THE SUSTAINABILITY OF SCHOOL IMPROVEMENT IN CHALLENGING CONTEXTS

Case study of public schools in Antofagasta, Chile

Karla Axaxu Espinoza Zamorategui

Master's Thesis

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ABSTRACT

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Instructor: Marja Järvelä and Juan Pablo Valenzuela
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This master thesis examines the factors that determine the sustainability of improvement made by schools in challenging contexts. The study focuses on nine public schools in Antofagasta, Chile. These schools have undertaken an improvement program during a given time span. As a result, the schools have achieved different outcomes despite having similar internal and external situations. Thus, the study will help us to understand in what ways the schools have improved and what is needed to assure the sustainability of their improvement achieved.

First, the study analyses the improvement process of the schools. Further, it determines which schools have the conditions to sustain their improvement in the long run. The study utilizes quantitative and qualitative data analyzed through a thematic analysis methodology. For the analysis, the study includes a theoretical framework containing the structural, organizational and contextual factors needed to achieve sustainability of improvement in schools in challenging contexts. The analysis shows that seven of the nine schools achieved improvement and that only five of the seven schools have the characteristics to sustain their improvement. The analysis shows that the factors needed to sustain the improvement in schools in challenging context are: leadership, school culture, school autonomy, teachers' professional development, and ownership of the educational policy.

Key words: sustainability, school improvement, challenging contexts, basic education, school effectiveness, resilient school.

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ACKNOWLEDGEMENTS

INTRODUCTION

The educational system and schools have the constant challenge of achieving effective improvement. However, it is equally important to sustain this improvement in the long run, especially for schools in challenging contexts. Thus, the present study is about the factors that have to be taken into account to achieve sustainability of school improvement in challenging contexts. For that, a case study of nine Chilean schools in challenging contexts is presented. Firstly, a theoretical framework to lead the methodology of analysis is introduced. Secondly, the data is analyzed through a methodology of thematic analysis. The results of this study are expected to contribute to the research about sustainability of school improvement in challenging contexts.

The schools in challenging contexts face hindrances in their progress and are frequently placed far away from the national standards. Usually they have a disadvantaged position in the expedition to the educative improvement. Thus, their capacity to sustain their improvement is more difficult than for the rest of the schools. This is one of the reasons why it is important to identify the factors that enable the sustainable improvement in these schools.

The sustainability of improvement of schools in challenging contexts tends to be under threat. The context of the schools hinders their development of competences to sustain their achievements, even more than for the rest of the schools. The theory of school improvement has undertaken several studies to analyze the sustainability of improvement in schools in challenging contexts. As a result, a number of useful theories for the educational policy have been developed (Ansell, 2004; Chapman & Harris, 2004; Harris, 2010; Harris, Chapman, Muijs, et al., 2006; Muijs, Harris, Chapman, et al., 2004; Nicolaidou & Ainscow, 2007; Stringfield, Reynolds & Schaffer, 2008; West, Ainscow & Stanford, 2005). However, there are still several gaps that the theory has not addressed. Thus, more research on the topic is necessary to contribute to the theory and subsequently, to educational policy.

Chile is a country that has devoted the last years to research on school improvement, as well as to the measuring and analyzing the outcomes of the implementation of its educational policy reform. The country has been able to make significant education

reforms to support its improvement program. As a consequence, Chile is among the countries in Latin America with the highest educational results according to international tests such as PISA[1]. However, its results are below the majority of the OECD countries. Hence, Chile still has significant challenges to address. Among them is the need to ensure that the improvement made is sustainable so as to validate the effort invested in the long run.

Thus, this master thesis will contribute to the research on the sustainability of school improvement by analyzing the implementation of a school improvement program in Chile. By analyzing schools with similar circumstances that have participated in the same improvement program, this thesis identifies the factors necessary for sustainable school improvement. Specifically in schools in challenging contexts with limited resources and big demands of the society and the Ministry of Education.

The thesis is divided into nine chapters. Chapters 1 and 2 describe the context of the educational system in Chile, as well as the specific context of the study. Chapter 3 explains the basic concepts of the study of the theoretical framework. Chapter 4 comprises the theoretical framework in which the analysis will be based. The methodology of the study is divided into two chapters: chapter 5 describes the methodology of data collection and the data available for the study; chapter 6 explains the methodology of the data analysis, the research questions and the aim of the study. Chapter 7 gives a summary of the results of the data collected by the CIAE, which will be the basis for the analysis. Chapter 8 comprises the analysis and discussions. And finally the chapter 9 presents of the conclusions.

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[1] http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf [retrieved on the 20 of December, 2013]

1.1 The Chilean education system of basic education

The Chilean education system is based on twelve years of compulsory schooling, eight years of primary school and four years of secondary school. The students at the primary school are between 6 and 13 years old and those who attend the secondary school between 14 and 17 (OECD, 2004). Primary school is divided into two basic cycles of four grades each. The first basic cycle goes from the first until the fourth grade and the second from the fifth to the eighth.

The Ministry of Education is principally in charge of the national curriculum, teaching methods and evaluation. However, the decentralized Chilean education system allows schools to be administered by different bodies in terms of budget implementation, staff and infrastructure, among the important ones (Cox, 2006). Such bodies are in charge of providing the main funding to the schools. Thus, there are three types of schools depending on their administration system: public, subsidized and private. The public schools are administered by the Municipalities of each region; either by the DAEM (*Departamentos Administrativos de Educación Municipalizada*, Administrative Departments of Municipal Education) or the Municipal Corporation. They do not charge tuition fees and their only financial support is from the government through a subsidy for each child enrolled. The subsidized schools are administered by private bodies with or without profit aims; they are subsidized by the government in the same way as the public schools and can charge tuition fees. The private schools are not financed by the government and depend solely on tuition fees (OECD, 2004; Valenzuela, 2005). The administrators of the schools are also known as school holders. They are in charge of the administration of the human and material resources of the schools.

According to the statistics of the Chilean Minister of Education, in 2012 there were 9421 basic schools, including regular and special education. 54.67% of them were public, 40.79% were subsidized and 4.53% private. In regards to the enrollment statistics, including regular and special education, 41.15% of students were attending public basic schools, 51.75% subsidized schools and 7.08% private schools (MINEDUC, 2012).

Since 1988 Chile has been monitoring its educational outcomes through the SIMCE (*Sistema de Medición de la Calidad de la Educación*, National System of Results

Evaluation). The SIMCE is a nationwide evaluation system that assesses the learning outcomes of the schools in different subjects of the national curriculum. The subjects evaluated under SIMCE as at 2012 were: Language and Communication (Reading comprehension and Writing), Mathematics, Natural Sciences, History, Geography, Social Sciences, English and Physical Education. The students evaluated in some of these tests belong to the second, fourth, sixth and eighth grade of the basic primary level. Students of second and third grade of secondary level are evaluated in some tests as well. The SIMCE also gathers additional information about students and their parents, teachers and school holders, in order to contextualize the outcomes of the students.[2] Moreover, the SIMCE classifies the schools according to their socioeconomic status in order to make a better comparative assessment of the outcomes among schools of similar socioeconomic groups (Bellei, Osses & Valenzuela, 2010). The body in charge of carry out the SIMCE and collect the data is the Agency for Quality Education (*Agencia de Calidad de la Educación*).

The school principal is in charge of the operation of the school administration. The school management team varies from school to school. However, all the schools must have one principal accompanied by an UTP (*Unidad Técnico – Pedagógica*, Techno – Pedagogic Unit) who is in charge of advising the school principal in relation to the pedagogy, planning, supervision and evaluation of curriculum development. The UTP also supervises the implementation of the classroom programs and guards the quality of the didactic strategies in the classroom. Further, the UTP organizes the curriculum according to the objectives of the PEI (*Proyecto Educativo Institucional*, Institutional Education Project), and manages the technologic innovation projects, among his main tasks.[3]

The PEI is a planning and management tool for the schools that gathers their common goals and the means to achieve them. It contains the strategies for education improvement detailing the participation of each school actor. The main goal of the PEI is to achieve quality of education (MINEDUC, 2007).

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[2] http://www.agenciaeducacion.cl/simce [retrieved on March 24, 2014].
[3] http://ww2.educarchile.cl/UserFiles/P0001%5CFile%5CPerfil_Jefe_UTP.pdf [retrieved on March 24, 2014]

1.2 The Chilean policy reform

Since 1990 Chile started a transition to democracy after 17 years of dictatorship. As a result, the country has been steadily reforming its educational system with the aim of improving the quality and equity of education. The main features of the Chilean education reforms at the beginning of the 1990s were the increasing of education expenditure, which enabled improvements to be made to school infrastructure and materials, as well as the raising of teachers' wages. In addition, the reforms increased the number of school hours, reformed the national curriculum and introduced more training for teachers (UNESCO, 2004).

