilingual Education

Since one of the main objectives of the IB program is to create international people able to communicate and understand other cultures and individuals all around the world, it is central to provide learners with the opportunity to communicate in more than one language. For this reason, the IB schools challenge their students to learn in at least two or more languages,

their mother tongue and a second language. Therefore, IB schools need to make sure the students are surrounded by a bilingual environment.

The IB Organization (2008) proposes that:

> language is integral to identity, which in turn determines how a person will act. A mother tongue and any other languages used in constructing meaning are intimately connected to a person's relationship with the world and how they come to feel about that world. Social and emotional conditions for learning that value all languages and cultures and affirm the identity of each learner promote self-esteem and additive bilingualism (where another language and culture does not replace that of the mother tongue). (p. 8)

Thus, for IB institutions, the use of a language different from the mother tongue is an important and necessary feature to be an international learner. Students must develop certain characteristics and skills necessary to be eloquent in more than one language. As a result, IB schools promote bilingualism as a tool for learning and develop an international mentality.

Moreover, bilingual education is becoming more popular not only in IB schools, but all over the globe, with the purpose of meeting the needs of a globalized world. For instance, Jasanoff (2004) argues that globalism provides the opportunity to be more knowledgeable about what happens around the world and to take part in international, cultural, and political relations. Thus, since globalization is bombarding people with information about different aspects of the world, more and more people may see the importance of becoming bilingual.

Bilingual education is seen as "a form of dual-language education that places a balanced number of language majority and language minority students in integrated settings for all or most of the day to receive literacy and content instruction in and through two languages" (Ramos, 2007, p. 1). In Mexico, this kind of education is centered on the development of linguistic and academic abilities in two primary languages, Spanish, the official language and English, the second language.

Hall, Smith and Wicaksono (2015) distinguish bilingual education as "the programs in which at least two languages are systematically employed as languages of instruction, including for the purposes of teaching academic content" (p. 178). This view is interesting since it makes reference to two languages approached as means of instruction in an institution. This education combines two goals, academic learning and the use of both languages; in this specific case, English and Spanish. Through this process, learners gain sufficient understanding of both languages simultaneously. In addition, this type of learning allows them to acquire knowledge at the same time social experiences are promoted; characteristic of the social constructivist approach. Understanding both languages provides a great opportunity to obtain greater learning and cognitive development, which may serve as a scaffolding tool to increase the linguistic and academic proficiency, development of constructive attitudes and performances, and the conservation of academic standards of the less skillful learners (Ramos, 2007).

Moreover, since the IB is an international organization which offers learners from different parts of the world equal access to its program and is committed "to increase intercultural understanding and international mindedness," (p. 1) an IB education must offer learners instruction in more than one language (IBO, 2007). In the case of the PYP program, which provides education to students from around the ages three to twelve years old, they can be instructed in two languages, the mother tongue and a second language. The ability to communicate in a variety of modes in more than one language is essential to the IB concept of an international education that promotes intercultural perspectives and sociocultural understanding.

Shin (2013) notes that bilingualism is "a fact of life for the vast majority of the world's populations. It is estimated that approximately two-thirds of the people in the world are bilingual" (p. 1). Currently, more and more people are able not just to communicate in more than one language, but to adapt to diverse bilingual environments in order to acquire new knowledge. Therefore, bilingual education in IB schools is not seen as an isolated language class. It is perceived as "part of social and personal development" (IBO, 2008, p. 4). Thus, language learning is a fundamental way to develop cognitive growth and construction of

knowledge. For instance, at some point a learner "has enough language so that in addition to it, being a communicative tool, it is also a flexible resource for further learning and cognitive growth. Language, itself, rather than direct concrete experience, can be used to negotiate new meanings and construct knowledge about the world" (ibid, p. 5).

Challenging IB students to open their minds and become international can be achieved through the constant use of two languages not only in academic classes, but by interacting in social contexts. Baker (2011) supports this arguing that a bilingual person must develop the four language skills: reading, writing, listening, and speaking in a proficient way and in two languages. Thus, the IB's main objective of training learners in a foreign language is to help them to communicate and understand other cultures around the globe while developing certain skills, attitudes and attributes.

In bilingual education programs such as the IB schools, the second language is taught through content instead of learning the language per se. Met (1991) and Lo (2014) defend that when learners get immersed into the language, it is easier for them to acquire the language rather than learners that only study the second language to learn to speak it. Pessoa, Hendry, Donato, Tucker, and Lee (2007) support this idea pointing out that some foreign language educators defend the use of content based learning approach as a useful way to learn a second language, "because classroom tasks provide a context for language learning, [and they] are more cognitively demanding, and reinforce the existing school curriculum" (p. 103).

In their research, Pessoa, Hendry, Donato, Tucker, and Lee (2007) conclude that "an effective content based instruction class includes attention to both content and language through conversations that encourage student language use and development, as well as metalinguistic awareness by collaboratively negotiating form and by the teacher's feedback" (p.117). Thus, IB schools, by offering a social constructivist approach and providing learners with a sociocultural environment, provide better opportunities to acquire knowledge about not only a language, but different academic subjects. Moreover, by fostering a bilingual education, IB institutions offer opportunities to students from everywhere around the world.

2.6 Conclusion

Throughout this chapter and the literature discussed, it is possible to realize that both theories, Vygotsky's and Piaget's promote human development and learning. The former, through social factors or interaction with both, environment and society and the latter, in an individual way.

Constructivism is an approach in which students construct their own understanding by reflecting on their experiences and relating them to new knowledge in an individual way. The ZPD allows teachers to distinguish between what their students can do without help and what they can do with help. Scaffolding is a strategy utilized to support learners in acquiring skills and concepts in order to be able to construct knowledge. Some of these strategies might be social interactions, which takes us to the study of the sociocultural theory. Finally, some schools that offer this system of learning are IB schools. This kind of schools may provide students with one of the most suitable ways to approach a more complete education through not just one language.

In this chapter, I presented the literature review concerned with the topic and I related the main areas of this study to specific literature. In the following chapter, I will provide a description of the methodology adopted in this investigation, the methods applied, and the research site where this project was carried out.

Chapter Three

Methodology

3.1 Introduction

This chapter describes the methodology used to obtain data in order to analyze the perceptions of a bilingual school community about the use of a constructivist approach. This approach is utilized as a teaching method by following the guidelines of the IB Organization. Additionally, this chapter describes the context where the research took place and the methods utilized to identify the way teachers approach constructivism in their everyday classes. That is, this is a qualitative ethnographic language classroom study.

3.2 Research Design

The qualitative research approach used here has as its main objective to understand the perceptions of a constructivist approach among the bilingual school's community. This kind of research is a useful way to obtain information from "social relations" (Flick, 2006, p. 11) due to the fact that the researcher has the opportunity to obtain information from the participants´ daily activities and interactions. First, over the time, it has been well argued that this kind of research "can be a powerful source of analysis" (Gray, 2004, p. 320) since data is collected in a "real life setting" (ibid, p. 320). Second, through qualitative research human experience, opinion and motivation can be used. This kind of research provides the researcher with opportunities to understand, interpret and uncover the trends of the findings emerged from the investigation.

Maykut and Morehouse (1994) argue that qualitative research is the best suitable research for the sociology and anthropology of education, because it is concerned with building up explanations of social phenomenon. Through qualitative research, the researcher has the opportunity to analyze participants' experiences and to elicit a clearer understanding about their ideas. This is why it is possible to question them about the reasons of their thoughts or

points of view. In this particular case, qualitative research also helps to comprehend the way the school community apply a constructivist approach in order to let students develop certain skills to learn by using their previous knowledge in a collaborative way.

According to Marshall and Rossman (2011), qualitative research is a process to obtain information from people's experiences in the field. Through qualitative research it was possible to gather insights of different individuals working directly or indirectly with constructivism. These insights relate to perceptions, concerns, motivations, preconceptions and attitudes that individuals create or adopt based on experiences from their daily lives. Qualitative research is therefore, a tool that allowed me to analyze more effectively the way some administrators perceive constructivism and the way some teachers approach it in order to help students learning in a nontraditional way. According to Dixon-Krauss (1996), constructivism is a model in which learners develop the ability to construct knowledge through their personal experiences and ideas.

3.2.1 Classroom Ethnography

The methodology adopted in this study is classroom ethnography in which the researcher is a member of the school community. Ethnography, according to Brewer (2000), is "the study of people in naturally occurring settings or 'fields' by methods of data collection which capture their social meanings and ordinary activities, involving the researcher participating directly in the setting" (p. 10). This represents my case, such as was my case.

Classroom ethnography, as the name indicates, is type of research applied in a classroom or in a learning setting "with an emphasis on social and cultural processes [since it] contributes to reconceptualizing what a classroom is and what happens there" (Grenfell et al., 2013, p.7). Research refers to the inquiry to obtain information regarding the behavior, interactions, activities, and conversations from people in an educational place (Popescu, 2010), such as the school where this study took place.

Through classroom ethnography it was possible for me to collect information from a setting which is part of my everyday activities, by interacting with teachers, coordinators and the school principal; people who constitute the school community and who were in their everyday setting.

Angrosino (2004) argues that by adopting an ethnographic approach it is possible to obtain information through observation by participating in the researched activities. Being simultaneously a participant, an observer, and the researcher; allowed me to be the classroom ethnographer. It made also made it easier to collect data directly from my coworkers, supervisors, and even from my own daily work activities. Moreover, classroom ethnography made the analysis and interpretation of the data more manageable while observing what people were doing or the way teachers were instructing learners. Since classroom ethnography is concerned with the study of a particular human society, it is based on fieldwork that requires the complete immersion of the researcher in the culture and everyday life of the participants of the study (Hammersley &Atkinson, 2007).

The Classroom ethnographic research design involved peer observations, participation in daily routines and activities. The methods applied to gather data were interviews, researcher's log and observations. These methods will be explained in the subsequent section.

3.3 Data Collection Methods

The methods used to carry out this qualitative research allowed me to listen to other individuals who use the constructivist approach, and to have conversations with them instead of just asking questions. These methods were interviews, class observations and researcher's log.

3.3.1 Interviews

In regard to qualitative research, one of the most common methods is the field interviews, since they allow the researcher to collect fresh and relevant information about other people's

point of view and life experiences (McCracken, 1988). Schutt (2011), for instance, recognizes this kind of method as one of the most suitable ones to gather data. It is because interviewing people can be more like a conversation between two partners rather than between researcher and participant. Thus, this method can be very useful by allowing the participants to express themselves and their thoughts (see Appendix One for Interview Format).

For the current study, the use of field interviews was a very useful method to analyze people's opinion, since they allowed the interviewees to provide long and complex responses. Kvale and Brinkmann (2009) define an interview as "a conversation that has a structure and a purpose" (p. 3). These conversations can be done personally or through using technology. For instance, Opdenakker (2006) remarks that the following are the most popular types of interviews: face-to-face interviews, MSM messenger interviews, telephone interviews and e-mail interviews. The research for this project was carried out through the use of two kinds of interviews: face-to-face and e-mail interviews.

3.3.1.1 Face-to-face Interviews

According to Flick (2006), there are different types of face-to-face interviews, but one of the most important is the semi-structured interview. In order to find out relevant information about the way participants approach constructivism, three semi-structured interviews were carried out. The first one was with a fourth grade Spanish teacher, the second one with the school´s principal, and the third one with the IB coordinator. These semi-structured interviews provided me convenient opportunities to discuss the target topic in much more detail and to question these participants about their insights in depth (see Appendix Two for Selected Excerpts of Face-to-face Interviews).

Interviews are used to obtain information in a personal way. Hancock (1998), for instance, argues that qualitative research began from face-to-face interviews. It is probable because these kinds of interviews situate the interviewer and the interviewee in the same place at the

same time. Face-to-face interviews can be recorded and provide more truthful information since the interviewer has the opportunity to encourage the interviewee to formulate a more explicit or non-standardized answer and to ask him or her the foundation of his ideas.

For this particular study, face-to-face interviews allowed me to obtain more reliable information from the participants by giving me the opportunity to ask more questions and get deeper in the more relevant topics that emerged during the interviews. Furthermore, I was also able to interpret social impressions such as body language and tone of voice from the participants who were interviewed through this kind of interview.

3.3.1.2 E-mail Interviews

E-mail interviews are carried out in a written way. Therefore, an immediate advantage is that they do not have to be transcribed and they just have to be copied. Another benefit is the easy access to a diverse group of participants from every part of the world even if the participants do not share the same language. A different advantage of an e-mail interview is that the interviewee is forced to take more time to reflect on the questions asked and also on their written responses (Opdenakker, 2006). (See appendix Three for Fragments of E-mail Interviews).

For this research, these sorts of interviews were useful to obtain information from the English and Spanish coordinators, and three teachers that did not have enough time for a face to face interview. These five participants took part in the research for the only reason that the interviews were sent; otherwise, they would have been reluctant to participate because how time-consuming they believe an interview is. Actually, the questions were sent by the institutional e-mail account to all the teachers and coordinators (Spanish and English) from the elementary school section. Unfortunately, there was a low response. I received answers from five of all the eleven invited participants.

3.3.2 Observation

When it comes to the research process, there are several authors who support observation as a significant data collection tool and as a way to learn from the participants. Richards and Schmidt (2010) for instance, define observational methods in research as "procedures and techniques that are based on systematic observation of events" (p. 407). Flick (2006) defines observation as "an attempt to observe events as they naturally occur" (p. 219). Consequently, observation allows the researcher to look at daily behavior and interactions from everyday situations to gather more accurate information. In this way, the researcher is able to detect herself what is happening and to obtain more legitimate data. Observation allows us to know what individuals really do and not what they say they do. Given that observation methods are effective tools for gathering insights into situations, this kind of method lets the researcher collect valid and reliable data from social events, specific situations, or people´s behavior. In this research, observation was an essential method used to achieve the purpose of this research which was to know the way teachers use and approach constructivism.