Two of the programs triggered by the new set of reforms were focused on improving schools in challenging contexts and with lower results on the SIMCE evaluation. These programs were designed to offer technical and educational assistance to schools of different levels. They included training for teachers, counseling for school principals, support on pedagogic processes, encouragement for the creation of learning communities between schools, and the design of projects of education improvement. The Ministry of Education was in charge of financing and operating the programs. However, after several years the Ministry of Education decided to decentralize the operation of the programs and allow consultants such as specialized institutions and individual professionals to participate. The Ministry of Education remained as the regulator of the finances, guidelines and evaluation. The consultants were in charge of the operation of the technical assistance programs, later called ATE (*Asistencia Técnica Educativa*, Educational Technical Assistance) (Bellei, Osses & Valenzuela, 2010).

After several years of implementation of the Educational Technical Assistance (ATE), the results of the schools were not what the Ministry of Education had expected. The SIMCE demonstrated that the schools outcomes were not improving as was projected. Thus, a new policy reform emerged in order to assist the schools that were reporting lower outcomes. The Ministry of Education granted the schools a special subsidy focused on the most vulnerable students. With such subsidy the schools had to implement a four-year PME (*Plan de Mejoramiento Educativo*, Educational Improvement Plan). The PME consist of a four-year improvement process of curriculum management, school leadership, community integration in the school and management of school resources. One of the strategies used

by the schools to implement the PME was the ATE program. The reform was called SEP (*Subvención Escolar Preferencial*, Preferential School Subsidy) (Bellei, Osses & Valenzuela, 2010).

1.2.1 Preferential School Subsidy Law

The Preferential School Subsidy (SEP) started in 2008. It focused on schools that enrolled students with the highest socioeconomic vulnerability. These students were referred to as *priority students*[4]. The schools holders were encouraged to apply for the SEP so as to receive a subsidy for each priority student enrolled and an additional subsidy if the school had a high percentage of priority students. The subsidy had to be used for the design and implementation of a PME (*Plan de Mejoramiento Educativo*, Educational Improvement Plan). Moreover, the Ministry of Education presented to the schools the different strategies for assisting them in the implementation of the PME; among them was the ATE program. For that, the Ministry of Education created a database of certified ATE for school holders to choose the most suitable institution or person to assist them (Bellei, Osses & Valenzuela, 2010).

Once the schools are enrolled into the SEP, they are divided into three categories. This division is done mainly in accordance to their SIMCE outcomes. There are three categories: autonomous, emerging and recovering. Schools categorized as 'autonomous' are the schools reporting the highest SIMCE outcomes, 'emerging' the second highest and so on. This division affects the way in which the subsidy is given to the schools and the autonomy granted to manage such subsidy.

The significance of the SEP Law is due to its recognition of "…the fact that education of the students from low income families require an additional financial effort"[5] (Bellei, Osses & Valenzuela, 2010:14). It gives the schools autonomy to select their own improvement strategies, encourages them to take responsibility on their outcomes, enforces their accountability and punishes those that have not met the commitments. The punishment may be a reduction of category, a fine or even a partial or definitive suspension (Bellei, Osses & Valenzuela, 2010).

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[4] Up to 2010 Chile had 830 thousand priority students (Bellei, Osses & Valenzuela, 2010)

[5] "…reconociendo el hecho de que la educación de los alumnos provenientes de familias de menores recursos requiere un esfuerzo financiero adicional" (trad. a.)

The SEP Law and the ATE program have been very influential in the improvement of Chilean schools in challenging contexts during the recent years. These strategies have had a direct impact on the sustainability of school improvement. Therefore, it is necessary to determine to what extent these strategies have fostered the sustainability of the improvement in Chilean schools in challenging contexts, as well as to identify the capacity of these schools to achieve improvement in the long run.

CONTEXT OF THE STUDY

2.1 Public schools in Antofagasta

Antofagasta is a region located in the north of Chile. It is the main mining area of the country and therefore its economic development has rapidly increased during the last ten years. Nowadays it has the highest GDP per capita of the country. However, its rapid growth has triggered high differentiation in wealth within the society and the marginalization of some cities in the communes[6]. The public schools of the present study face the consequences of the socioeconomic problems. The students come from families with a low and middle socio-cultural capital and are exposed to economic and psychosocial problems. Nonetheless, is worth mentioning that Chile is a country with high socio-economic inequity. Therefore, the schools of the present study are among the national average, leaving aside those in extreme poverty or wealth (CIAE, 2012; CIAE, 2013).

The present study considers nine public basic schools located in Antofagasta. They are categorized by SIMCE as low and middle socioeconomic status (SES). Such schools have been part of a social responsibility program of the Fundación Minera Escondida. This organization has undertaken a support program in some schools located in areas where its mining activities take place. Subsequently, the program is combined with the subsidy that the school holders received as a result of the SEP Law. However, the main funding of the support program comes from the Fundación Minera Escondida. Accordingly, these schools have been receiving consultancy during four to six years. Nevertheless, despite some schools have already established the capacity to keep on improving, all of them face the challenge of sustaining the improvement (CIAE, 2012; CIAE, 2013).

The smallest school belongs to a rural area and the rest belong to urban areas. The school enrollment is between 127 students for the smallest, to 1322 for the largest. However, one school is located in a high tourist area that is host to a large floating population from neighboring countries, other parts of Chile and Europe. Therefore, the student population of that school is variable and of different SES. Six of the schools enroll students from

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[6] Chile is organized into regions, which in turn comprise a group of provinces and each province has several communes. The communes consist of cities and towns and their local government is known as municipality (Gobierno de Chile, 2014; Biblioteca del Congreso Nacional de Chile, 2014).

preschool to the basic level and the rest only basic level. When the schools were enrolled in the SEP Law, they were classified as emerging except for one that was classified as autonomous. They also have a high percentage of priority students that goes from 32,63% to 57,07% of their total student population (CIAE, 2012; CIAE, 2013).

2.2 Educational Technical Assistance in Antofagasta's public schools

The ATE program had already been implemented in the schools for three to five years prior to collecting the data. Yet, some of the schools had been working with another kind of ATE beforehand. They were monitored for three years; however, the data considered in the present study is of the first two years. Once the data collection started in 2011, two of the nine schools had already a performance suitable for the improvement. However, they did not have the established capacity to sustain the improvement. Two of the schools had low learning outcomes compared with the national and regional average. Four of the schools had a high percentage of students with insufficient learning level according to the curriculum. Two of them had high repetition rates. Five of them had problems with student discipline and four of them problems in school environment. And three of them were in strong need of a methodology for lesson planning. These were the main weaknesses of the nine schools (CIAE, 2012; CIAE, 2013).

The nine schools have worked with two types of ATE program, three with one program and six with other program. Through the ATE they have mainly been supported in improving their management processes, learning outcomes, and monitoring and improving their pedagogic practice. Nowadays, they are in a transition period - either in the final stage or having completed the technical assistance program. As a result, general improvement in different processes, such as capacity building of the teachers, school standardization, organization of the school management team, and the introduction of new working methodologies and pedagogic strategies for teachers is noticeable. Nevertheless, in spite of the nine schools having undertaken a same kind of program, their improvement is not equal. And as for those that have improved, they have experienced fallbacks in the journey. Finally, although some schools have already developed the capacity to keep on improving, all of them face the challenge of sustaining the improvement (CIAE, 2012; CIAE, 2013).

2.3 Monitoring project of the program to support the educational improvement in nine schools in Antofagasta

The CIAE (*Centro de Educación Avanzada en Educación*, Center for Advanced Research in Education) is an institution that belongs to the University of Chile and conducts high-level scientific research in the field of education. One of CIAE's projects is the monitoring and evaluation of school improvement in the nine schools in Antofagasta. The CIAE carried on the project since 2011 until 2013 measuring the improvement evolution of the schools as a result of the technical support offered by the ATE.

Consequently, the institute has produced qualitative and quantitative data of the nine schools so as to identify those that have succeeded in their improvement compared to their past performance and to the regional and national average. Additionally, the analysis has enabled the evaluation of the ATE program in such schools and its impact in their improvement process. The information has enabled further analysis contributing to deliver feedback to the school administration team as well as to the institutions that provided the consulting through the ATE program. Nonetheless, as yet no analysis has been undertaken of the sustainability of the improvement in those schools that reported an improvement in outcomes. This thesis seeks to contribute to research in this area by undertaking such an analysis. This will help to identify the factors that contribute to the sustainability in the long run of school improvement in Chilean public primary schools in challenging contexts.

CONCEPTUAL FRAMEWORK

For over forty years the research on school effectiveness and school improvement has devoted its study to the performance of schools, their differences and similarities, as well as the factors that trigger improvement or regression in their outcomes. The topic has succeeded in collecting and analyzing data in a sophisticated way and has become a political priority for many countries (Luyten, Visscher & Witziers, 2005).

The research has caused the development of literature to help both developed and developing countries to carry out projects of school effectiveness and school improvement. This has also proved the increasing need for countries to focus on the sustainability of improvement (Townsed, 2007). However, the topic continues to be a big challenge for the research in education since up to date there are not enough studies that contribute to its complete understanding.

3.1 School Improvement and School Effectiveness

School improvement research is the branch of educational change study that investigates the school's journey to achieve success and the paramount conditions needed to support the successful change. It is specifically focused on teaching, learning processes, student outcomes, innovative change and problem solving in the educational practice (Sun, Creemers & De Jong, 2007; Creemers, Stoll, Reezigt, et al. 2007). School improvement intends to transform the concept of change in the school so as to build a new and different institution (Reynolds, Teddlie, Hopkins, et al. 1999). And until now, it has extensively contributed to educational policy and practice (Creemers, 2007) and has been an important tool to prove theories and provide material to assist research into school effectiveness (Creemers, Stoll, Reezign, et al., 2007).

According to school improvement research, for the change to occur the educational policy must place the school in the center and adapt according to the school's own particular characteristics and processes of change. Additionally, in order to develop the best strategies for achieving the educational goals the whole educational system has to be considered and not just fragments of it. Finally, the systematization and standardization of the change in the whole educational system is essential to achieve the effectiveness in the long run (Reynolds, Teddlie, Hopkins, et al. 1999).

The school improvement research started during the mid 1960s with curriculum reform as one of its first actions. But it was not until the 1970s when the school improvement started demonstrating successful results. This inspired the research in the field of school effectiveness. The countries that boosted the most research in school effectiveness during the early years were the United States, the United Kingdom, the Netherlands, Australia and New Zealand (Reynolds, Teddlie, Hopkins, et al. 1999).

The school effectiveness research has two main goals: target the main elements of the effective schools and determine the difference between the school outcomes. It is focused on the impact of the students' educational outcomes and therefore it stresses on the evaluation, feedback and reinforcement (Sun, Creemers & De Jong, 2007). It intends to relate the theory and empirical research regarding the educational effectiveness and educational improvement. The objective of school effectiveness research is to identify the factors of the school improvement practice that trigger change. Finally, it is focused on theory and explanation, unlike the school improvement that is focused on change and practice (Creemers, Stoll, Reezigt, et al. 2007).

Although the goals of school improvement and school effectiveness differ, the focus of both has been on the evolution of the school effects, the effectiveness of the school process and the change process in the school (Reynolds, Teddlie, Creemers, et al. 1999). And in spite of their differences, the lessons learnt from these two theories have enabled the improvement of research and practice on education. The research and theory produced by the school effectiveness are used in school improvement. And school improvement focuses on testing the theory and giving feedback for further research (Creemers, Stoll, Reezigt, et al. 2007).

Nowadays, the legacy of the research in these topics has enabled a better understanding of the school and its effects, as well as a clarification of previous assumptions and misconceptions regarding the school development. With the principle of "given appropriate conditions, all children can learn" (Townsend, 2007:3), the research has revealed that there are some schools that have improved in spite of the socioeconomic area where they are located; that the low performance of the students is not necessarily due to their own problems or their family's; that the schools with better outcomes are more stable in terms of structure and culture; and finally, that schools can be evaluated not only in absolute

terms, but also considering the value added by the school to the students' performance (Townsend, op. cit.)

Long debate has produced the idea of combining the school effectiveness and school improvement theories; however, at the end the researchers of different countries have realized that the outcomes of the combination are more beneficial than detrimental. In 1998 a joint research project on education took place between eight European countries, with the aim of understanding the success or failure of the improvement efforts in those countries and with the ultimate goal of building a model applicable to their nations. The initiative was called the Effective School Improvement (ESI) Project and the participants were Belgium, Finland, the Netherlands, the United Kingdom, Greece, Portugal, Italy and Spain. Over three years these nations were devoted to study the educational systems in their countries; however, they had to redefine their goal after realizing that the characteristics and processes in their educational systems were very different, thus as a result they instead developed a comprehensive framework for ESI (Reezign & Creemers, 2005).

The ESI comprehensive framework defines the three educational context factors that influence the school improvement (Creemers, Stoll, Reezigt, et al. 2007).
- Pressure to improve: this can be either positive or negative and has to do with the external actors who put pressure for improvement to occur. Among these actors are the marketing mechanisms, the external evaluation and accountability, the external agents and the participation of the society in the educational and social change. Though, pressure has to be supported "pressure without support creates alienation and resistance, while support without pressure tends to be a waste of resources" (Sun, Creemers & De Jong, 2007:95);
- Resources for the improvement: this includes the autonomy granted to the schools, financial resources, adequate work and pay conditions for the teachers and schools, and local support from the community where the school is located; and
- Educational goals in terms of student outcomes on national tests.

Furthermore, the ESI project also considers three factors at the school level that have to be considered in order for the school to improve. These are:
- Improvement culture: refers to the schools that are willing to keep on improving without fear or refusals. This includes the internal motivation to improve and

pressure on the school to improve; the way the school puts into practice the autonomy granted; shared vision within the school; willingness of the school to become a learning organization in continuous development; the history of the improvement of the school that will give it the potential to keep on improving; the ownership of the school stakeholders of the need for improvement; leadership of the staff and most importantly of the school principal; staff stability; and time granted to the staff to implement the improvement;

- Improvement processes refer to the continuous action of improvement as part of the everyday activity of the school. This starts with a self-assessment in order to identify the needs of the school; followed by a diagnosis and thereafter a planning of the improvement goals; the implementation; evaluation and finally, a reflection of the process;

- Improvement outcomes are the pursued goals in terms of student outcomes and change produced within the school.

What the ESI framework offers to the educational field is a consolidation of concepts and theories previously researched regarding school effectiveness and school improvement. Its goal is to serve as a model for countries to discuss, interpret and challenge and thus continue developing research and innovation (Creemers, Stoll, Reezigt, et al. 2007). Additionally, this research project has triggered a new phase in educational research that has served as a blueprint and inspiration to the rest of the world. After the framework was published, a vast number of research projects have been launched in developing and developed countries that have contributed to the theory of school effectiveness and school improvement.

It is worth mentioning that the ESI framework was produced as a result of several study cases within European developed nations and as a result is not applicable to developing countries. Moreover, the research offered by the ESI framework does not deal with concepts regarding the improvement in the long-term. That is to say, once the educational system and schools have strived to achieve the effective improvement, it is necessary to sustain it in the long run. This is defined as sustainability of school improvement.

3.2 Sustainability of improvement

Sustainability is a multidisciplinary area of study that has been related to the fields of science, environment, economics and sociology, among others. And its application varies depending on the field, thus it is a concept that has become very broad with the time. Researchers have investigated the impact of the sustainability on different fields, as well as the impact of each field on sustainability (Rosen, 1999). The most well known definition of the concept is the one related to the development field, which belongs to the World Commission on Environment and Development. In 1987, the Commission came up with the definition of sustainable development as a proposal to adopt a different way of life and decrease the massive devastation of natural resources: ''development that meets the needs of the present without compromising the ability of future generations to meet their own needs'' (Rosen, 1999:1).

In terms of education, sustainability is understood in relation to two topics; the first is related to education about the awareness of the environment by teaching the students the principle of developing in a sustainable way. This is referred as environmental sustainability (Marshall, 2007). The second refers to 'lasting improvement': improvement of the education system in the long run; which means the process of continuing achievements throughout the classroom, school, policy and system (Marshall, 2007; Spinks, 2007; Lewis, 2007; Di Gropello, 2007; Tam Wai-ming & Cheng, 2007; Townsend, 2007). Sackney (2007:179) declares that the sustainability is "the capacity to engage in the complexities of continuous improvement consistent with deep values of human purpose" referring to the diversity of challenges that the schools have to face in their quest for long-term improvement.

Nowadays it has become a challenging activity to achieve sustainability of improvement in the schools. It is one of the most important challenges facing schools, even more than improvement itself. The educational systems' contexts are influenced by globalization, technology progress and constant transformation. Thus, education has to be innovative and the sustainability is an important factor for such innovation. A focus on sustainability helps the education providers to pay attention to the context, resources, capability and current practices of the school in which they operate. And engages the educational practice into a process of lasting improvement. (López- Yáñez & Sánchez- Moreno, 2013).