While using this research method, I was able to observe four of the teachers from the school. They were observed three consecutive times in order to obtain more reliable information about the way they practice the constructivist approach in their everyday teaching (see Appendix Four for Observations).Thus, for the reason that I was the spotter, I became a complete participant observer. This term according to Gebhard (1999), is a method of data collection where the observer becomes a member of the class. This kind of observation attempts to understand the motives and meanings involved in behavior. In other words, participant observation is a way to provide explanations, description and a critical account of facts of what people do. Creswell (2013) strongly believes that it is how "the researcher is fully engaged with the people he or she is observing" (p. 166). He also argues that this kind of observation may be useful for the researcher to get involved into social interactions with the people observed. Thus, becoming an insider as participant observer, I was able to better understand what the participants were doing in their classes by watching, listening and feeling what was happening around.

3.3.3 Researcher's Log

There are several instruments that may serve as tools to achieve our goals in an investigation. For this reason, I decided to include a researcher's log as another data collection method (see Appendix Five for Researcher's Log). This instrument is described by Lengeling (2010) as "a tool for reflection to better understand the developmental process" of the research project (p. 151). The researcher´s log is then a tool to identify and record events, experiences and ideas throughout the research. Utilizing a researcher's log, I wrote down personal comments about the face-to-face interviews, my own perceptions about the use of the constructivist approach, and the information obtained from the observations. This kind of data collection method is an important tool in which the researcher has the possibility to describe his or her personal experiences. The researcher's log was a good resource to record ideas and my own comments for later analysis. This method provided me a way to keep memories fresh with details that otherwise would be too hard to remember. In sum, since I was an insider at the Alexander Bain School, it was possible for me to write my own insights and concerns about the use of the constructivist approach.

These methods were utilized to collect the perceptions or insights of some people who work directly or indirectly with the approach in the Alexander Bain School. Such institution and participants will be presented in the succeeding segment.

3.4 Context of the Study

The institution where the research took place is a private, bilingual elementary school named *Centro Educativo Alexander Bain* which opened its doors in 2006 in Irapuato, Guanajuato, Mexico. It is considered an international school because follows the IB guidelines and for the reason that it offers students a bilingual education from preschool all the way to high school. The school is quite large and it counts with a great number of teachers, supervisors, and students. However, this research was carried out only in the elementary school section. (See appendix Six for Alexander Bain School's Photos).

Since this school is located in Mexico, it integrates the content requirements of the Ministry of Public Education (*Secretaría de EducaciónPública, SEP*) into the IB system. Therefore, the school incorporates local and global issues to the curriculum of the SEP dividing it into the six related transdisciplinary themes already mentioned in Chapter Two, as an IB mandatory standard (IBO, 2008).

One of the central characteristics of this kind of schools is to boost learners' natural curiosity (Hill, 2012). For this reason, the school has as an IB requirement to apply a constructivist approach. The purpose of following this approach is to aid a diverse community of students to make sense of today's interconnected world. This approach is seen as a process in which learners actively construct their own understanding and knowledge of the world through developing creativity, performing certain activities and through reflection.

This research attempts to obtain the insights on the use of the constructivist approach utilized as a way of teaching in the Alexander Bain School from some of the people who work directly and indirectly with the approach, such as teachers, coordinators and the elementary school principal. Besides that, to understand the way teachers approach constructivism in this bilingual school, it is important to recall what this approach means. It is defined as a way in which individuals generate rules and mental models as the result of their experiences with other human subjects, and their environments (Gash, 2014).

In regards to elicit data about the insights of the use of the constructivist approach, it was necessary to obtain it from individuals who are involved in the use of this approach as the participants that will be presented in the following section.

3.4.1 Participants

Thinking about the people who work directly and indirectly with the constructivist approach, and in order to explore their insights, English and Spanish teachers, English and Spanish

coordinators, the elementary school´s principal, and the IB coordinator were chosen to be part of this research.

Participants	Age	Gender	Nationality	Educational level	Years of teaching experience
Elementary school principal	41	Female	Mexican	Bachelor's degree	13
English teacher Second grade	46	Female	Mexican	Early childhood educational degree	6
English teacher fourth grade	49	Female	Spanish	English teacher training diploma	18
Spanish teacher fourth grade	25	Female	Mexican	Bachelor's degree	2
Spanish teacher Sixth grade	48	Female	Mexican	Master’s degree	23
English coordinator	33	Female	Mexican	Master’s degree	14
Spanish coordinator	48	Female	Mexican	Primary teacher training	20
International Baccalaureate coordinator	40	Female	Mexican	Master’s degree	8

Table 4 Research participants.

The English and Spanish teachers were all chosen to participate in this research, however just the first and fourth grade English and Spanish teachers, the second-grade English teacher, and the sixth-grade Spanish teacher were willing to accept the invitation. All these teachers, except the fourth-grade Spanish teacher and the first-grade English and Spanish teachers answered an e-mail interview in the language they teach at school (English or Spanish respectively).

All of these participants signed a consent form, providing their permission to be interviewed (see Appendix Seven for Consent Form).The English and Spanish coordinators answered an e-mail interview, since they were really busy for a face-to-face interview.

The interviews were conducted in the language each coordinator manages at school and these participants were invited to participate in this research due to their close relation with the teachers, since their job is to corroborate whether or not the teachers are doing their job properly and the way they instruct at school.

A face-to-face interview was conducted with the school principal in order to obtain information about her indirect experience with the constructivist approach. Moreover, to know the way she perceived her employees as constructivist teachers. The IB coordinator was interviewed through a face-to-face interview due to the fact that she is in charge of the implementation and use of the constructivist approach at the Alexander Bain School. In other words, she experiences and knows about this approach directly and indirectly.

For the observations, two more participants joined this research. The English and Spanish first-grade teachers were willing to be observed, besides the formerly mentioned teachers, who had already answered a face-to-face or an e-mail interview.

Finally, the reason why all of the participants were women is because they were the only ones willing to participate in this study. Moreover, at the primary section of the Alexander Bain School, most of the 80 percent of teachers and administrators are women.

3.5 Data Coding

Coding was the process I carried out to organize and sort the information, since it is a way to "make sense of textual data" (Basit, 2003, p. 143). Coding facilitated the data analysis since it allowed me to summarize, label, synthesize, and organize excerpts of data from each

research method used, making easier to manage. In addition, all of the participants were categorized into their own groups as teachers, coordinators, and principal; their names were codified to protect their identities, even though they let me to use their real names. This categorization allowed me to avoid any type of bias when analyzing the information.

The coding used in this research is presented in the following chart.

Code	Method/Participant	Code	Method/Participant
FTFI	Face-to-face interview	**P**	Principal
EMI	E-mail interview	**STI**	Spanish teacher interview
OBT	Class observation	**ETI**	English teacher interview
RL	Researcher's log	**I**	Interviewer
ET4	English teacher fourth-grade	**EC**	English coordinator
ST4	Spanish teacher fourth-grade	**SC**	Spanish coordinator
IBC	IB coordinator	**ET2**	English teacher second-grade
ST6	Spanish teacher sixth-grade		

Table 5 Coding chart.

3.6 Data Procedure and Analysis

In order to answer the research question stated in Chapter One (what are the community perceptions of the use of a constructivist approach in a bilingual elementary school in central Mexico?) a data analysis was necessary to examine the information obtained from the interviews, the observations, and the researcher's log. A content analysis was applied to the

data collected with the first two methods. This kind of analysis, according to Hsieh and Shannon (2005), is a "widely used qualitative research technique" (p. 1277) applied to classify information for further analysis. For the present research, I first read each interview and observation several times in order to distinguish the most common themes. Then, I used a color-coding system to identify and select those different themes. Finally, the information was classified and stored in columns in a text program (Word) to be analyzed. Thus, a computer was utilized to carry out this process.

The researchers' log was first typed into a text program and saved in an electronic folder in order to avoid losing information and to better understand my own words, which sometimes were written in a fast and hurried way. Finally, this information was also read several times in order to make connections with the already selected themes.

Finally, due to the fact that some participants such as the Spanish teachers and the Spanish coordinator are not proficient speakers of English, and that the IB coordinator feels more comfortable speaking Spanish than English, their interviews were conducted in Spanish. However, for the reason that this study is portrayed in English, I decided to report these participants' data in English as well, by translating the excerpts from their interviews presented in Chapter Four.

3.7 Ethics

Since the interviewed people can be named such as a teacher, principal, or coordinator, it was not necessary to use their names during this research. They were named according to their title, differentiating teachers by the grade and language they impart. Likewise, in the case of the coordinators they were classified by the language or program they are in charge of, such as Spanish, English or IB. Therefore, I decided to keep the name of the school since I was allowed by the elementary school principal to utilize it.

3.8 Conclusion

The aim of this chapter was to explain in detail how this qualitative research was developed, as well as the reasons of utilizing methods such as interviews, observations and researcher's log. Thus, this chapter made possible to further understand how the qualitative research was developed and the way the methods used apply to the research process. This chapter also provides significant information about the way the data was gathered, the role I played as a participant observer and both, the setting and the participants who aided me to carry out this research.

Chapter Four
Data Discussion

4.1 Introduction

In the previous chapter I provided an explanation regarding the methodology used to carry out this project, the methods applied to obtain data, the context and the participants involved in this research. Through this chapter, I will analyze in depth the participants' insights stated in the interviews and the class observations.

The data were collected and then analyzed in response to the research question posed in Chapter One:

> *What are the community perceptions of the use of a constructivist approach in a bilingual elementary school in central Mexico?*

After examining the data, the themes that emerged and which will be discussed in this chapter are as follows:

- Constructivism vs Social Constructivism;
- Activities to Apply Constructivism in the School;
- Benefits Teachers Have Seen in Their Students;
- Difficulties with the Use of Constructivism;
- Teachers' Training about the Way to Teach Through a Constructivist Approach;
- Use of Previous Knowledge to Develop New Knowledge.

4.2 Constructivism vs Social Constructivism

In order to achieve their students' learning objectives, IB institutions are incorporating the use of constructivism as a way to enhance learning. Moreover, it has been used as an active process in which learners construct their own understanding and knowledge of the world through active participation, by carrying out certain processes, and through the use of internalization. More specifically, in words of the IB organization, the learner must be an "active and critical thinker, assessor, explainer, inquirer, interpreter, negotiator, social participator, and global citizen" (IBO, 2007, p.29). Thus, for IB Organizations, constructivism is a way to explain and learn how individuals construct knowledge once they comes in contact with new information analyzing it with the help of existing knowledge previously gained through personal experiences. Thus, IB Schools promote the use of the constructivist approach as a teaching procedure. For this reason, it seems that some discrepancies exists in the way it is carried out at the Alexander Bain School versus the theoretical way. For instance, most of the everyday class activities take place in a collaborative way by giving learners the opportunity to learn from the interaction with other peers.

According to the PYP (IBO, 2007), learning should not occur in isolation because eliciting knowledge and understanding is the result of students working together by continually "constructing, testing, and confirming or revising" (p. 6) their ideas with other peers and adults such as teachers. Moreover, PYP teachers must scaffold learners to promote and test their understanding and development of skills. This is one of the reasons why IB schools promote the development of several experiences for knowledge construction through the use of sociocultural learning and inquiries (IBO, 2009), it is safe to say that IB schools work under the social constructivist approach and not just constructivism as they mention in their organizational documents.

Moreover, given that IB Schools promote students' own responsibility for learning by emphasizing their critical participation in constructing through scaffolding, these institutions' curriculum has the flexibility to easily move into the realm of the social constructivist theory.

It is identified in the IB organizational document "Towards a continuum of international education" (2008) in which it is mentioned that "the pedagogical approaches [of the IB] are based on a constructivist understanding of how children learn" (p. 12). This document also provides some of the constituents that characterize not only constructivism, but social constructivism. For instance, it mentions that the way learners must be involved in their own learning is by being curious and inquire in order to solve problems, draw conclusions and explore a theme in depth. The same document also emphasizes the use of social interactions and collaborative learning as a way of learning, characteristics of the social constructivist approach according to Belbase (2014).

In this section, I will analyze some of the participants' thoughts about their classrooms' arrangement and the way they allow their students to learn in their classes. The discrepancies that exist in the way constructivism is applied in the school will be shown.

In the following researcher's log, for instance, it can be observed how students at the Alexander Bain School have the opportunity to share ideas, knowledge, and experiences in the classroom.

> *After observing several classes, a pattern in the classroom desks arrangement was found. To promote interaction among students, all but one of the observed classes in the whole elementary school had the desks arranged in a horseshoe shape; this to allow more students to sit together, even though each desk is designed to fit only two students, thus usually there is four to six students working together.* (RL)

Based on this observation, learners spend most of their school day working with peers instead of just with teachers, and the school's furniture's arrangement promotes collaborative work. Thus, the current system resembles more a social constructivist approach than pure constructivism, since even when some activities may be intended to be achieved individually, learners are encouraged to interact with their peers sitting next to them. This way seems to allowed learners to be exposed to a social learning environment which relies more on the

social constructivist approach than just on the constructivist one, and which is the paradigm that underlies the school ethos.

In the following excerpt, the IB coordinator discusses some of the reasons behind collaborative work at the Alexander Bain School.

> *The desks can be arranged differently, but most of the time it is in groups of four because that is the way to foster teamwork, share materials, ideas, reflections, and to tutor each other. Social, communication and self-control skills are specially promoted by this kind of work.* (IBC-Translated)

Consistent with the IB standards, this coordinator suggests that students develop certain skills by interacting or working with other peers. Therefore, through each unit of inquiry, teachers allow learners to work with different classmates by sitting them in teams. Thus, the main purpose of collaborative work for these participants is designed to encourage students to acquire knowledge and to develop specific skills. Moll (1992) explains that social constructivism is a way to learn in a collaborative way. In this kind of constructivism, individuals play an important and active role in learning since they have to exchange ideas and knowledge.

Social constructivism, as previously discussed, is a theory that emerged from Vygotsky's sociocultural theory in which collaborative groups, culture, and collaborative work are the basis of learning (Vianna & Stetsenko, 2006). From this theory, Vygotsky (1978) discusses that culture and communication allow learners to find solutions to problems. Kozulin (2003) also argues that learning, according to Vygotsky's theory, occurs when there are "social and cultural [conditions] rather than individual phenomena" (p. 1). Thus, since group work seems to be a learning pattern at the Alexander Bain School, learners might be fostered to learn through a social constructivist way.

In the following quote, the IB coordinator mentions that it is relevant for learning to have students working collaboratively with peers and teachers.

> *Teachers should always be aware of what their students are doing, for this reason, they are constantly walking around the classroom. Moreover, they are located very close to the students, teachers are not isolated at a separated desk. This is important because the teacher is a facilitator and not the owner of knowledge.* (IBC-translated)

According to the previous participant's contribution, it can be deduced that collaborative work with both teachers and other peers is a way to enable students to construct knowledge instead of letting learners to work individually. Moreover, since teachers are knowledgeable and their main function is to facilitate learning, working side by side with their students may offer them more opportunities to develop cognitive growth. Apart from this, by working with their students collaboratively, teachers are fulfilling one of the main purposes of the social constructivist approach which is to provide learners an environment in which they, rather than the teacher, become the center of education (Bonk & Cunningham, 1998).

Moll (1992) recognizes that knowledge is a shared experience which allows students to learn from each other and from the context where they are. Kim (2001) supports this idea by stating that unlike constructivism, social constructivism "is based on specific assumptions about reality, knowledge, and learning" (p.3). In other words, human beings construct knowledge through interactions between them and their environment. Some social constructivist theorists (Jaramillo, 1996; Kozulin & Presseisen, 1995; Vygotsky, 1978) suggest that learning is a social experience enriched by the learners' cultural environment, and learning in the Alexander Bain School is elicited through teachers and students supportive and collaborative, rather than individual. For this reason, it is important to emphasize that the approach utilized at this school is social constructivism rather than constructivism.

In the following excerpt, a teacher discusses about the way students work in class. She considers socialization as an element that enable learning and that also seems to boost learner-centered activities.

> *Providing students with different materials (leads, geoboards ...) to form figures which will be presented to their peers. You, as a teacher, guide students by asking them questions. Students have to reflect, to deduct what the class is about, and to solve cognitive challenges by interrelating with peers, sharing ideas, inventing problems and by solving them together, etc.* (ST6-translated)

As stated by this teacher, one of the most suitable ways of learning in class seems to be through social activities in which all of the members can work together. This way, students may be engaged in their own learning while sharing responsibilities with others. With regard to the IB Organization, learning is better elicited when students are provided with meaningful, authentic, and social experiences (IBO, 2007). Thus, by adhering to the procedures of the IB, this teacher may be carrying out more a social constructivist class than just a constructivist one. More specifically, in constructivist classes learners must be allowed to construct their own solutions independently instead of collaboratively (Kirschner, Sweller & Clark, 2006).

Vianna and Stetsenko (2006) suggest that social constructivism emphasizes learning through social interactions. Therefore, since social constructivism encourages students to work through a social system, learners are able to negotiate and share knowledge. This offers them a way to learn from others and contrasts the idea of constructivism by learning individually from their own previous experiences.

Vygotsky (1978) explains in his research that every human being has a primary social function. This social function allows individuals to develop intellectual skills when these skills are used as learning tools. Thus, the less skillful individuals may learn from the more skillful ones. Human beings have social skills that can be shared with others to assist the less skillful learners to learn those skills to internalize them, and to manage higher thinking skills. Indeed, Vygotsky considered that "what children can perform collaboratively or with assistance today they can perform independently and competently tomorrow" (Moll, 1992, p. 3)

In this previous excerpt, the teacher also suggests that her role in the classroom is more as a facilitator than a provider of knowledge, which is another characteristic of the social constructivist approach (Bonk & Cunningham, 1998). Vygotsky (1978) also supports this notion. He recognizes that students improve their learning when it is stimulated by cultural context in which individuals work simultaneously with other children and adults.

In the quote below, another participant provides examples of how teachers work at the Alexander Bain. She mentions that some of the class activities are carried out in a collaborative way.

> *Students carry out team projects, centers of work, analysis of videos, graphics, group reflections, etc.* (EC)

In this excerpt, the English coordinator recognizes that learners work in a social way by executing group projects structured by teachers. These kinds of activities reinforce the development of social and communication skills while giving and receiving feedback, explanations and reflections. Moreover, this kind of work also fits Vygotsky's notions of social context in which he remarked that learning is maximized when there is interaction with others, through discussion and collaboration (Wertsch & Tulviste, 1992).

Ivic (2010) points out that recent research has shown that Vygotsky's theory of primary socialization has been confirmed due to the fact that human beings are not able to succeed in an isolated way, they are social entities that require social interactions to learn from others and in this case, to construct knowledge. Social constructivism for Beck and Cosnik (2006) is also a way to learn by sharing. They define it as "an approach that encourages all members of a learning community to present their ideas strongly while remaining open to the ideas of others. It is a passionate approach involving the whole person: thought, emotion, and action" (ibid, p. 8).

Another participant who supports collaborative and social work at school and who is one of the main figures, is the school's principal. She seems to agree with this kind of work because she recommends social work as a way to allow students to learn.

> *I think I would design a project and explain it to the students and ask a main question about it, work in teams and establish roles and functions.* (P)

From the previous quote, it can be assumed that one of the best ways of learning is by challenging students to carry out a team assignment in which each participant must take a role. This kind of work may also allow students to develop social skills, which is one of the main elements of the IB curriculum. However, this kind of work distances from the constructivist approach which according to the IB Organization should be employed as a way of teaching and learning in IB Schools.

Bullock (2011) suggests that learning "is fashioned not only by individual qualities and preferred practices but also by the various contexts of social practice that the learner has experienced" (p. 13). Thus, from an IB perspective, social constructivism focuses on collaborative work due to the fact that learning occurs when interaction with others is progressively internalized to be integrated into our own processes. Additionally, the IB supports its principles from some constructivist theories such as those of Vygotsky, Dewey, Piaget and Bruner. This last author, for instance, believes that learning is easier for students

if it is “participatory, proactive, communal, collaborative and given over to the construction, rather than the reception of meanings" (Bruner, 1996, p. 84).

On the one hand, teachers, coordinators and the school’s principal at the Alexander Bain School support collaborative work. They consider it as a meaningful way to learn and to encourage students to develop different skills. These participants not only promote interaction among students but also with teachers, who may take more a guide role than that of a teacher.

On the other hand, the IB encourages teachers to allow their students to interact with their environment and with other people in order to construct knowledge. Moreover, this organization states that each learner needs other individual(s) to construct knowledge and ensure social activities between learners (IBO, 2007). For these reasons, the approach applied at the Alexander Bain School should be consider social constructivism instead of pure constructivism. However, it is important to consider the way teachers challenge their students to construct knowledge and whether class activities fall into the constructivist paradigm. Some of the teachers’ activities carried out during the period of observation will be discussed below. They will be complemented with the teachers’ insights gained through the interviews regarding the way they promote constructivism at school and from my own reflections placed in the researcher’s log.

4.3 Activities to Apply Constructivism in the School

Some constructivists argue that individuals generate rules and mental models as the result of their experiences with other human beings and their environments, and in turn, use these rules and models to make sense of new experiences (Gash, 2014). In the following excerpt of an observation, it is shown how utilizing their own senses, first-grade students learnt about the characteristics of some objects.

> *Children play an activity called "ojos vendados."Teacher covers the student eyes and he has to take an object from a box full of toys. Student touches the object and describes it according to its texture, shape, size, etc. Then teacher does the same with another student but she has to smell an object and taste it… They discuss about the 5 senses and talk about them.* (OBT-ST1)

From the previous observation, it is possible to detect that through the use of their own common sense, students are able to realize how things around them are. This is an example of how teachers may use in their classes constructivism. This kind of activity allows learners to find out new knowledge through the use of their own body and environment. Rovai (2003) argues that the constructivist approach avoids inactive learners through experiencing certain situations and reflecting about them. For this reason, some teachers utilize authentic materials in their classes so that they complete tasks to let their students construct meaning and knowledge. The following extract from the researcher's log is an example of authentic material used to construct meaning and knowledge.

> *I was not able to observe the process of the whole task (because it took weeks) in which students learnt about the development of a caterpillar until it becomes a butterfly. Students kept the caterpillars in different containers; they fed them constantly and cleaned the containers too. Finally, what I saw was the day they let the butterflies go away. It was an interesting moment not only for second graders, but for all the students and teachers who were invited to see this activity. (RL)*

As we can see from the previous excerpt, learners worked directly with living things by taking care of them and observing the process of a butterfly's development since it was a cocoon. This kind of experience allowed students to learn new information about the caterpillar's development by becoming active participants of their own learning. Furthermore, students may use this knowledge to construct more knowledge in the future. Jeffery-Clay (1998), for instance, recognizes that "real learning experiences" foster more meaningful and memorable learning (p. 3). In other words, whether learners are able to be involved in their learning by "looking, handling, interacting, or actually experimenting […]

rather than being told to memorize facts" (ibid, p. 3), learning becomes easier because they link that knowledge with their own experience.

In the subsequent quote, a coordinator describes the way her teachers practice constructivism in the school.

> *My teachers are committed to their work, seeking information and resources that can generate students' curiosity and interest in learning more. Teachers plan meaningful activities and analyze the results to set new goals. They work in a transdisciplinary way proposing great ideas from which new knowledge and concepts emerge. They utilize prompt questions, which play an important role in achieving pupils to play an active role in the process.* (SC-translated)

According to this extract, another way to approach constructivism in this school is by encouraging learners to foster their own class' interest and to engage them to participate in class. According to Cooperstein and Kocevar-Weidinger (2004), "constructivist learning usually begins with a question, a case, or a problem. […] Essentially, the instructor presents the problem and lets the students go" (p. 142). It is worthwhile that stimulating students' interest can also be a way to involve them into the construction of knowledge. Hein (2002), for instance, argues that students learn according to the amount of experiences they acquire. Therefore, the more attractive the class' activities are, the more easily engaged the students are to learn.

The following quote also shows how a teacher utilizes enquiry as an activity to implicate students in their own learning. Moreover, this teacher utilizes social activities and scaffolding as strategies to carry out constructivism.

> *Asking questions that cause students' interest, so they begin to discuss their experiences. I carry out prompt activities that promote curiosity, I leave them to work in teams to carry out different roles, and I let them to be monitors to help others in areas that are difficult.* (ST4-Translated)

For this teacher learning in a constructivist way cannot only be promoted by involving learners into individual work, but also through social interactions. Cooperstein and Kocevar-Weidinger (2004) state that "the constructivist process works best in social settings as students have the opportunity to compare and share their ideas with others" (p. 142). In other words, promoting group work may aid students to learn from most skillful ones. Collaborative learning or group work has been utilized as a way of learning since many years ago in order to let students to develop certain skills (Rogoff, Turkanis, & Bartlett, 2002).

This kind of work can also be seen in the following excerpt of an observation in which a second-grade teacher allows her students to work with others.

> *The teacher sits the students together in teams and gives them a piece of paper with instructions, then she provides them some old x ray plates (with bones in it) and other materials. The next step is to start cutting the bones and then they have to put them together with some thread. Students are supposed to form a skeleton and then they have to paste each of the bone's names where they belong.* (OBT-ET2)

From this extract of an observation, it is possible to realize that another teacher at the school also promotes the use of peer interaction as a constructivist strategy. This way, she seems to allow learners to take different roles or tasks in order to learn. Gash (2014) supports this by recognizing that group work is an important way to construct knowledge while developing social skills. Thus, working with others, students may be encouraged to take on active roles, to trust and to cooperate with others by involving themselves in their own learning. Social constructivism then, allows learners to construct understanding, but utilizing social interaction and supportive work.

From the following excerpt of an observation, a teacher also allows her students to work collaboratively and to connect previous knowledge with new one.

Teacher reviews yesterday´s activities. The children talk about body parts and they are really participative. Teacher promotes active students participation by asking them several questions. Then, in teams they have to sit and discuss about their family members. Teacher explained them to discuss about how their parents, siblings, etc. are. Students actively discuss what they have to and then teacher asks them to tell her about their classmates' families. Students' mention what their classmates said, some of them make a few mistakes and everybody laughs. (OBT-1ET)

Ertmer and Newby (2013) discuss that "the learning of new vocabulary words is enhanced by exposure and subsequent interaction with those words in context (as opposed to learning their meanings from a dictionary)" (p. 55). Tapping into the students' knowledge of their family members, they were able to interact with others utilizing their environment at the same time they increase their learning about this topic. Thus, understanding, according to some constructivists is elicited while using everyday knowledge instead of utilizing memorizing words (ibid).

The teachers observed, demonstrated that they are knowledgeable about how to approach constructivism in their classrooms. They provide their students with opportunities to experience, notice, manage or perform materials and meaning. In the following section, the benefits that teachers have perceived while applying the constructivist approach will be discussed.

4.4 Benefits Teachers Have Seen in Their Students

Uredi (2013) argues that since constructivism takes place in "an environment where active participation of students to real-life experiences have been provided and problem-based situations have been created to improve conceptual change" (p. 50), this approach offers learners opportunities to use their points of view, thinking skills, creativity, and other attitudes beyond the classroom. Therefore, by allowing students to learn applying their own experiences and to share their ideas, it is possible to obtain more reflective students.

For instance, the principal of the school where this research was conducted sees constructivism as an important way to lead learners to be autonomous and reflective. This principal´s perception seems to be interesting since she can have the opportunity to interact with both, teachers and students in and out of school. More importantly, she has the opportunity to see the social development of students and teachers.

> *I think there is a lot of reflection. Students learn by themselves and become more independent… Our students work in team and you, teachers, work collaboratively. Thus, not only students, but also teachers develop skills, creativity and innovation.* (P)

The excerpt above suggests that the principal has been able to observe how through the use of the constructivist approach, learners have developed certain skills that aid them to excel among others in their everyday life. Moreover, she considers the use of the constructivist approach helpful not just for learners, but also for teachers who are in charge of the students' learning process, and who also have to develop certain skills in order to lead their students efficiently. From the same excerpt, it can be inferred that both, teachers and students work in a social way. Hence, instead of approaching constructivism *per se*, individuals at the Alexander Bain School seem to be utilizing social constructivism instead.