Although research has proven that it is possible to achieve a sustainable school improvement, not all the schools have the conditions for it. Harris (2010) argues that the context of the school is important for its process of change and achievements. Thus, the context is a determinant factor for the improvement of each school. Then, the schools in challenging contexts tend to be in a disadvantaged situation towards their improvement and this reduces the possibilities to sustain such improvement.

3.3 School improvement in challenging contexts

The outcomes of the research have revealed the wide differences between the schools within every country. One of the reasons behind that are the market-orientated educational policy reforms that the countries have adopted. These policies have raised the socioeconomic differentiation between schools and therefore, differences between the outcomes of school population. As a consequence, the number of schools in challenging contexts has been growing (Harris, Chapman, Muijs, et al., 2006). "Governments continue to impose standardized models of school intervention and improvement even though the evidence suggests that this is counterproductive to schools located in the most vulnerable communities" (Harris, 2010: 694, 695). Parallel to that, nowadays the countries are more likely to demand the increase of the standards in the schools and have incorporated new performance targets (West, Ainscow & Stanford, 2005). As a result, it has become increasingly difficult to achieve the expected goals of the country for schools in challenging contexts, or even to only reach the starting line for improvement (Harris, Chapman, Muijs, et al., 2006).

The schools in challenging contexts are characterized by problems such as students with low literacy levels; pupils rejected from other schools; children coming from poverty areas with violence, crime and drugs problems; students with low socioeconomic status and a disadvantaged situation. The student outcomes are usually lower than of the students of more privileged areas. And the disadvantage increases for the students living in extreme poverty situation that in average cannot reach the lower initial achievement and fall below the international average (Harris, 2010). Furthermore, since the pupil composition is related to improvement and achievement (Harris, Chapman, Muijs, et. al. 2006), the opportunity of improving is reduced for the students in vulnerable situation.

Additionally, the research has shown that the schools in challenging contexts frequently have scarce communication and motivation among their teachers (Nicolaidou & Ainscow, 2005). The schools tend to be located far away from the urban centers and have a high level of external pressure through constant monitoring (Chapman & Harris, 2004). They have a high staff turnover, scarce resources and students with low achievement. Furthermore, they are surrounded by a community with adults who have low academic preparation and limited job opportunities (Harris, Chapman & Muijs, et al., 2006). The aforementioned emphasizes the importance of the context and the socioeconomic condition of the schools for the achievement of the students (Harris, 2010).

Despite the urgent need to have a better understanding of this category of schools, they are not consistently taken into account for the research. The research on school improvement and school effectiveness has been mainly focused on schools that have already been innovating or have achieved successful results. This has left aside the schools in challenging contexts because they do not meet the characteristics to be studied (West, Ainscow & Stanford, 2005). Additionally, their "inherent complexity […] along with the difficulty of disaggregating the causal effects upon school performance and improvement", discourages the research on such schools (Harris, Chapman, Muijs, et al., 2006: 410), leaving them out of the picture of the educational improvement and in a hopeless situation.

The research has proven that a considerable number of teachers in low-performing schools have low expectations of their students. This triggers a hopeless attitude towards the situation of the children and their achievement (Roy & Kochan, 2012). The aforementioned along with the lack of solutions provided by the research, leads the schools in challenging contexts into a vicious circle when it comes to improvement and sustainability of improvement.

Recently, the researchers have acknowledged the little information available about these schools and have started to focus on them. That has also enabled the study of the schools that improve and sustain the improvement in spite of their challenging situation (Ansell, 2004; Chapman & Harris, 2004; Harris, 2010; Harris, Chapman, Muijs, et al., 2006; Nicolaidou & Ainscow, 2007; Stringfield, Reynolds & Schaffer, 2008; West, Ainscow & Stanford, 2005). There are an important number of schools that have overcome the low achievements and the socio-economical disadvantage succeeding in improving their

teaching and learning (Harris, 2010). Such schools have special traits that distinguish them from their peers. Among them is their resilience.

3.4 Resilient school

In this world of constant transformation, the schools must be aware of the changes in the educational context and develop the ability to adapt and to be flexible, so as to continue with their improvement process in spite of the changes. Giles (2006) defines this ability as "resilience" and declares that it is a basic component to achieve sustainability in the educational reform. It works as a defense mechanism to overcome the adversities that unwanted changes could produce in the school. Some changes might be damaging and detrimental for the school improvement practice such as turnover of school principal and teachers, socioeconomic and demographic damages and educational policy reform, amount of student population, change of the government, among the paramount changes.

Giles (2006) explains the resilience as the capacity of the individuals to maintain their essential characteristics upon a change that can be harmful to them, and the ability to self-renew in order to survive. The difference from the resistance to change is that through resilience, the person or organization strives to adapt to the change without losing its individual features. In the case of the school, it is a "learned personal capacity" (Giles, 2006:182) that the school staff must develop meanwhile they are supported by the organization in order to continue the long-term improvement of the school and the stability of vision. On one hand, there is a staff with shared vision, leadership and responsibility, working in team; on the other hand, there is a supportive school committed to their staff, motivating them, and with a coherent vision.

Research proves that high quality education is directly related to the resilience of high quality teachers. Additionally, teachers' development also depends on their commitment and resilience, and not only on age, experience and career phase (Day & Leitch, 2007). It also helps the teachers to overcome the failure (Leithwood, 2007) and it is related to the belief of individual efficacy of the teachers to handle hindrances in difficult situations (Leithwood, K.; Seashore; Wahlstrom; et al., 2010).

The resilient teachers and administrators in a school are the individuals that are adaptable, flexible and supportive. With commitment and common vision. They act with freedom to change and adapt according to their experience. The school principal is supportive and shares the leadership among the staff. The teachers and administrators walk towards the same direction, with self-confidence and aware of the context in where they are. They have developed self-renewing skills and do not have external pressure to prove their academic success. Lastly, they work based on their own standards and not on the national and international rankings (Giles, 2006).

The paramount trait of the resilient schools is that they maintain their organizational memory as the soul of the organization. They promote the staff stability and plan the staff succession to encourage the commitment among them. They try to maintain the staff's own skills and experience for them to adapt easily to the difficulties. They react to the hazards in a pro-active and intelligent way through strategic alliances with parents, society, media and politicians. They have reduced the hierarchies at the organizational level and the decisions are taken in a collaborative way. Finally, they are able to compensate the staff by granting them a high level of autonomy and a democratic work environment (Giles, 2006).

3.5 Capacity building for school improvement

According to Stringer (2009), capacity building is a process focused on the change and the management of it. Therefore, it directly influences the ability of a school to improve. When it comes to successful implementation of educational reform, both the teachers and schools have to develop an individual and collective capacity to encourage student learning.

Stringer (2009) suggests that capacity building is the set of conditions within the school that facilitates the process of student learning. Conditions like staff development; students involved into teaching process; distributed leadership and planning; and coherence in all the school practice. The main goal of the capacity building is to "sustain the equilibrium while moving towards improvement" (Stringer, 2009:153). It is a time and context dependent activity that satisfies the individual, collective and systemic needs of the school. Moreover, it responds to a singular political, cultural and socioeconomic structure.

Four attributes for creating capacity building for school improvement must be considered: vision, stakeholders, school culture and professional development. The vision is the heart of the capacity building. The stakeholders work as the change agents that help to mediate the uncertainty that the change might produce. The school culture includes collaboration and commitment to change; inclusion and reduction of anxiety when the change occurs; school practices; and the history that enables the common ground for the capacity building process. Professional development includes collaborative interchange of information, reflective and flexible practice and accessibility to new ideas.

Such activity allows the schools to identify and solve problems avoiding complacency. However, the most important outcomes of the capacity building are its effects among the teachers: increase their confidence to take risks towards new tendencies of teaching practices, to the level that they are able to exceed their own limits; boost their expectations for teaching and learning; collective working and learning towards capacity building; participate inclusively along with the parents; willingness to change; systemic support for stakeholders' needs; and maintenance of a positive school image.

Finally, capacity building enables change of mentality that is helpful for the school in their quest to improve. It promotes the connectivity, leadership and governance among the institutions that facilitates the equilibrium of school and its staff.

THEORETICAL FRAMEWORK

4.1 Factors that enable the sustainability of school improvement in challenging contexts

The schools in vulnerable contexts face hindrances in their progress and are frequently placed far away from the national standards. Usually they have a disadvantaged position in the journey of school improvement. Thus, their capacity to sustain their improvement is more challenging than for the rest of the schools. This is one of the reasons why it is important to identify the factors that enable sustainable improvement in these schools. In addition, the knowledge gained will be beneficial for the rest of the low-performing institutions that are not necessarily in challenging contexts: "…it is possible to classify schools according to where they are located in their improvement journeys. This suggests that we need not treat every school's context as completely unique" (Hallinger & Heck, 2011:22).