In what follows, another participant perceives constructivism as an approach which benefits students since they can be active participants of their learning:

> *Constructivism involves students learning in an active form. Constructivist classes result more interesting and useful for students because they develop their curiosity and the ability to solve problems. Constructivism promotes critical judgment, among other things.* (SC-translated)

From this excerpt, this coordinator seems to perceive constructivism as a way to provide learners with more interesting and dynamic learning lessons. She suggests that constructivist activities may encourage meaningful learning. When students participate in an activity or game, they may feel more encouraged to express an opinion or to participate. Students become more engaged because they may be willing to participate in the activity.

Brooks and Brooks (1999) support this idea explaining that since a constructivist classroom fosters students to construct knowledge by asking, participating, inquiring, utilizing previous knowledge, and more, constructivism allows students to develop critical thinking and to be more motivated to learn than in a traditional classroom. Henry (2002) also agrees with this notion. He argues that constructivism is a way to aid learners to become more critical because "when students interact and question sources, they will confront conflicting ideas and positions. [Then], as they weigh evidence, they will question their classmates, their teacher and themselves" (p. 69). Thus, by reflecting and trying to find answers, learners can develop thinking skills, which can be noticed when they ask correct questions, inquire about something, solve problems, and organize information.

The English coordinator has also seen advantages in the use of the approach. She suggests that through the use of constructivist classes, learning may become more significant.

> *It makes learning meaningful and useful for students.* (EC)

From this quote, it can be assumed that if learners are active participants while sharing their own knowledge or lived experiences, learning can be more effective. Jeffery-Clay (1998) comments that "to learn meaningfully, a person must choose to integrate new knowledge into his or her conceptual structure, relating the new material to pre-existing knowledge and experience" (p. 3). Thus, connecting or combining class work with learners' own ideas and knowledge, it may make learning more lasting and interesting for them. In the following extract another coordinator observes important advantages of the use of this approach:

> *Mainly because learning is more significant, so it becomes lasting and personalized, because it gives time for reflection in the classroom to perform constructivism.* (IBC-translated)

According to the above quote, we can see that this participant believes that one of the best aspects of constructivism is the opportunity students possess to create long-lasting meaning and knowledge by being reflective people. In other words, learners who reflect and make connections with their previous knowledge may gain more meaningful knowledge.

The principal and the coordinators of the school are not the only ones who perceive benefits in the use of the constructivist approach; some teachers have also seen good aspects using this approach with their students. For instance, in the following quote, a teacher describes how her students benefit from the use of the approach.

> *The advantage is to create inquire students that always want more information and want to learn more about the inquiry lines and themes.* (ET4)

According to this teacher's words, a benefit from working in a constructivist setting, is that learners may become more willing to learn, ask, and explore by themselves. Moreover, becoming inquirer learners is, as mentioned in Chapter Two, one of the main aims of the PYP program (IBO, 2007). Allowing students to utilize what they already know or have experienced, may be a way to eager them to learn. Constructivism seems then, to be an approach that encourages learners to be enthusiastic about learning.

In the following quote, another teacher discusses about other improvements she has observed in their students while conducting a constructivist approach as a learning process.

> *Because it takes into consideration the social aspect and the environment in which the students develop, and it also lets them learn at their own pace respecting their individuality and strengthen their relationships.* (ST6-translated)

According to this teacher, constructivism aids learners to develop understanding from their social and cultural environment. This approach, then, may enhance students from different backgrounds to develop social skills and interactions while facilitating teaching (Barton & Tusting, 2005). From this quote, it can be also understood that through constructivism students can also have the opportunity to learn with and from other peers, which may make their learning more meaningful and durable.

Another teacher supports this perception in the following quote:

> *Constructivism is a mean for kids to learn how to develop new skills and also gain knowledge. The idea is that they develop an analytical mind by reflecting and questioning ideas and situations.* (ST4-translated)

From both previous quotes, the data suggests that constructivism is beneficial for the learners since this approach allows them to achieve skills including social ones, which can be seen as an important tool to build human relationships. However, according to Holland (2015), this point of view denotes contradiction. This author supports the idea that group work is a characteristic of social constructivism rather than pure constructivism. He also argues that allowing students to develop social skills may provide learners the advantage of knowing how and when to interact with other peers, future bosses, employees, or just to know the way to manage a situation. All this, as Holland (2015) points out, can be done through the social constructivist approach instead of just constructivism.

Other social constructivists such as Araya, Alfaro & Andonegui (2007) agree that encouraging social skills in an educational setting is a way to acquire knowledge and that it

can be elicited through social constructivism. Social constructivism, then, can offer learners the opportunity to encourage them to work collaboratively and to exchange ideas, helping them to carry out more effective tasks while working with others. By developing social interactions students have the opportunity to be more reflective while negotiating with others and while evaluating whether their contributions are socially acceptable or not.

Through reflective tasks, the use of social constructivism makes it easier to involve learners into the class activities to help them built new knowledge from schemata and also from interaction with more skillful peers. Through this interaction, the less competent person becomes more proficient from what the person was at the beginning of a task (Lantolf, 2006).

Some of the key differences between constructivism and social constructivism are that the former, according to Piaget, is self-constructed individually. Social constructivism instead, is created from the interactions with others. In constructivism, the student's curiosity and creativity allow him or her to explore new ideas. In social constructivism, group work, culture and language are the three main pillars to construct knowledge.

Hence, even though both, Piaget and Vygotsky, have made contributions to constructivists' ideas, they contrast in the way they interpret the theory and throughout not just constructivism, but a social constructivist approach (Araya, Alfaro &Andonegui, 2007). In this last approach, IB schools provide learners with the opportunity to build new knowledge by developing and utilizing their own social skills from co-constructed knowledge from self and others' background.

The IB Organization (2007) discusses that by developing social skills learners become more willing to observe other people's differences and to better understand their needs while taking them into account. In other words, by allowing social interactions in a constructivist setting, learners may develop specific characteristics such as tolerance, respect, empathy, teamwork, among others that otherwise they would not. For the reason that IB schools promote the development of several experiences for knowledge construction through social learning and

inquiries (IBO, 2009), it is safe to say that IB schools work under the social constructivist approach and not just constructivism as they mention in their documents.

Constructivism enhances learners to develop thinking skills while reflecting about their previous experiences and connecting them with new ones. This approach helps students to piece information together to create something new and to explore into their own self and others' ideas. Though, with the purpose of guiding students to learn meaningful knowledge and to develop useful skills and attitudes, teachers have faced certain challenges. These challenges or difficulties will be discussed in the following section.

4.5 Difficulties with the Use of Constructivism

Even though some authors such as Paradis (2010) or Ertmer and Newby (2013) agree with the idea that constructivism is a useful approach to create knowledge, there are other authors who dispute this notion (Kirschner, Sweller, & Clark, 2006). At the Alexander Bain School, for instance, there is a teacher who believes that this kind of approach is not the most suitable for all her learners.

> *Constructivism is not always the appropriate method for all the children because we have students with special needs.* (ET2)

According to this teacher, one of the main difficulties on the use of constructivism seems to be that not all the students are capable to learn through this approach, especially, those with learning disabilities. Ertmer and Newby (2013) argue that we, human beings, construct knowledge instead of acquire it. Consequently, students learn at their own pace and for some of them it may take more time to interpret the learnt knowledge. Thus, for some educators such as the previous participant, it may seem to be more difficult to learn for some students "since there are many possible meanings to glean from any experience, we cannot achieve a predetermined, 'correct' meaning" (ibid, p. 55). Moreover, individuals construct knowledge

from their own interpretations. For that reason, not only special needs learners, but mainstream students, acquire knowledge at their own pace.

In the English coordinator´s following comment, it is important to observe that she makes reference to another important drawback of the use of the constructivist approach.

> *For some teachers it is hard the transition from traditional to constructivist changing previous teaching habits.* (EC)

This participant identifies constructivist teachers as people who may modify their teaching since constructivism involves a process in which students must take an active role while learning, instead of a passive role (Mayer, 2004). Thus, people who are used to a different way of teaching may find this approach difficult to understand and/or to carry out.

Schechter (2001) identifies constructivism as a tough approach to manage, due to learn or to teach through it, it is necessary to ignore earlier ways of knowing. In the following quote, a coordinator mentions the difficulties she has seen in the school, concerning the use of the constructivist approach.

> *Sometimes the teacher is not prepared to apply constructivism in the classroom. I think it is a challenge to change from the traditional way of teaching to the constructivist one. It is more comfortable for the teacher to keep students quiet, organized and doing the same thing.* (IBC-translated)

As discussed by this coordinator, some teachers may perceive constructivism as a difficult approach to use since they have to allow learners to be active participants in the class. Moreover, constructivist teachers aim to encourage learners to discuss their ideas, choose the most suitable strategies to learn, and to expand their ideas by sharing their previous knowledge (Hein, 2002).

Another participant who perceives how hard it is for some teachers to become constructivists is the principal of the school. In the following quote, she explains this difficulty.

> *People that come from traditional education do not understand constructivism at the beginning. So, they can feel it as unstructured.* (P)

According to this previous quote, it can be denoted that this administrator considers essential to know how to utilize the constructivist approach. Thus, in order to obtain better results from the students, teachers should know how to manage this approach. Holland (2015), for instance, explains that it is necessary to provide guidance to facilitate children to acquire the basic skills for constructing new knowledge.

Mayer (2004) argues that "educators who wish to use constructivist methods of instruction are often encouraged to focus on discovery learning in which students are free to work in a learning environment with little or no guidance" (p. 14). Either one is correct or the other, in my opinion, the fact is that some teachers may face certain difficulties allowing their students to take control to the class. Likewise, teachers who do not know how to achieve constructivism may face difficulties allowing active learners' participation in the class and learners self-construction of knowledge.

Moreover, as mentioned before, teachers who work under the constructivist approach have to develop certain skills with the aim of guiding their students to gain meaningful knowledge. Thus, teachers' training concern on the way to manage constructivism is a key to provide students with the most suitable ways of learning and the most appropriate environment. Additionally, teachers' training may aid educators to avoid traditional teaching strategies such as the pure use of text books, teacher's lectures or presentations, among others (McCarthy & Anderson, 2000). The following quote suggests that teachers must be well prepared to prevent learners from failing the class objectives.

> *If the teacher does not know or does not have clear guiding objectives, students can get lost and do not understand what was intended*. (ST6-translated)

From this quote, it could be assumed that teachers must be aware of understanding the main objectives of the class, what their students are intended to learn and the way they will do it. Otherwise, the aim of the class may be lost and students may not be successful in the construction of new knowledge.

Even when teachers are prepared for a constructivist class and they are knowledgeable about the way to manage the constructivist approach, there is another difficulty they may face while imparting this kind of class. For instance, in the following quote, a sixth-grade teacher who works directly with this approach states that time is an important factor affecting the use of the constructivist approach.

> *There are difficulties when the groups are numerous and the time is very short, and there are many contents or concepts for this short time.* (ST6-translated)

For this teacher, time constraint is a problem to develop a proper constructivist class, since time is insufficient to cover the great amount of class content. Another teacher supports this in the following excerpt:

> *Sometimes the time is a problem because there are a lot of contents and there is not so much time*. (ET4)

It is believed that students learn better when they have the opportunity to experiment new things, to be creative, and to work under minimum limitations (Holland, 2015). In other words, since constructivism avoids direct instruction, students take an active part in the class and they must interact with other classmates, carry out some projects or execute certain tasks. Thus, some learning activities may take much more time than expected. For some teachers, time is never enough and activities must be interrupted. For instance, the following excerpt shows these time constraints.

> *I think the problem here is time, especially because with the second group you do not have enough time to be sufficiently inquirer and reflective, and teachers hurry students to work fast. So, after being a super constructivist teacher in the morning, in the afternoon you become, if not the opposite, at least less constructivist.* (ST4-translated)

For this teacher, time is considered an important factor to take into consideration in order to optimize her students' learning opportunities, since utilizing the constructivist approach students accomplish long assignments and time could not be enough. Frequently, time is insufficient to conduct proper discussions or to carry out extended social tasks with a group. From this particular quote, this teacher perceives morning shift more extended than the afternoon one. This can be also seen in the following extract of a researcher's log, in which I, as a teacher researcher, discussed about possible problems in my work.

> *I decided to examine the perceptions of the teachers who work with me, since thinking about possible areas of opportunity as a teacher, I realized that sometimes I am not the same teacher with both of the groups I teach. Sometimes, I feel that with one group the class flows normally, students feel confident to express their ideas and to work with others. Moreover, some of the activities or evidences of work that students carry out in the classroom, seem to be more beautiful with one group. Thus, I recognized that with one of the two groups it was just easier to let them work and learn more freely utilizing reflective strategies, group discussion and group tasks. I also noticed that by having more class time with one group, it was more feasible to let students to achieve more varied and thoughtful thinking.* (RL)

Thus, in my opinion and personal experience, sometimes there is not enough time to carry out the same constructivist class with the two different groups teachers at the Alexander Bain School have. For this reason, to optimize their classes, the teachers from this bilingual school perform several different tasks which may help them to facilitate their students learning. However, it may be more difficult or challenging for some teachers who have not had a

formal training. In other words, not all of the participants hold an official constructivist training. This lack of training will be presented in the subsequent section.

4.6 Teachers' Training about the Way to Teach Through a Constructivist Approach

Regarding to teaching through a specific methodology or approach, it seems imperative to count with a teachers' training process in order to instruct professors the way they have to execute classes. Moreover, with the intention of understanding what the most suitable ways to facilitate students' learning are and to offer more efficient lessons, teachers must identify how to properly use the methodology of the discipline they impart (Hogan, Rabinowitz & Craven III, 2003).

In the case of the Alexander Bain School, where learners must be taught through a constructivist approach, some of the participants perceive they have been properly trained. Nevertheless, other teachers suggest that they have not benefited from the school's training. Thus, working at an institution where the main learning system is based on the constructivist approach, it seems imperative to fully know and understand how to use and manage this approach through a proper training process. In the following quote, a participant considers herself as a knowledgeable teacher about the proper way to carry out the constructivist approach.

> *I have been trained in college and my masters. I studied constructivism and I learnt about Piaget's and Vygotsky's theories among others.* (EC)

From this quote, it can be noticed that the participant feels she knows about the proper use of the constructivist approach. This teacher was taught about constructivism while she prepared herself at the university. However, the Alexander Bain School has not really offered her a formal instruction on the way to use the approach. Therefore, she is relying on the previous knowledge she learned in college and graduate school. The following participant

explains a similar situation. The school's principal perceives herself as a trained person, but mostly, because of her own academic development.

> *When I was at the university I studied about Vygotsky that is the main author that started with constructivism. Then, in my master's degree that I am actually working on, they mention him and complement his theory and ideas with other actual new theories. And I work in this IB school where teachers have to work with that methodology.* (P)

According to this excerpt taken from the principal's interview, she perceives herself as a trained person who knows about the theory behind this approach. However, this might be primarily because of her position as principal in which she has the commitment and responsibility of being knowledgeable and properly educated to guide others, but not necessarily because the institution taught her or offered formal training.

Other participants have recognized they have the necessity and responsibility to be trained. For these reasons, some teachers at the Alexander Bain School have gone out of their ways to learn and be ready to teach through this approach. This is shown in the following quote.

> *I think the most important feature that a teacher should have relates to vocation ... thus, since I got here, I have been reading about constructivism and asking other teachers about some ideas and examples. So, once I started teaching here when I had to face my first group of students, it was when I started to read and try to learn about how to teach my children.* (ST4-translated)

It is important to understand how to apply the constructivist approach and which may be the most suitable strategies to fulfill the institution's goals such as the mandatory teaching through a constructivist way. Therefore, some teachers such as the one from the previous quote beliefs that self-training could be the way to learn and succeed as a teacher. I believe

teachers need to be well prepared and educated, and one of the ways to achieve this should be through a continuous learning process such as professional development, which in this case is teachers' development. Johnson and Golombek (2003), for instance, support this idea. They argue that in order to become a more proficient teacher, educators may exploit beneficial strategies to increase their teaching approach and to take control of the available resources to regulate their own class activities through a resource named teacher development.

Teacher development is more than using strategies in the classroom. It is to understand teaching practice as well as to increase or acquire the proper and necessary knowledge to achieve longer-term goals to enhance the teaching knowledge (Richards & Farrell, 2005). In this specific case, teacher development applies to the personal motivation teachers may have to learn about how to approach constructivism in an institution that does not always properly train its personnel. Moreover, through teacher development, educators may exploit beneficial strategies to increase their teaching approach by taking control of the resources they have to regulate their own class activities (Johnson &Golombek, 2003). Thus, through teacher development, teachers can travel from unawareness to awareness in order to understand how to perform a constructivist class.

In the following excerpt a teacher explains the way she has learnt how to be a constructivist teacher.

> *I have been working in this system for ten years.* (ET4)

From the previous quote above, it seems is that this teacher has learnt about constructivism from her everyday experience teaching throughout the years. According to her words, this experience helped her to gain the necessary knowledge and/or the ability to properly manage her class. This teacher, like several others who also work at the Alexander Bain, have learnt constructivism through testing diverse strategies by experimentation.

Contrasting to the previous participants' insights, two administrators defend the fact that the school has provided them some training about the way to apply constructivism.

> *Personalized education training, Pierre Faure, and mathematics with the methodology CIME. Personalized education… with a follow-up of four years.* (SC-translated)

Unlike other participants from this school, the Spanish coordinator suggests that she has been trained during a period of time. Thus, she has learnt how to manage the constructivist approach and how to teach mathematics through this approach. Since this participant is responsible of other individuals under her, this may be one of the reasons why she was trained by the school. Because she is supervising others, she must be able to identify and evaluate whether a class is being carried out through a constructivist approach or not.

In the following quote another coordinator supports the idea that the school has trained her to teach under a constructivist way. The following participant also discusses that she has been through a training process.

> *I've been in two workshops on how to teach science constructively and on the teaching of mathematics workshop CIME.* (IBC-translated)

These two last participants agree that they have not learnt constructivism by themselves such as the other ones. In contrast, they have had the opportunity to expand their knowledge by attending training sessions or workshops which may have aided them in bringing themselves up to speed. I consider that being trained may offer not only the teachers, but the institution, a great variety of opportunities to be worth. For instance, whether a teacher receives training on the use of the constructivist approach, she may be better able to perform her job.

A trained teacher would be more aware of the practices and proper procedures by building or developing self confidence in what she does. Teachers who are aware of the way to apply

the approach and the number of existing strategies to increase their teaching, may place emphasis upon regulating their own class activities or tasks.

Constructivist strategies or activities, according to the participants, is the use of connecting between what learners already know and what is going to be presented to them. For this reason, in the following section, the use of previous knowledge to develop new one, which is the last theme that emerged from the data analysis, will be discussed.

4.7 Use of Previous Knowledge to Develop New Knowledge

The IB Organization supports the notion that one of the most suitable ways to encourage learners to be involved in their own learning and to make it meaningful, is through the use of previous knowledge (IBO, 2007). Through relevant background knowledge, prior knowledge or personal experiences, teachers can offer their students the opportunity to make connections to the new information presented. Thus, this organization claims that when individuals find new meaningful knowledge, they may try to make sense of this information by linking it to what they already know as a strategy to create new knowledge (ibid).

Some authors such as Cooperstein and Kocevar-Weidinger (2004) and Jones and Brader-Araje (2002) support the IB view. They argue that constructivism is an approach in which previous knowledge takes a central role in order to create new understanding. Cooperstein and Kocevar-Weidinger (2004) conceptualize constructivism as a useful approach in which "students must make connections between old knowledge and new information" (p. 142). According to Jones and Brader-Araje (2002), constructivism is a behaviorist movement that examines learning focusing its attention to prior beliefs and knowledge.

Thus, according to these authors, through the use of constructivism learners can make use of their prior knowledge with the possibility to add on or construct a new one. This is represented in the following quote that shows how a teacher perceives the use of the constructivist approach as a way to utilize previous knowledge.

> *It is the way to learn things through a series or known ideas and constructing new ones.* (ET2)

Something to explore from this quote is that for this teacher, who has been working under the procedures of an IB School for no more than three years, the way students can learn is by utilizing what they already know. It seems to me as if she considers that once students utilize their acknowledged ideas, then they can learn something new.

Something similar can be recognized in the following quote, in which another teacher believes that knowledge is built when utilizing prior knowledge.

> *It is a dynamic teaching process in which the construction of the knowledge by the students and the teachers is based on previous knowledge and scaffolding.* (ET4)

According to the preceding quote, the teacher considers that constructivism is a way to construct knowledge according to what learners and teachers already know. From this teacher's perspective we can see that the amount of new knowledge acquired depends on the amount of the previously acquired knowledge. The more experienced a person is, the easier it will be to create new knowledge. For instance, if an individual already knows how to skate on regular roller skates, it may be easier for him to learn how to skate on ice just by trying. Previous experiences may impact what learners distinguish about the environment and the way they organize and interpret it by relating it to the new facts. In other words, the more learners know, it may be easier for them to learn something new while connecting previous knowledge with new one.

Along with these two previous quotes, it is possible to observe that these teachers seem to believe that throughout constructivism, learners can construct new knowledge by connecting what they have already lived or learnt. What students know about the content can be used as an indicator of how well they will learn new information. Through students' prior knowledge, teachers have the opportunity to identify what students already know and make it easier to guide them in the construction of new knowledge.

Though, teachers are not the only ones who believe that previous knowledge is a way to construct new one. In the following quote, the IB coordinator also discusses about the use of previous knowledge to develop new one.

> *Well it is to learn from the knowledge I already have and connecting it with what I'm learning. For me it is learning by doing, in other words.* (IBC-translated)

This IB coordinator is the person in charge to regulate what the IB dictates in the school. For her, what is intended to learn is interrelated with what learners already know. This perception may come from what the IB Organization mentions in its guide "Making the PYP happen, a curriculum framework for international primary education." In this guide, the IB states that teachers "need to consider whether students are making connections between life in school, life at home and life in the world. By helping students make these connections and see that learning is connected to life, a strong foundation for future learning is established" (IBO, 2007, p. 6). In order to construct solid knowledge, everything must be connected to the students' personal practices and experiences.

In the following quote, the Spanish coordinator explains how prior knowledge is not just a way to learn, but a way to engage students in the class and to make them participants of their own learning.

> *It is a way to involve the student in the learning process taking into consideration the knowledge he already possesses and offering him meaningful experiences which motivate him to be responsible for his own learning.* (SC-translated)

According to this participant's quote, using previous knowledge may not just be a class strategy to learn something new. It can also be a way to stimulate students to take control of their own learning and to make the knowledge more significant. Along with this idea, the IB Organization states that in order to carry out a noteworthy pedagogy, teachers must endorse students' inquiry by promoting the use of previous experiences (IBO, 2007). Thus, in a

constructivist environment where learners are allowed to use what they have already learnt or lived, may make them feel more confident to participate in class and to contribute with their own ideas.

Another participant agrees with the idea that learning becomes meaningful for students when they are allowed to utilize what they have experienced.

> *I think that students achieve meaningful learning, by connecting their prior knowledge and experiences.* (ST4-translated)

From this excerpt, it is possible to perceive that comprehension may occur by making connections between what students already know and new knowledge. This last knowledge can be more interesting if it is related to our daily lives, experiences or knowledge. In other words, allowing learners to construct meaningful knowledge appears to benefit and enable them to share their earlier experiences. Merino and Hammond (2001) argue that people can learn more easily when previous experiences are incorporated into new schema. That is, new knowledge can be retained when it is associated to something previously achieved or experienced.

Another participant whose job is to verify that students learn what they have to learn and that teachers effectively conduct constructivist classes is the school's principal. In the following quote, it can be observed that she perceives constructivism as a central way of learning when the students connect what they know with new information.

> *Constructivism is a really important methodology for us, where students connect their previous knowledge with the new learning that they get. So, students are able to connect their previous knowledge with the new concepts through inquiring and experimenting about certain themes or ideas.* (P)

From the previous comment, the principal seems to perceive constructivism as a process in which learners use their own understanding and knowledge of the world to develop new knowledge. This linking of ideas to create new knowledge can be achieved through inquiry, experimentation, and reflection. Dixon-Krauss (1996) claims that the main contribution of constructivism is the ability learners gain to construct knowledge utilizing their personal experiences and ideas instead of obtaining a passive acquisition of skills and knowledge. Thus, in order to obtain lasting knowledge, students have to carry out meaningful activities that help them remember what they did or discussed in class. All this, contrary to the traditional model of teaching based on repetition and memorization of fixed concepts in which the students are not always engaged because they are not always participants.

However, even though the principal has a good idea of how constructivism should be applied, it seems that she is unaware that often times the school instead is using a hybrid approach of constructivism and social constructivism. The reason that one or the other approach is used interchangeably is that many of the learning activities are based not only on self-created new knowledge, but also by peer to peer interactions.

In the following extract there is an example of this from a class observation.

> *The teacher starts retelling a story to the kids, they recall what they talked about in the last class and they remember the doll which was the center of the activities in the previous day. The teacher asks students if they remember how the physical appearance of the doll was, and then the class start writing it down while brainstorming. Teacher pastes a silhouette of the doll on the board and she provides students some cards with vocabulary words discussing then the body parts, then the students have to paste them according to the corresponding parts. Most of them are correct.* (OBT- ET1)

A constructivist class from the preceding example seems to be a practice to aid students to remember what they have discussed in a meaningful manner in order to create knowledge. For instance, the doll was used to help learners to connect new understanding in a way that

may not be easily forgotten. Some students can disregard what they just hear or see. However, if they become active participants in class by using their own experiences, it may become easier for them to recall information. It is the way students could increase their knowledge. However, recalling a previous class does not necessarily shows that students acquired the target knowledge since students may be only using their short term memory of something meaningful as the doll was (Kirschner, Sweller, & Clark, 2006). In other words, in this exercise students could not utilize any learning strategy; instead, they may took advantage of their memory.

In the following quote, the teacher also suggests that constructivism starts from the use of prior knowledge, yet, she mentions that learners mostly utilize other tools and strategies in order to learn.

> *It is a theory that starts from prior knowledge and makes use of different tools such as exploration, handling, investigation, and socialization; and according to these tools and to the environment, it is possible to construct own knowledge.* (ST6- translated)

From this quote, it is possible to see that the teacher believes there is a way to apply constructivism in which more than just previous information is useful to construct knowledge. She discusses that learning strategies, social skills and the context where learners are, may be tools for learning. Belbase (2014) indicates that both teaching and learning are given when there is a social and cultural environment due that "the classroom process is a social reality [… which] involves multiple actors" (p. 105). Thus, in order to acquire meaningful knowledge, it is important to engage students in their own learning process.

Constructivism for almost all the participants may be considered as a helpful approach to learn since students enhance their knowledge through meaningful learning while utilizing previous knowledge (Uredi, 2014). In order to acquire new knowledge, it is also important to connect what it is intended to be learnt from prior experiences, in order to make this new knowledge more interesting or meaningful for the educators. For some participants at the

Alexander Bain School, eliciting learners to construct interesting and meaningful knowledge is an important advantage of the use of the constructivist approach.

4.8 Findings

Based on the analysis of the data provided by the participants, it is evident that at the Alexander Bain School, not only constructivism but also social constructivist principles are integrated in the everyday lessons. Teachers and administrators perceive themselves as a constructivist community which encourages learners to construct solid knowledge from previous experiences. However, allowing social interactions among students and between students and teachers, they seem to be favoring collaborative work and sociocultural principles, which are some of the main features of the social constructivist approach. It is important to be knowledgeable about the characteristics of the approach applied in an educational establishment in order to fulfill its institutional goals and to aid students to succeed academically. By being knowledgeable about the differences between the constructivist approach and the social constructivist one, teachers could take advantage of the everyday activities they carry out. Moreover, being aware of these differences, teachers may allow their students to develop the necessary skills they are intended to develop and to encourage them to become more successful than they currently are.