The identification of the factors that enable sustainable improvement will be useful to analyze the schools of the present study more accurately. Furthermore, it will allow a better comparison and differentiation between the educational institutions of this study. Nonetheless, the international literature has not gathered into a single paper all the available knowledge regarding the sustainable improvement of schools in challenging contexts. Yet, there are research projects available that show case studies of four to five years period about sustainable improvement in schools in challenging contexts (Ansell, 2004; Chapman & Harris, 2004; Harris, 2010; Harris, Chapman, Muijs, et al., 2006; Muijs, Harris, Chapman, et al., 2004; Nicolaidou & Ainscow, 2007; Stringfield, Reynolds & Schaffer, 2008; West, Ainscow & Stanford, 2005).

Based on the literature reviewed, there are certain factors that are frequently present in these types of schools. The most relevant theories presented are by Jerald (2005), Giles (2006), Stoll (1999) and Harris & Chrispeels (2006). These factors have been divided into three categories in order to facilitate their understanding: *structural factors* are the foundation for the improvement. They are necessary to create a suitable environment for the improvement. *Organizational factors* are the implementation of the improvement process. And the *contextual factors* are the independent variables of the schools that affect

them and therefore, affect the organizational and structural factors as well. However, they are external to the schools and therefore difficult to control by them. The three factors are outlined in Table 1.

TABLE 1. Factors that enable the sustainability of school improvement in challenging contexts

STRUCTURAL FACTORS	• School culture • School autonomy • Collaborative attitude within and with the school
ORGANIZATIONAL FACTORS	• Leadership • Teacher's professional development • Staff stability • Ownership of the educational policy • External support
CONTEXTUAL FACTORS	• Governmental authorities • Financial resources • Educational policy

4.1.1 Structural factors

Structural factors shape the nature of the school. They give identity to the whole scholar community and distinguish it. The *school culture* is one of the most significant elements. It generates cohesion among the teachers towards a single institutional vision (Murillo, 2004). The *school autonomy* allows the schools to interpret the educational policy on their own. Thus, they develop an ownership of the policy reform and knowledge of the problem and school process. Thereby, they will acquire the needed empowerment to develop their own tools and select those that tailor their needs (Stein, Hubbard & Toure, 2010). Finally, for this to take place, the school has to have a *collaborative attitude* (Giles, 2006), facilitating the conditions for educational actors to work without restrictions that disable their development or interrupt their improvement process.

- *School culture*

One of the main conditions to achieve a solid school culture is the development of a capacity building process in the school. That will keep the balance in their journey of the school improvement. At the same time it will allow the school staff to identify and solve their own problems individually and collectively. Applying their learning to the new

challenges of the classroom (Stringer, 2009; Stoll, 2010). Finally, it will trigger the development of more improvement processes.

Furthermore, the school vision is one of the most important elements of the school's soul. This is the purpose of existence of the institution, the main goal and the essence. It gives motivation to the educational actors to align their values, objectives and aspirations. The vision has to be focused on the students (Giles, 2006) and shared with the school actors: students and parents. Consequently, they will become participants of the change process (Chapman & Harris, 2004). The vision also needs to be spread among the new staff so as to enable the better understanding of the school processes (Jerald, 2005). Stringer (2009:176) recommends to the schools, "retain and adhere to their vision as a catalyst for reform without dismissing legislative requirements. Honoring one's vision and, at the same time, working within a collective national vision constitute an important aspect of capacity building for improvement".

Moreover, there must be good communication between teachers and students, and they must share the same vision and work in an environment of trust (Chapman & Harris, 2004). The school schedule is also paramount for the teachers because they need enough time for planning and developing teamwork activities (Tam Wai-ming, 2009; Stoll, 1999). The available time to work collaboratively facilitates the capacity building process. It is also important that these schools have an organizational system that enables teachers and administrators to get acquainted with the pedagogical and organizational processes of the school. This is very valuable for the induction process of the new staff in the institution (Jerald, 2005).

Finally, the school resilience has to be present as it is the characteristic that will maintain an attitude of perseverance among teachers and among the school actors. By keeping the organizational memory, the school actors will be autonomous and democratic. And this will help them to adapt to the drastic changes and damaging environment.

- *School autonomy*

The schools in challenging contexts have to make a bigger effort than the rest in order to achieve improvement. Especially to attain a positive effect in the long run. For that, they need enough autonomy to create effective solutions and strategies to improve in spite of

their disadvantage. Although the strategies implemented will not differ from those used by the rest; the difference will be the way in which they are combined according to the various school contexts, students, teachers and required development by the institution (Harris, Chapman, Muijs, et al., 2006; Hargreaves, et al., 2010).

Stein, Hubbard & Toure (2010) argue that instead of telling to the schools what to do, it is better to help them build their own meaning. This will lead them to a constant reflection, to recognize their own differences, and to develop their own tools. They will also feel more motivated to work closely with the Ministry of Education and to give them feedback about the policy implementation.

Stoll (1999:552) sustains, "There is no evidence that systems that validate schools' own improvement and self-evaluation efforts are any less effective than costly and lengthy inspections that sometimes have a devastating impact on staff professionalism and morale". Therefore, a recommendable practice to help the school improvement is by supporting internal knowledge development rather than through external evaluations and monitoring. Through this, the school will be able to create its own monitoring and evaluation system as well as to interpret the results. Additionally, it will grant it with the autonomy to select the actors and tools to analyze better the results of the change process (Giles, 2006).

Furthermore, the information produced through self-evaluations and self-monitoring can be useful for the classroom decision-making. The good utilization of the data will assist the school's improvement and will provide feedback to teachers and school. It will help the school narrow down their deficiencies and therefore, assist them to address the problems in an effective manner (Chapman & Harris, 2004).

Finally, the schools in challenging contexts have to be autonomous to develop their own strategies for their adaptation to a fluctuating and multicultural school population. As well as to integrate different socioeconomic groups in the same institution (Giles, 2006), or students with special needs. Lastly, proper knowledge management the school will be able to adapt programs for students with special needs, and to seek for the support in the implementation of such programs (Tam Wai-ming, 2009).

- *Collaborative attitude within and with the school*

The school actors have to collaborate with each other as well as with other schools. It has already been mentioned that the sustainability of the improvement depends on the resilience of the actors in the school as well as on the school collaboration with its actors. The school has to foster the development of resilient teachers and administrators who can preserve the organizational memory and share it with the new staff (Giles, 2006). Another important aspect is the school collaboration so as to allow the improvement of the teaching quality. The teachers need to have the enough time for planning, training and sharing knowledge with each other (Stoll, 1999).

An important element to promote the internal collaboration in the school is through learning communities. A learning community is defined "as a group of people who take an active, reflective, collaborative, learning-oriented and growth-promoting approach toward the mysteries, problems and perplexities of teaching and learning" (Sackney, 2007: 172). Further, in order to be effective it has to have "shared understanding, reflective practice, high quality of work life, adequacy of organizational resources, learning currency, and inclusive culture […] use of interactive instruction, use of authentic pedagogy, high learner engagement, and development of a 'community of leaders' " (Sackney, Op. cit).

Moreover, Sackney (2007) declares that the main characteristics of a learning community are their common mission, vision, values and objectives; the collaborative work among the staff who is willing to learn from each other; their orientation towards action and experimentation; the shared leadership and responsibility; their system of building learning after the practice; and their sustainable leadership. The learning community has the mindset of perceiving the lack of knowledge as an opportunity to explore and according to that they set their goals. Chapman & Harris (2004) argue that the continuous improvement of the schools is triggered by the engagement with learning communities. However, the developing of a learning community depends on the school's teachers, the school's external context and school's social and cultural learning.

The learning communities may work inside a collaborative network of schools. For a collaborative network to exist, there have to be minimum two organizations collaborating in common activities with a mutual objective during a certain time lapse. This is not restricted to schools, since it can happen between a school and another type of

organization. Nonetheless, such networks are positive for the schools only if they happen in an appropriate environment and conditions since it brings both advantages and disadvantages to the school. Building a collaborative network leads to the construction of improvement according to the school needs; opens up opportunities; it can also helps to tackle problems with vulnerable students. However, it has not been proven that such networks have strongly contributed to solve immediate problems of the school, and even less in raising expectations and student achievement (Muijs, West & Ainscow, 2010)

Therefore, it is important to know when and how to establish collaborative networks between schools or other entities capable to bring knowledge to the school. Thus, it is valuable, but not determinant, when the schools have the opportunity to share practices with other schools. There are some schools that due to their challenging context do not have the means to create a collaborative network. Their remoteness discourages the communication with their peers, along with their lack of economic support for this activity. However, as long as the schools have a constant and solid learning community, they will be preparing the conditions for a future collaboration with their peer schools.