Through this analysis, it was possible to observe that even though constructivism and social constructivism are similar, they are two different approaches. However, the teachers at the Alexander Bain School are currently combining these two approaches thinking they are using pure constructivism. This was possible to recognize since most of the activities mentioned by the participants fall into the categories of collaborative or group work and the discussion-based learning, which according to Moll (2013), come from Vygotsky's educational theories. Vygotsky, as discussed in Chapter Two, is one of the main contributors of the social constructivist approach (Bodrova, 2004).

Furthermore, this discrepancy between constructivism and social constructivism at the Alexander Bain seems to exist because, as part of the PYP, teachers are expected to teach in a constructivist way. However, at the same time the IB guidelines request the use of collaborative work in IB schools. Therefore, since teachers must instruct learners fostering the development of social and communicative skills, among others, their classroom practices tend to keep with socio-constructivist theoretical principles.

In regard to the participants' perception about the constructivist approach, they believe that their students are learning and becoming more reflective about their education. The participants also pointed out that the approach they were following is different from other traditional ones. For this reason, they allow their students to take advantage of different activities in which they can develop communicative, social, research, and other skills.

The constructivist approach is applied by the Alexander Bain School teachers to emphasize learning through social interactions and background knowledge. They seem to each member of the community to know more about different subjects not only from their own experiences, but also from others' ideas and skills. After this analysis, the conclusions of this research will be presented in the following chapter.

Chapter Five
Thesis Conclusions

5.1 Introduction

In the previous chapter, information collected from face-to-face and e-mail interviews, class observations, and researcher's log was analyzed. In this chapter I will summarize the results of the investigation. I will mention the implications and some of the limitations for this investigation, to culminate with further research areas on this topic.

5.2 General Findings

The overriding purpose of this study was to identify the perceptions about the use of a constructivist approach from the Alexander Bain School community who work directly and indirectly with this approach. To accomplish that goal, the question which leading this study was the following one:

What are the community perceptions of the use of a constructivist approach in a bilingual elementary school in central Mexico?

According to the participants, constructivism at the Alexander Bain School has been identified as a really useful and important way to facilitate learners' understanding through meaningful knowledge by taking advantage of what they have learnt before. In other words, interviewees perceive the constructivist approach as a way to use students' relevant background knowledge or personal experiences in order to allow them to construct new knowledge, and by making connections between what they already know and the new information they have to acquire. For most of the participants, constructivism is a useful approach that encourages teachers to aid their students to build or to construct knowledge upon the students' current knowledge.

On the one hand, as mentioned by the interviewed participants, the use of the constructivist approach has been a useful teaching and learning tool since students seem to be more knowledgeable, independent, confident, and critical thinkers. Working with other peers and participating in class discussions, some learners have become more open minded and have developed certain social skills which allow them to take responsibility for their own actions and to share not only materials, but ideas, solving conflicts and accepting others' ideas.

On the other hand, according to what the IB states in its documents, constructivism is the teaching approach which must be utilized as a way for teaching students. However, this organization encourages the use of social work in order to promote learning across the PYP curriculum. In other words, since the IB fosters the development of social and communicative skills in order to work cooperatively by sharing materials, taking turns, listening to others, respecting others ideas, etc. the actual approach applied is social constructivism.

Besides that, the participants consider that contrasting and analyzing information while working in teams, their students have more opportunities to interact with others, to compare ideas, make judgements and make decisions based on their own criteria. This finding also supports the notion that the approach utilized in not constructivism, but social constructivism. Moreover, for most of the participant teachers, allowing their students to work with other peers seems to be an easier and more suitable way to learn from others points of view. Thus, working in teams or in a collaborative way learners tend to work in a socio constructivist environment and at the same time, students become likely to be critical and reflective people learning from one another.

According to the perceptions of the teachers and administrators, another finding is that the use of the approach used has been beneficial for them. In other words, students seem to be more reflective and inquiring learners by connecting what they have already lived or experienced with the new information they have to acquire. Thus, developing these characteristics, learners are able to grasp meaning easily from different sources such as

teachers, classmates, books, magazines, media, and more; and to interpret that information in both written and speaking ways.

The participants also perceived some disadvantages in the use of the constructivist approach. They consider it a non-traditional approach which can be difficult to be carried out by those educators who enjoy to be in control of their students' learning. The participants believe that since one of the biggest characteristics of the constructivist approach is its lack of structure, it is not easily understood by traditional teachers.

Another disadvantage, according to the participants, is that this approach is time-consuming. In other words, utilizing the constructivist approach learners must carry out several activities such as tasks completion, work in teams, reflect about different topics, listen to others and discuss own ideas, working towards at and obtaining consensus, etc. which take up a great amount of class time.

According to what some of the participants mentioned, another finding is that they have not had formal training on the way to carry out the constructivist approach from the Alexander Bain School. Some of the participants mentioned they were trained while there were in college or through a master's program. Other ones became autonomous or inquirer teachers and learnt by themselves how to be in a constructivist way.

The last finding to be considered according to the previous one, is that for some educators it may be more difficult to teach under an approach they have never been taught. In other words, the way teachers were taught may be an important factor influencing the way educators teach, and making it more difficult for them to teach a non-traditional approach.

5.3 Implications

Since the participants have paid special attention to the use of the constructivist approach through the use of collaborative experiences and group work, the results of this study have endorsed that there is a misconception about the difference between constructivism and social constructivism. The former is an approach defined by Cetin-Dindar (2016) as a manner of constructing knowledge by individual learner's experiences in which the learner interacts with his or her own knowledge, mental structures and beliefs. Thus, constructivism attempts to provide learners a way to learn through the use of their previously acquired personal knowledge.

However, the social constructivist approach according to Deulen (2013) is a "social and cultural model of learning" (p. 91) in which students acquire new information through cooperative or collaborative learning. Since the IB Organization requires learners to work in a social context, learn from others' assistance, ideas, knowledge and experience; the approach that applied is not constructivism, but social constructivism.

It is important to explain that since the participants: teachers, coordinators, and principal mentioned several times the use of collaborative work, it can be said that what they really engage in as a teaching approach is social constructivism rather than constructivism per se. That is to say, most of the participant teachers utilized several tasks which allow their students to develop social skills working collaboratively and sharing meaning with others. Promoting in this way relationships and shared responsibility including interpersonal competencies that support effective teamwork and collaboration, main characteristics of the social constructivist approach (Araya, Alfaro & Andonegui, 2007). Therefore, identifying the difference between the constructivist and the social constructivist approaches, it can be said that for the former, each individual establishes his or her learning on personal understanding and meaning. For the latter, students and the teacher work in a collaborative way sharing responsibilities and learning from each other.

Thus the effect of this research is that non only teachers, but also administrators must be aware of the social constructivist approach that is carried out in the Alexander Bain School's classrooms.

5.4 Limitations

Since I had a direct connection with the research setting and a relationship with the participants, I became an insider. That is, I carried out a research project in my work setting. Thus, being both the researcher and a teacher or insider in this qualitative research, I shared similar experiences with the participants and for this reason, a few implications emerged. For instance, it was sometimes challenging for me to separate my own assumptions on the teachers' perceptions in order to avoid taking their comments for granted. I had to be impartial about my own perceptions and write them down separately in the researcher's log.

Moreover, when I realized that there is a mismatch in the approach we are supposed to apply at the school, it was more challenging to analyze the data. For this reason, I had to reread and analyze the data several times. I consider it is one of the reasons that made it more difficult for me to be critical. Additionally, I had to carry out different roles while carrying out the research and I had to persuade the participants that this study was carried out for research and academic purposes instead of personal.

Due to the lack of time to carry out face-to-face interviews with all the teachers in the primary school section of the Alexander Bain School, I decided to send them an e-mail interview. However, since they work hard at the school and the institution demands them some of their leisure time for revising, planning, preparing materials, carrying out paper work, among other activities, some teachers were reluctant to answer the e-mail interviews. Thus, the data in this research is limited to the perceptions of eight people who work directly and indirectly with the social constructivist approach. However more meaningful data could be obtained whether more teachers had participated and collaborated with their insights.

Another limitation was that besides being the researcher, I was also a teacher and a student at the same time. For that reason, there was a lack of time to observe teachers more than three times each. I consider that the data could have been richer if I had had more time to observe not only more classes, but more teachers too.

5.5 Future Research

After carrying out this research project, I believe it can be of interest to all the teachers who work in an IB school. For this reason, it would be exciting to find another teacher from any part of the world who also works under the IB guidelines and who would be willing to carry out a similar study such as this one in order to compare his or her results with mine. It would be interesting to know what other teachers around the world are doing, to compare their work and to realize whether they are aware of the use of social constructivism or not.

Another possible idea for further research could be, once administrators were aware of the use of the social constructivism, to study how they would perceive the use of this approach and if being aware of the difference between constructivism and social constructivism their perceptions of the use of the first one change or not.

One further research project could be about the way teachers from other areas of the Alexander Bain School such as kindergarten, secondary or junior high perceive constructivism and the way they apply the approach.

A final and interesting further research proposal could be to examine the grading system teachers use in an IB School. Though, in order to realize whether the system educators utilize to grade the students, who most of the time work with other peers, is fair and reliable for them.

5.6 Conclusion

After completing an analysis of the data, the findings obtained demonstrate that according to the participants, the constructivist approach is a useful way to engage learners in their own learning process by taking into account the knowledge they bring previously, building on significant experiences and allowing them to develop certain characteristics and skills while learning.

Even though there are some disadvantages with the use of the constructivist approach such as being a non-traditional approach and a time consuming one, the participants agreed that by using this approach their students have become in more informed, creative and critical thinker learners among other characteristics.

However, through the study, it was evident that the constructivist approach allows learners to think of individual knowledge. That is, since the Alexander Bain School as required by the IB organization, teachers have to include a social component, promote social and communication skills to aid students constructing knowledge; what they are really applying is social constructivism. This approach comes from the Vygotskyan theory, which conceives the idea that individuals learn from interaction with other peers or adults such as teachers. Therefore, in essence, the IB requires teachers to work under the constructivist approach. Nevertheless, through the examination of this organization's model, its principles lie in the social constructivist approach. That is why educators tend to promote social activities.

Thus, in order to engage students in the learning process, whether teachers carry out one or another approach, the most important thing is to take responsibility of the students' learning promoting interesting learning experiences, meaningful activities and commitment in order to develop internationally minded people, and to succeed in their development of cognition.

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Appendix One

Interview Questions

1. How long have you been a teacher?
2. Why did you decide to become a teacher?
3. What is your educational background?
4. What do you mostly like about teaching?
5. What do you dislike about teaching?
6. What is your favorite aspect of teaching?
7. What is your least favorite aspect of teaching?
8. What are the qualities of a good teacher?
9. How do you perceive constructivism?
11. How do you know about this approach, have you been taught or trained?
12. How long have you been taught or trained?
13. What are some ways to approach constructivism?
14. What kind of activities would you carry out in class?/ What kind of activities do you carry out in class?
15. Do you think constructivism is a beneficial method for learning?
16. Why?
17. Do you find any good or bad aspects of approaching constructivism in your classes or school where you work?
18. Have you faced any difficulties or challenges while utilizing the constructivism approach?

Appendix Two

Selected Excerpts of Face-to-face Interviews

Interview with the Principal of the school

Interviewer- I

Principal- P

I- Miss do you like teaching?

P- Of course, I told you before I worked in the Alex Bain Mexico 3 years and then José called me to work here.

I- Ok and what did you or do you like about teaching?

P- I love to spend time with children, their creativity, their ideas and to see them understand and feel good when they reflect and really get the concept. And… I really enjoy when they transform or use the information into actions.

I- How?

P- When they use what they have learnt at home, in the club, etc. You should surprise of all the stories I have from the club.

I-Sure that would be really interesting. Probably soon I´ll take your time again. Hahahahahha

P- Hahahhahahha.

I- Miss, what do you think about constructivism?

P- Mmm… Constructivism is a really important methodology for us, where students connect their previous knowledge with the new learnings that he get.

I- They!

P- Yeah they

I- Sorry!

P- So, students are able to connect their previous knowledge with the new concepts through inquiring and experimenting about certain themes or ideas.

I- Mjj. And… have you been taught? How do you know about constructivism?

P- Well Yes, when I was at the university I studied about Vigotsky that is the main author that started with constructivism. Then in my master's degree that I am actually working on, they mention him and complement his theories and ideas with other actual new theories. And I work in this IB school where teachers have to work with that methodology.

I- So, the school hasn´t trained you or given you a tutorial, or something like that?
P- Mmmm well I have all the IB files I have access to the CEPEL.
I- Ok and how much time you consider you´ve been in touch with constructivism?
P-More than 15 years.

I- Ok. And if you were in front of a group how would you approach constructivism? What kind of activities would you do?

P- Well first you have to read theories, what is constructivism, how it was originated, etc. then you start working on it by questioning everything , why things are like they are, how do they work, why, etc. and start finding answers. Work in teams and share findings and knowledge, mmmm… connect ideas and get new and more complete concepts.

I- And a special activity…?

P- I think I would design a project and explain it to the students and ask a main question about it, work in teams and stablish roles and functions. When students ask something, I try not to give an answer but to make another question to guide them. I would give as many sources to investigate as possible and help students to establish an agenda or deadlines to finish each part of the project, check advances and reflect. Mmmm… evaluate process and final project with different tools and reflect about results.

I- What is your opinion about constructivism?
P- Constructivism is great, students really get the knowledge by themselves, connections are great and they learn for a long term period of their lives because when you explore and connect previous and new knowledge, the learning is for your life, they are long term learnings, real, and you can apply them in all your life.

I- Besides that what are some advantages you have seen this school over other ones that do not approach constructivism, or that are traditionalist?

P- I think there is a lot of reflection, students learn by themselves, they become more independent, same thing I can see all these things in the club or with the kids of my husband´s friends. Our students work in team, you, teachers work collaboratively, and not only students, also teachers develop skills, creativity and innovation.

I- Of course, we also develop creativity and other things; we have to work with students and we continue learning.

I- And… is there a disadvantage or a negative aspect you find about it?