Finally, the development of the school's structural factors gives strength and stability to the school, empowers it to keep on improving, motivates the school actors for their development. The structural factors also build up the ability of the institution to develop its own strategies for policy implementation and measuring its outcomes. The school and its actors are more able to be resilient and preserve their intrinsic traits meanwhile they continue their improvement. They boost the communication among the school actors and facilitate the time of the teachers to improve the quality of teaching. Finally, the structural factors enable the ownership of the knowledge by the school and its actors to become more critical towards their improvement process.

4.1.2 Organizational factors

Organizational factors are the management tools that enable the relationship between all the school actors, as well as connecting the internal process in the school that will influence the school improvement. *Leadership* is the foremost factor. It facilitates the tools' management, fosters innovation and allows the continuity of the improvement project.

According to Nicolaidou & Ainscow (2005), it is the heart of change and of the organizational culture.

The *teacher's professional development* is a key element to implement the improvement. The teachers are those who directly effect the change within the classroom. They are under the most pressure when the change is happening. According to Murillo (2004), in order for a school to change, the teachers have to change first. Moreover, Chapman & Harris (2004) suggest that the teacher's professional development helps to avoid the erosion of their capacity and trust on the school processes. And to facilitate its development, it is essential for the school to have enough staff. The school cannot plan nor face the challenges if it does not have the staff needed to realistically meet the goals (Murillo, 2004). Furthermore, the *staff stability* will facilitate a cohesive teamwork and therefore, a sustainable improvement process.

Finally, it is necessary that the school take ownership of the educational policy since it defines its process of change. For this, the external support will help the school to have a better understanding of the policy. Either private organizations or the government are those that usually give the support to tailor the reform to the school (Jerald, 2005). They also serve as critical friends in which the schools trust to receive objective recommendations (Stoll, 1999).

- *Leadership*

The school must have a consistent leadership at the managing level (Roy & Kochan, 2010). It requires perseverance and communication skills to keep the scholar actors motivated during and after the change process. The leader has to efficiently manage the processes and resources towards the benefit of the school, students and teachers. Additionally, the leader has to create and maintain the needed alliances to facilitate the improvement process (Giles, 2006; Jerald, 2005). For that, the leader has to have a clear understanding of the educational policy and foster a culture of constant innovation in the school improvement.

It is paramount that the leader promotes leadership within the school. This will motivate the staff and will avoid the destabilization of the school practice during the change process. It is also important to empower teachers by developing in them the capacity to be leaders so that they can implement the improvement. Moreover, the teachers need to be able to

either put pressure on the school principal and educational authorities, or compensate it in case of such actors do not have the enough leadership (Jerald, 2005).

Nicolaidou & Ainscow (2005) argue that it is common to have an inadequate leader transition among the schools that have failed in their improvement process –mostly in the case of the principal of the school. Thus, in order to avoid school failure, the leader transition has to be taken into account. The transition process refers to the induction, training and adaptation in the long run for the new leader. When there is a new school principal, the staff is resistant to change and tends to distrust the knowledge and experience of the new leader. The school principal faces the challenge of creating a positive work environment. And at the same time the principal has to deal with the rest of the possible financial and administrative problems of the institution. The atmosphere of the school might cause tension among the staff and create allies and enemies of the principal. Thus, the principal needs to deal with the situation without affecting the operation process of the school. There have been cases of outstanding school principals that succeed in regular schools but fail in the attempt to lead a school in challenging context.

Therefore, it is paramount to properly plan the leader transition in order to the staff does not feel threatened despite of the change. "Change is a constructive and holistic process out of which everyone has a gain" (Nicolaidou & Ainscow, 2005:242). The leader must guarantee a trustworthy environment for the staff and be assertive enough to have a positive influence among them. Additionally he or she has to foster a collaborative work process and the professional development of the staff.

There has not been identified a specific leadership style among the school in challenging contexts. Leaders use different strategies according to the school and context characteristics (López–Yáñez & Sánchez–Moreno, 2013).

- *Teachers' professional development*
 "Nothing or no one is more important to school improvement than a teacher" (Stoll, 1999:507). The teachers are the center of the change, therefore the more trained they are, the better their performance is in the classroom. Their development guarantees the motivation towards the student learning and also promotes the creation of collaborative networks with other teachers towards the improvement of the pedagogic practice

(Chrispeels & González, 2006). Furthermore, if the teachers have a clear understanding of the change process, most probably they will keep a positive working environment. It is also important that they work outside of their school in a collaborative environment with other teachers and when they take into account the reflection and opinion of the students (Stoll, 1999). It is even better when they have economic incentives so as to motivate their stability in a challenging school (David, 2004).

"A clear focus on teaching has been identified as a key characteristic of effective and improving schools" (Harris, Chapman, Muijs, et. al. 2006:416). The teachers' development also implies to have teachers specialized in priority topics such as students with learning problems. This helps to optimize the time of the teachers and enhance the improvement of class planning. Moreover, when the school has enough staff it is easier for the teachers to attend trainings without neglecting the classroom (Levin, 2010).

According to Thoonen, Sleegers, Oort et al. (2012) the teachers' professional development is boosted when the school has appropriate organizational conditions. When the school takes decisions collaboratively; work in team in a positive atmosphere; has responsibility; shared values; and leadership; it may create the conditions for the development of a learning professional community (Tam Wai-ming, 2009). Moreover, such community promotes the development of the teachers because it creates the conditions for them to exchange knowledge and experience. They need to discuss the common pedagogic problems and find common solutions for them. Consequently, they will feel more self-confident, experienced and motivated.

The teacher's professional development not only has to do only with the training and courses that the teachers might have in order to improve their learning. Teachers perceive very positively the developing of mentoring, coaching and peer review. They need to have the opportunity to learn from their peers and to reflect upon their practices towards an increasing teaching performance (Chapman & Harris, 2004). Thus, the establishment of a learning community among them is beneficial. Chrispeels & González (2006) recommend the creation of interdependent relationships between teachers so as to enhance the pedagogical, organizational and structural processes of the school.

- *Staff stability*

The successful implementation of a sustainable school improvement depends on a stable environment and low staff turnover (Harris & Chrispeels, 2006). High staff turnover can be very damaging for the sustainability of the improvement processes (Anderson, 2010). Talbert (2010:558) declares, "Teacher turnover undermines social cohesion and sustained teacher collaboration in the schools most challenged in improving student achievement". Nevertheless, is equally detrimental to have null teacher turnover since it s is necessary to keep the balance between new and old staff. The old staff shares the school's vision, culture and knowledge. The new staff brings new ideas and experiences. When the turnover is high, the teachers need time to internalize the values, objectives and methodology of the school (Sutton, 2010). The adaptation is an activity that takes time and might be a hindrance for the process of sustainable improvement.

In countries such as Finland, teacher stability, especially of key teachers, is a symbol of good implementation of improvement initiatives. In United Kingdom the balance between new and old teachers is a priority for enabling the improvement efforts. Schools that are initiating their improvement process need teacher stability. This will give continuity to their improvement efforts. Although, the long-term efforts can be blocked when there is no teacher turnover (Reezign & Creemers, 2005).

Moreover, the international research has associated the high teacher turnover with the low morale of the teachers. This affects directly the student achievement. The low morale triggers low teachers performance and lack of enthusiasm, whereas the high morale is related to optimism towards the others, hope and enthusiasm for their own job (Leithwood, Seashore & Wahlstrom, 2007). Therefore, high teacher turnover triggers different conflicts that hinder the improvement.

- *Ownership of the educational policy*

Referring to the common practice of countries of copy and pasting reforms from countries with different context to their own, Hargreaves (2010:107) writes, "Reform is like ripe fruit. It does not usually travel well". Sometimes the countries make superficial changes without noticing that once one thing has changed, the rest has to be modified as well. For that, he recommends that countries learn from other nations and apply what is suitable for the country in an intelligent and sensitive way. Teddlie & Stringfield (2010) argue that the

policies of other countries only offer a possible direction for reform and serve as a framework but do not guarantee the same results. The implementation is what will determine the achievements.

The aforementioned also applies when a country tries to implement successful strategies from one school to another within the same country despite of their different characteristics. The schools must take ownership of the strategies in order to apply them to the classroom according to their own traits. Thus, the school has to guarantee that the implementation of either new strategies or policy is done properly, but also that the learning produced within the school keeps sustainable.

The stability of the educational policy is important for the maintenance of the improvement (Murillo, 2004). However, such stability is independent from the schools. They have to be ready and anticipate the change. Furthermore, the implementation of the policy within the school is hard work that requires a constant reflection. The school needs to identify its differences and context so as to apply the policy to its own characteristics and avoid a generic implementation. For that, it is useful if the staff works closely with policy consultants who have a comprehensive knowledge of the policy (Stein, Hubbard & Toure, 2010). This is the reason why the schools must also have a close relationship with the educational authorities. The teamwork between these two actors will enable the accurate and effective implementation of the policy.

It is also important that the school has an organizational structure that allows the trained teachers train the rest of the staff. The school day needs to be restructured so as to give enough time to enable the teamwork among the teachers (Chrispeels & Gonzalez, 2006). To the extent that the educational policy is better planned, the outcomes will be more sustainable in the long run.

Finally, it has to be taken into account that there will always be the risk of complacency about the achieved success. This means that although the school is already satisfied with the successful implementation of the policy, it still has to keep on changing. The policy is in constant modification and it can be counterproductive if the school does not change along with it. The adaptation to the policy reform, the change of students, teachers and authorities will help prevent the complacency (Jerald, 2005).

- *External support*

The school has to have a solid partnership with the external agents that support the implementation of the processes and evaluation and interpretation of results. It needs to introduce a constant strengthening method after the initial implementation to guarantee the quality of the processes. This will optimize the time of the teachers and administrators so that they can dedicate their full energy to their main activities (Jerald, 2005). In the case that capacity or trust is scarce in the school, the external support is also useful (Muijs, West & Ainscow, 2010). Additionally, the teachers need to have a constant support to implement the reforms within the classroom (Stein, Hubbard & Toure, 2010). Regarding the head teachers, the external support will reduce the pressure on them as well as will help them focus on the development of the school culture hoping to obtain faster results (Ansell, 2004).

Moreover, the school needs help with the analysis and interpretation of the data that measures its development and of its students. Unfortunately the teachers and the administration do not have enough time to perform these demanding activities. That is the reason why they need to have the external support that spends enough time and energy on these activities with the required quality. Additionally, the external support is an external asset able to express objective and impartial opinions valuable for the school's feedback (Stoll, 1999).

Nonetheless, García & Donmoyer (2005) argue that the school should keep strict caution with the external support. There will be always the risk that the external support has predefined solutions. The predefined solutions are the ready-made strategies adapted from best practices of schools in relatively similar situations. External experts bring these solutions to the schools. However, the experts might not have enough time to clearly understand the school and adapt the solutions to it. Thus, the school is in a risky situation if it puts into practice the exact strategy without neither questioning it nor adapting it to its own characteristics. Consequently, this could be more detrimental than beneficial for the school, even worst if its situation is challenging.

Finally, the organizational factors are determinant for the school improvement process to take place. The good balance of these factors will prepare the ground for the sustainability of school improvement to occur. However, an adequate leadership is what will trigger the

proper development of the rest. The leader focused on teaching will promote teachers' professional development and will pay attention on having a teacher turnover balance. Moreover, he or she will seek clear understanding of the educational policy and its accurate implementation. For that to happen, the leader will have to foster good relationships with both external policy consultants and those of the Ministry of Education. Lastly, the importance of avoiding complacency is what the leader and its school have to do in order to achieve a sustainable improvement of the institution.

4.1.3 Contextual factors

Contextual factors are what might be considered as the most complex issue in the sustainable process of school improvement. Due to their independent nature, they are difficult for the schools to control or manipulate by the schools. However, it is necessary to understand the context's influence otherwise the improvement might be unsustainable in the long run in spite of the internal effort of the school. Harris & Chrispeels (2006:9) have declared, "…even the best designed school improvement strategy can be influenced by context and politics in ways that undermine or compound implementation challenges."

There are three main contextual factors that directly influence the improvement sustainability. Two of them are interrelated. The first are the *governmental authorities* that represent the State and regulate the educational system at a national, regional and local level. The second are the *financial resources* granted by the State to support the school, specifically regarding the public schools. The financial resources will always depend on the governmental authorities in charge of implementing the budget granted by the State. At the end, the financial resources are what enable or not the autonomy and decision making of the schools and consequently affects the school improvement.

The third factor is the *educational policy* being the regulation from the State limiting what the school can and cannot do. Stoll (1999) claims that schools are constantly exposed to educational change tendencies. These tendencies impact the stability of the implementation (Harris & Chrispeels, 2006) and the establishment of a more organized improvement process.

- *Governmental authorities*

The main governmental authority affecting the school is the Ministry of Education, as the national head of the educational system. As well, the local and regional government are directly involved with the schools since they are in charge of the monitoring of the implementation of the policy and reporting to the Ministry of Education. According to Harris & Chrispeels (2006), a good relationship with the external environment eases the improvement capacity of the school.

Moreover, Levin (2010) argues that political work to build consensus and trust with the governmental authorities, is necessary for the good development of the school. It is needed to 'sit everyone at the same table' and foster a proper relationship between government and school. There are important decisions that depend on the government, such as the annual budget of the school, the number of working hours, the evaluation and monitoring, the increase of the wages, among the most crucial issues. Thus, the school has to make political agreements in order to continue with its own improvement project.

Chrispeels & González (2006) claim that the sustainability of the work of the school administration can be difficult if there is not a relationship of trust between the school administration and the local government.

- *Financial resources*

The public schools that depend on the State usually do not have a complete autonomy to administer their own financial resources. Therefore, this is a crucial contextual factor for the planning of the school improvement and its sustainability.

Tam Wai-ming (2009) states that financial sustainability is necessary to satisfy the need of material and human resources in the school. The budget of the school is what enables the implementation of initiatives such as infrastructure, material, training, staff recruitment and incentives for teachers, among other factors important for the improvement. According to Murillo (2007), financial resources are associated with the student performance and therefore with the quality of education.

Reezign & Creemers (2005) suggest that improvement is easier if the school has the enough available financial resources. And Levin (2010) has shown successful cases of

school improvement in which the State invests financial resources in schools with challenging contexts to hire new staff and increase the wages. The resources help the school to reduce the number of children per classroom, optimize the time and improve the learning quality. Moreover, additional funding enables the recruitment of new teachers specialized in priority topics, as well as facilitates the teachers' planning. However, it is necessary to have proper school management that guarantees the financial sustainability in the long run (Tam Wai-ming, 2009).

- *Educational policy*

The school improvement is in a constant state of change. The school has the challenge of developing the internal conditions to face the external changes. The change is discontinuous due to the policy-makers urge of quick solutions popularly convenient to improve the schools outcomes (Chrispeels & Harris, 2006). Nevertheless, Teddlie & Stringfield (2006) sustain that the policy is not determinant of the school outcomes. It only defines the direction and facilitates the framework for the change. The student outcomes depend on the implementation of the policy. Thus, the educational policy is an external factor that can be managed by the schools to their own benefit. It depends on the interpretation and adaptation of the policy to the school's needs. As well as the way the school can use the policy to support its improvement initiatives (Jerald, 2005; Levin, 2010; Stein, Hubbard & Toure, 2010).

Overall, these three contextual factors will work to apply pressure for the improvement of the school. Thus, the ability of the school to manage them to their benefit will enable or inhibit their improvement process. However, it is a challenge for schools to improve without having progressed in their structural and organizational factors first.

In conclusion, the research on school improvement and school effectiveness has contributed to the educational system in many ways. Through confronting the theory and practice, it has addressed key questions, such as, what makes the school improve effectively, what are the basic elements for sustaining the improvement and why do schools in challenging contexts behave differently, among the relevant ones for the present study. Moreover, the research on effectiveness of school improvement has offered the educational community a theoretical basis by identifying the contextual and school level factors that influence the school improvement. However, it has been revealed that the

school improvement is not enough if the school cannot sustain it. That is why the research has stressed the importance of the sustainability of improvement as one of the most difficult activities of the schools. This is even more difficult if the schools are in challenging contexts.

The resilience of the school and programs for capacity building are two important factors to enable the schools to achieve improvement that is sustainable. In the case of schools with challenging contexts, however, researchers have identified three critical factors for the sustainability improvement. These factors are the result of combining the theories of school improvement and school effectiveness alongside the research on school in challenging contexts. The interrelation of theories and best practices has enabled the creation of a useful framework to analyze the sustainability of improvement made by schools in challenging contexts in their quest to achieve improvement.