P- mmm… Sometimes there might not be enough am… time to finish or to go deeply into something and … there might be behavior problems if you do not establish clear rules and agreements previously. A, and people that come from traditional education … mmm… do not understand constructivism at the beginning, so… they can feel it as unstructured…

I- system?

P- Yeah, or school. And … I think timing is very important, so you don´t get lost and objectives have to be very clear for teacher and for students.

I-Sure, ok something else miss Gaby?

P- Mmm … no well! Just that you have to respect, be tolerant, develop empathy and communicative skills, and be open minded.

I- Of course, important characteristics. Well thanks miss; I really appreciate your time.

P- No, you are welcome. Para tu maestría lo que necesites.

I- Gracias

Interview with the IB Coordinator

Interviewer- I

IB Coordinator- IBC

I- Antes de ser la coordinadora del Bachillerato Internacional dabas clases de ciencias ¿verdad?

IBC- Si y también daba taller de matemáticas.

I- Y… ¿Qué es lo que más te gustaba de estar frente a grupo?

IBC- Pues observar como los niños se interesan por los temas, cuando hacen conexiones entre lo que saben y lo que están aprendiendo y también cuando aplican lo que aprenden en su vida cotidiana.

I- Ok y ahora que estas en este modelo de enseñanza del IB, ¿quéopinassobre el constructivismo, mmmmquésignifica para ti?

IBC- Bueno pues es aprender a partir de los conocimientos que ya tengo haciendo conexiones con lo nuevo que estoy aprendiendo. Para mi es aprender haciendo, en otras palabras.

I- Ok y ¿has recibido alguna capacitación?

IBC- Si, ¿Sobre constructivismo?

I- Sí, perdón sobre constructivismo claro.

IBC- Jajajajjapuessí, he estado en dos talleres de cómo enseñar ciencias de manera constructivista y sobre la enseñanza de las matemáticas con un taller de CIME.

I- ¿Esta capacitación te la dio la escuela?

IBC-Sí, si me la dio.

I- ¿Antes como maestra de taller de ciencias y matemáticas o ya cuando eras coordinadora?

IBC-Sí, cuando era maestra.

I- Y ¿Cuánto tiempo duró cada taller?

IBC- El de ciencias, que fue el primero…mmmm…dos días y el segundo de tres. Osea el de matemáticas. Los dos talleres fueron de 40 horas cada uno.

I- ¿Y en tu caso cómo llevas a cabo el constructivismo? Porque al final de repente entras a algún grupo ¿no? o en todo caso ¿cómo lo llevabas?

IBC- Si pues cuando Expo PEP o cuando trabajamos las actitudes entro a grupo… pero… este… siempre trato o trataba, jajjajajaja.

Interview with the 4th Grade Spanish Teacher

Interviewer- I

Spanish Teacher- ST4

I-¿Y hay algo que no te guste de la enseñanza?

ST4- Si, que no existe un equilibrio entre el alto nivel de compromiso y trabajo solicitado con el salario.

I- Noooo estoy de acuerdo jajajjajaja

ST4- jajajajjajaja

I- Oye y en cuanto a constructivismo, ¿cómo lo llevas a cabo en tus clases?

ST4- Pues formulando preguntas que causen interés en los alumnos y empiecen a comentar experiencias. Les hago actividades detonantes que promuevan la curiosidad, los dejo trabajar en equipos para que lleven a cabo distintos roles. Los dejo ser monitores para que ayuden a otros en temas que se les dificulte. Mmm hay muchas cosas, este los pongo a hacer trabajos de reflexión y opinión y a veces dejo que ellos se autoevalúen o evalúen a sus compañeros, y así, lo importante es promover la participación de todos, dejarlos dar sus opiniones y así.

I- ¿Cuál es tu opinión sobre el uso del constructivismo como método de aprendizaje?

ST4- Amm…creo que es un muy buen método de enseñanza. Yo misma he visto cómo se desarrollan los niños y creo que el que ellos logren hacer conexiones con sus conocimientos previos y sus experiencias logran en conjunto un aprendizaje significativo, logrando conceptos para su desarrollo personal, y así pueden crear en ellos habilidades para poder desenvolverse y adaptarse a distintas situaciones que se les presenten en su vida.

I- Entonces desde tu punto de vista el constructivismo es un buen método de aprendizaje.

ST4- Claro, creo que es una manera de que nuestros niños desarrollen sus habilidades, además de aprender claro, y que crezcan tomando otros puntos de vista, se vuelven más

reflexivos y tienen que ser indagadores al trabajar con otros compañeros o en pequeños grupos, aunque a veces los forcemos a ser indagadores jajajajajajja.

I- Jajajajja siii pero no a todos ¿no?

Porque comparto el cambio para mejorar y a veces también hago que el cambio ocurra, moldeando mentes con potenciales impresionantes, porque tengo el privilegio de que mis alumnos y alumnas, me conceden el privilegio de contarme sus confidencias, de expresarme sus desalientos y manifestarme sus ilusiones y tener un papel fundamental en su vida como en su desarrollo futuro.

I- Cuáles son algunas ventajas del uso del constructivismo?

ST4- ¿Me gusta que para la enseñanza no basta solo con transmitir conocimientos, sino la habilidad de mediar entre el conocimiento y el alumno, promoviendo valores a su vez y la necesidad de ser experto en un sinfín de cosas como tener que estar actualizado en nuevas tecnologías y llegar a veces suplir carencias de la educación familiar.

I- Has tomado alguna capacitación?

No realmente, si te refieres a esta escuela…

I- Si principalmente, pero si has tomado algo aparte pues también.

ST4- Entonces pues sí, considero que sí ya que el rasgo más importante que debe tener un maestro creo que se relaciona con la vocación, más ahora que vivimos una época de falta de vocaciones, dónde muchas veces es imperativo el encontrar un trabajo, el que sea, por encima de todo, por lo que creo que muchos de los docentes actuales son improvisados. Por eso, desde que llegué aquí he estado leyendo sobre constructivismo y preguntando a otras maestras sobre algunas ideas y ejemplos.

Appendix Three

Selected Excerpts of E-mail Interviews

E mail interview with 6th grade Spanish Teacher

Interviewer- I

Spanish Teacher – ST6

I- ¿Has tomado algún curso o clase sobre constructivismo?

ST6- Sí

I- ¿Por cuánto tiempo?

ST6- Un bimestre

I- ¿Cómo llevas a cabo el constructivismo en el lugar en el que trabajas?

ST6- Basándome primero en los estilos de aprendizaje de los alumnos; indagando lo que quiero que los alumnos comprendan y proporcionarles las herramientas, los recursos necesarios para que ellos busquen, manipulen, exploren, socialicen, analicen y desarrollen sus habilidades para asimilar los conceptos y conocimientos significativos.

I- ¿Qué tipo de actividades son ejemplo de una clase constructivista?

ST6- Al proporcionarles a los alumnos diferentes materiales (regletas, geoplanos...) primero ellos forman figuras, las presentan a sus compañeros, después se va guiando al alumno, se le hacen preguntas, se le pide que reflexione, que deduzca de lo que se trata lo que se esté trabajando, resuelva retos cognitivos, que interrelacione con sus compañeros para compartir ideas, invente problemas para su resolución, etc.

I- ¿Crees que el constructivismo ofrece algún beneficio al aprendizaje?

ST6- Sí

I- ¿Por qué?

ST6- Porque toma en cuenta la parte social y el medio en el que se desarrolla el alumno, además de que le permite ir aprendiendo a su ritmo, respetando su individualidad y fortaleciendo sus relaciones interpersonales.

I- ¿Has observado algún punto favorable o desfavorable del uso del constructivismo?

ST6- Como ventaja veo que el alumno aprende a su ritmo, socializa, le permite el ensayo - error, va más allá, etc.

Interview with the Spanish coordinator

Intervieweer- I

Spanish coordinator- SC

I.- ¿Cómo llevas a cabo el constructivismo en el lugar en el que trabajas?

SC- Propiciando y proponiendo experiencias de aprendizaje interesantes y significativas, promoviendo el aprendizaje entre compañeros de trabajo, indagando nuevas formas de enseñanza que resulten motivantes para los alumnos tomando lo que consideramos mejor de diferentes metodologías.

I- ¿Cómo lo llevan a cabo tus maestras?

SC- Mis maestras son comprometidas con su labor, buscan información y recursos que puedan generar en los alumnos la curiosidad y el interés por saber más, planean actividades significativas y analizan los resultados para establecer nuevos objetivos. Se trabaja de una manera transdisciplinaria proponiendo grandes ideas de las cuales se desprenden nuevos conocimientos y conceptos. Las preguntas detonadoras juegan un papel importantísimo para lograr que los alumnos jueguen un papel activo dentro del proceso.

I- ¿Qué tipo de actividades son ejemplo de una clase constructivista?

SC- Preguntas abiertas, análisis de textos, mesas de discusión, puestas en común, resolución de problemas prácticos, indagaciones, etc.

I- ¿Entonces crees que el constructivismo es beneficioso para el aprendizaje?

SC- Si.

I- ¿Por qué?

SC- Porque involucra a los alumnos de forma activa en su aprendizaje.

I- ¿Cuáles son las ventajas y/o desventajas del uso del constructivismo?

SC- Dentro de las ventajas está el que las clases constructivistas resultan más interesantes y útiles para los alumnos, desarrollan su curiosidad y su capacidad de razonamiento para resolver problemas, promueve el juicio crítico, etc. Para docentes tradicionalistas, puede significar una desventaja ya que es una metodología que demanda cambios significativos en el papel del maestro dentro del aula.

Appendix Four

Observations

First Observation

Teacher being observed ___ET1_____

Classroom observations:

The teacher starts retelling a story to the kids, they recall what they talked about in the last class and they remember the doll which was the center of the activities in the previous day. The teacher asks students if they remember how the physical appearance of the doll was, and then the class start writing it down while brainstorming.

Teacher pastes a silhouette of the doll on the board and she provides students some cards with vocabulary words discussing then the body parts, then the students have to paste them according to the corresponding parts. Most of them are correct.

Teacher checks the answers with students and let them be knowledgeable to correct the mistakes. Teacher provides them feedback.

Second Observation

Teacher being observed ____ET2___

Classroom observations:

Teacher sits students in teams and gives them a sheet of paper with the instructions, and then she provides them x rays (plates with bones) and other materials. They start cutting the bones and unite them with thread. Students are forming a skeleton and kids have to paste the names of the bones on each bone.

Third Observation

Teacher being observed ____ST1___

Classroom observations:

Children play an activity called “ojos vendados.” Teacher covers the student eyes and he has to take an object from a box full of toys. Student touches the object and describes it according to its texture, shape, size, etc. Then teacher does the same with another student but she has to smell an object and taste it.

Teacher does these activities several times and students seem to enjoy the activity, everyone wants to participate. Teacher asks students some questions in order to obtain the purpose of the activity from the students. They discuss about the 5 senses and talk about them.

Appendix Five

Researcher's Log

12th Journal Entry November 19, 2015

After observing several classes, a pattern in the classroom desks arrangement was found. To promote interaction among students, all but one of the observed classes in the whole elementary school had the desks arranged in a horseshoe shape; this to allow more students to sit together, even though each desk is designed to fit only two students, thus usually there is four to six students working together.

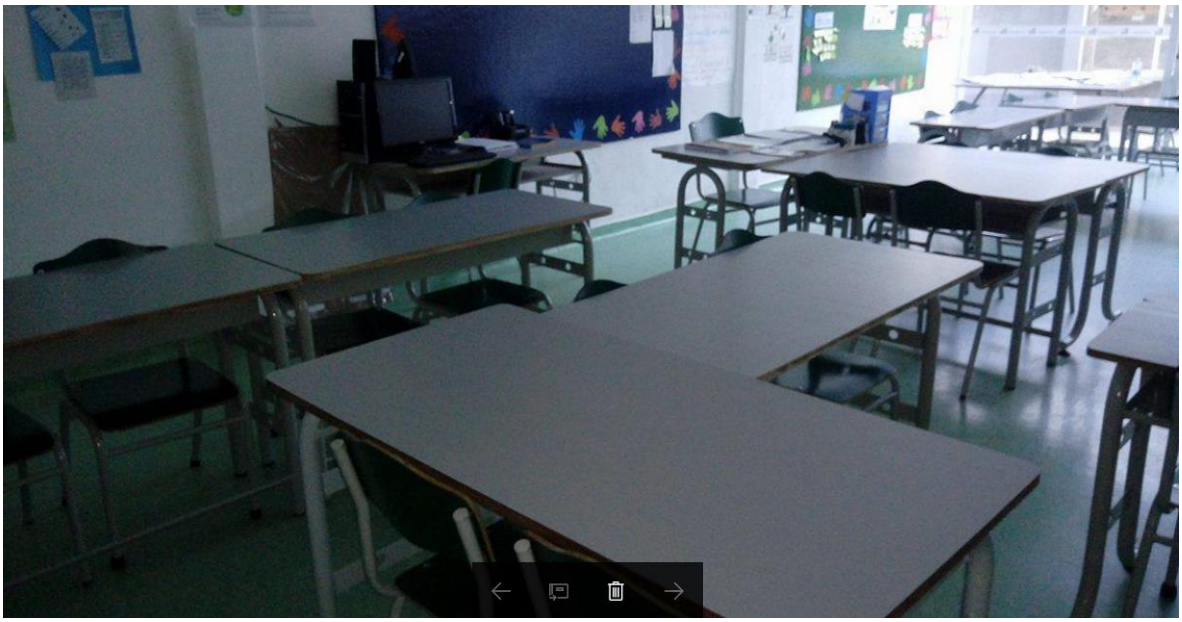
The only one classroom which was distributed in a different way, had all the tables or desks one next to the other, also in a horseshoe way. However since the desks are designed to keep two students, they are always next to a peer.

Moreover, this school's classrooms are designed to keep teacher and students together, not only students. I mean, teachers do not have a special place far away from the students. Actually, teachers do not have a desk to sit down. We sit (when we sit) next to the students, some of us utilizing half of the students' desk or a whole student's desk. I mean, there is not a special and bigger desk for teachers, neither special chairs. Besides that, there is not a step or separation between teacher and students in the classroom, we are all together.

Appendix Six

Alexander Bain School's Photographs

Taken by the Researcher

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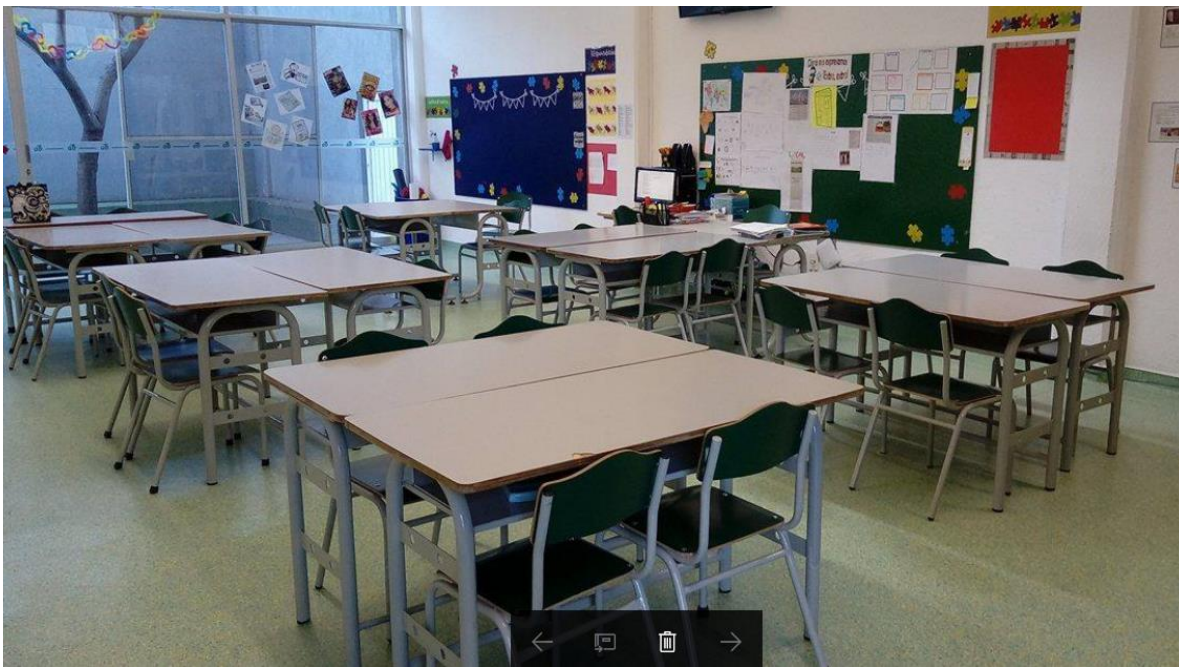

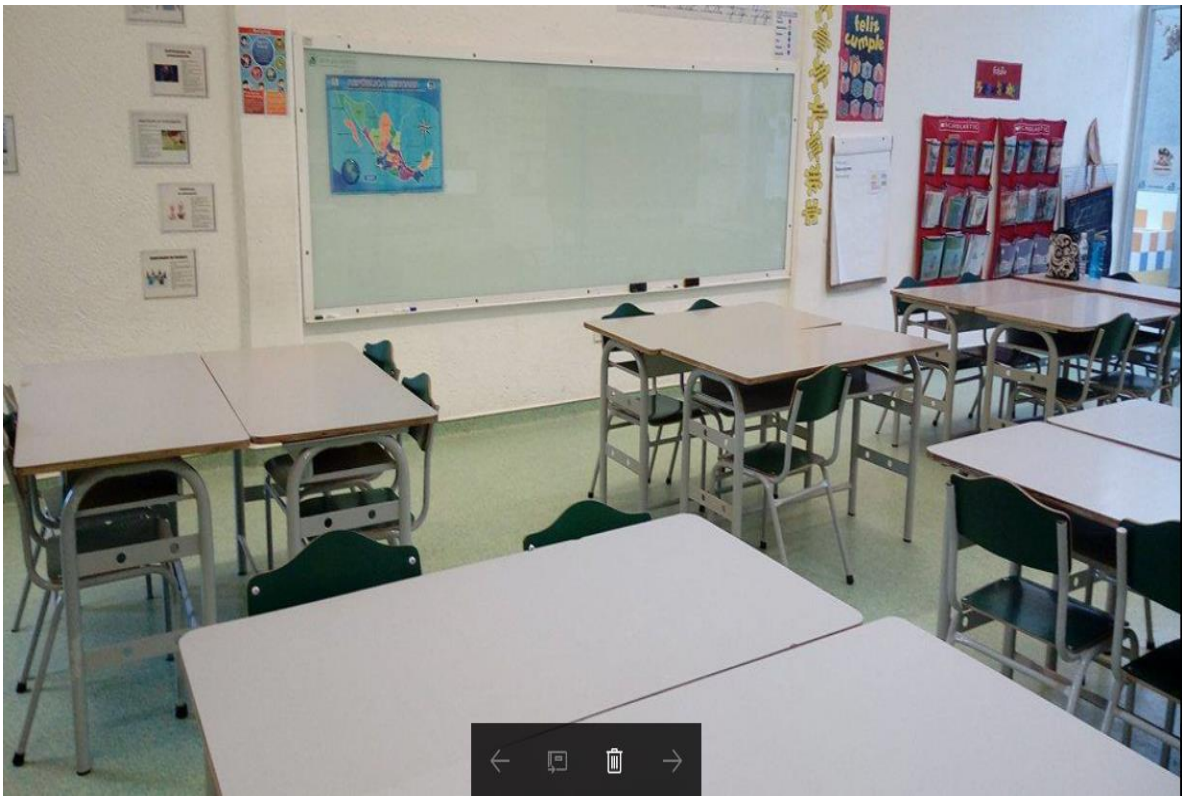
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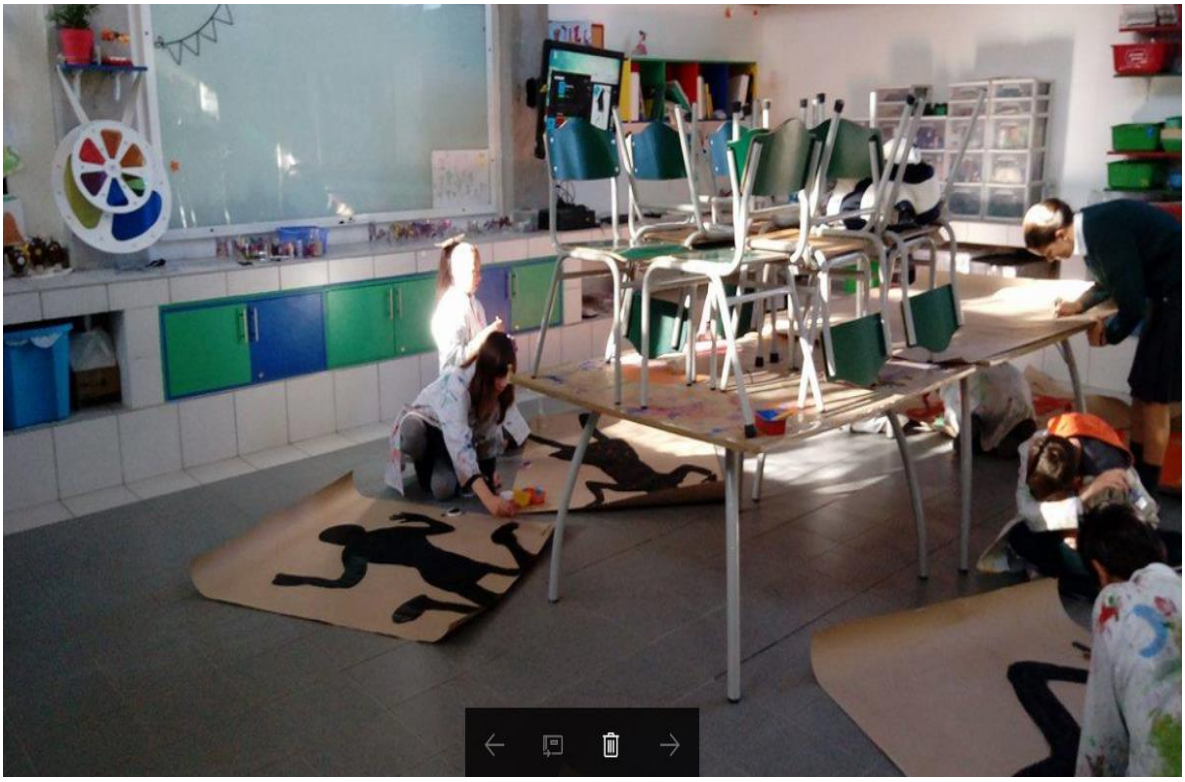

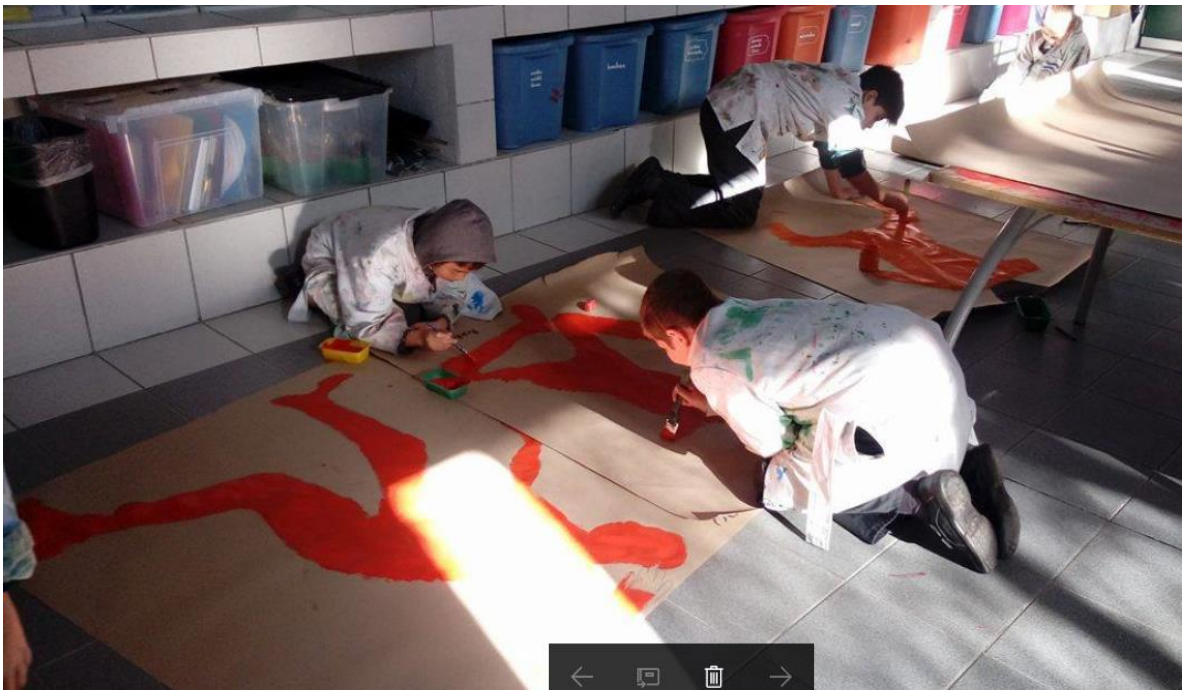

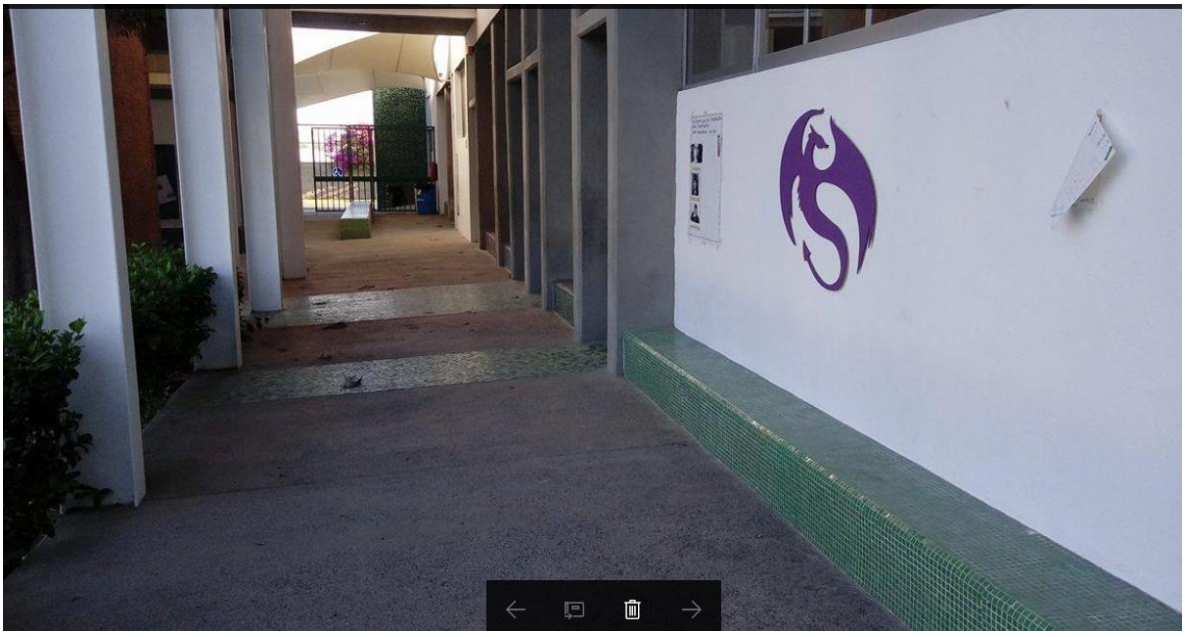

Appendix Seven

Consent Form

Consent Form for Participation in a Research Study

You are invited to participate in a research study conducted by Elizabeth Flores Villalobos. Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time.

Consent

I, the undersigned have read this consent form and have been given my permission to Elizabeth Flores Villalobos to use information that has been gathered from interviews, journals or observations for research use in her master's studies at the University of Guanajuato.

Participant's name _____

Participant's signature_____