METHODOLOGY OF DATA COLLECTION AND AVAILABLE DATA

The data for the study consists of secondary data collected by the CIAE as a result of its study about the monitoring and evaluation of a school improvement program. The main goal of the CIAE was to analyze the improvement of the schools during the years when the ATE program was implemented in them. For this the CIAE collected two types of data: data of the internal processes of the schools and data of their student outcomes in SIMCE. Thus, the data consists of both qualitative and quantitative information as a result of fieldwork in the nine schools during 2011, 2012 and 2013. The collection was carried on during June – December of 2011, November – December of 2012 and November – December of 2013. However, the data available for the present study is only of 2011 and 2012 since the results of 2013 were not processed by the time the present study started. Additionally, the CIAE collected data of three more target groups in order to compare it with the schools of the study and thus facilitate the contextualization of the information. The groups are nine schools of comparison with similar characteristics to the nine schools of the study[7], schools of the Antofagasta region, and schools of the country.

5.1 Quantitative data

There are three types of quantitative data, the national statistics of the student outcomes of the schools (see Appendix I), the national statistics of entry and exit of teachers (see Appendix II) and the results of questionnaires conducted in the schools. The questionnaires include the data of the nine schools and their schools of comparison. The national statistics include data of the aforementioned as well as of the schools of the region and of the country.

The questionnaires were designed based on the most important factors for developing a sustainable school improvement according to the national and international research (CIAE, 2012). They were meant to describe the internal processes of the school to different levels: school, classroom and external actors. Each level had a theme index and each index

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[7] Every school has its own school of comparison since every school has different characteristics. For selecting the comparison school the CIAE considered their organizational and socioeconomic characteristics, as well as the outcomes of the SIMCE evaluation.

had different sub-indexes. These are described in the Table 2. The questionnaires measured the perception of the respondents according to a given scale. The scale ranged between 1 and 4 in which 1 was the lowest value and 4 the highest: minor or equal 2.5 meant insufficient; between 2.6 and 2.9 meant basic; between 3.0 and 3.4 meant intermediate; and more or equal 3.5 meant advanced.

The target group of the questionnaires were teachers, school management team, parents and students. The school principal was in charge of distributing such questionnaires to the respondents, as well as to collect and deliver them to the CIAE. The CIAE was in charge of the process of the information into comparative tables so as to analyze the results.

TABLE 2. Levels and thematic areas and focus analysis for the questionnaires (trad.a.) (CIAE, 2013b).

LEVEL	THEMATIC AREA - Index	ANALYSIS FOCUS - Sub-index
SCHOOL	School culture	• Shared values and expectations among teachers and school management team that guide the school practice. • Expectations about the student's school level in the future.
	Leadership	• Leadership of the school principal and school management team regarding institutional and pedagogical management.
	School organization towards improvement	• Planning and actions towards the improvement. • Management and monitoring of teaching – learning processes.
	School environment and community integration in the school	• Relationship among the school actors and issues related to discipline and student wellness.
	Learning community	• The available bodies with the required quality to enable collective work. • Conditions stimulating the creation of a solid learning community.
CLASSROOM	Teachers training and quality of the teaching - learning practice	• Domain of curriculum content. • Quality of teaching – learning practice in terms of strategy utilization, classroom management and classroom structure.
	Classroom environment	• Classroom discipline, students' motivation in class, teacher capacity to manage the classroom.
EXTERNAL ACTORS	Parents	• Parents' perception of the school (participation of the parents in school activities and teaching – learning processes). • Motivation for parent participation. Parents' satisfaction about the school.
	School holder	• Management of the school holder regarding incentives and recognitions to teachers and students. • Support for the improvement.

The national statistics of the schools in the region and country come from the database of the Agency for Quality Education. The statistics were obtained from the SIMCE outcomes. The years comprised are the period of time in which the schools of the study undertook the ATE program. Additionally, it is included one prior period in order to compare the differences between the outcomes previous to the ATE program and after it. Thus, the data encompasses from 2005 until 2012. Additionally, the schools were divided into two groups depending on the year when the ATE program started in each institution. Hence, there are schools of the cohort 2006 – 2007 and the schools of the cohort 2008. Finally, the CIAE extracted the data that measures four indicators of the schools: effectiveness, efficacy, internal efficiency and equity. However, only two subjects were selected, namely Reading and Mathematics of the fourth grade since the main focus of the ATE program was on those areas and that grade. The indicators are measured as follows:

- *Effectiveness*

It is measured with the results of the SIMCE in the Reading and Mathematics subjects.

- *Efficacy*

It is measured by the trajectory of "the school effect", which means the contribution of the school to the student learning outcomes. These are controlled by demographic, socioeconomic and institutional variables outside the control of the school. The school effect is composed by different variables at both the students and school level. At student level, considers the SIMCE score in Reading and Mathematics of the students in fourth grade, the cultural capital of the student measured by the quantity of books at home, the years of education of the parents, the per capita household income and the gender of the student. At school level, the factors considered are 1) the requirements for school admission, 2) the peer effect of the education of the parents, 3) the peer effect of the per capita household income and 4) the type of school, which in the case of the nine schools, is public.

- *Internal efficiency*

It is measured by the student repetition rate and the student withdrawal rate of students in the first and second basic cycle[8]. The reason why the CIAE took into account these

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[8] The first and the second cycle comprise all the levels of basic education.

indicators is because it is used at the international level for measuring the performance of the school systems. The student repetition increases the probability of school dropout and reduces the probabilities for the student to achieve quality learning. The student withdrawal represents the percentage or students that leave the school either because they change of school or because they cease their studies.

- *Equity*

It is measured with the indicator Level of Learning. This measures the knowledge and skills expected from the students according to the achievement goals established in the national curriculum. The learning standards categorize the school students into three levels of learning: adequate, elemental, and insufficient. The CIAE only considers the Insufficient Level of Learning (ILL) since this is the basic standard that all the schools need to improve.

Finally, the statistics of entry and exit of the teachers come from the database of the Ministry of Education. The period comprised is of 2006 until 2011. This data was considered because according to the CIAE (2013a), the high rate of entry and exit negatively affects the establishment of teachers working cooperatively and the building of quality learning communities. In addition, the high teacher turnover implies expenditure of money and extra time for induction processes.

5.2 Qualitative data

For the qualitative data the CIAE conducted semi-structured interviews with teachers and school management team of the nine schools. The target group of the interviews consisted of the principal, teachers and school management team. The principal and school management team were interviewed individually and the teachers in groups. The teachers interviewed belong to the first cycle, second cycle and pre-school, in the case of schools that have the last level mentioned.

The interviews were meant to have a better understanding about the internal processes of the school from the perspective of the school actors. Further, they were expected to help explaining the unclear information from the results of the questionnaires. Thus, the respondents were asked to describe the school practices, the improvement processes in the

school, and the ATE program. The inquiries were focused on the same three levels of the questionnaires: school, classroom, and external actors. These are explained in Table 3.

TABLE 3. Thematic areas and focus analysis of the interviews. Adapted from CIAE, 2013a.

LEVEL	THEMATIC AREA	ANALYSIS FOCUS
SCHOOL	Changes in the school	• Important changes of the school during the year.
	Priorities of the PME (Educational Improvement Plan)	• Priorities of the school. Goals accomplishment. • Perception about the PME and SEP Policy towards the school improvement. • Learning for the development of the forthcoming PME.
	Overview of the actions in 2012 of the ATE program	• Focus of the ATE program. • Work relationship with the school management team and with teachers. • Changes of the structure and organization of the ATE program.
	Leadership and monitoring of teaching work	• Support and monitoring of the school management team to teachers. • Strengths and weaknesses of the participation between teachers and school management team. • Contribution of the ATE program to the schoolwork organization.
	Monitoring of outcomes	• Instances to analyze outcomes. • Internal evaluations of students. • Strategies to work with students with learning difficulties. Perception about the repetition rate of the school.
	Planning towards improvement	• Assigning courses for teachers. • Time period in which teachers remain in the same grade. Strategies to standardize the teaching work. • Lesson planning and pedagogic strategies.
	Learning community	• Collective work between teachers. • Instances to foster the collaborative work between teachers. • Activities undertaken during the learning community. Participants in the learning community. • Changes within the last years. Strengths and weaknesses.
	Sustainability of the ATE program	• Capacity established of the strategies gained from the ATE program. • Strategies to maintain the improvement. • Training strategies for new teachers. • Future expectations after the ATE program withdrawal.
	Community integration in the school	• Environment among the school staff. • Relationship between teachers and school management team. • Changes in regard to the last year.
	Culture	• Main traits of the graduate students. • Consistency with the traits of the students and what the teachers expect from them. • Profile of the teachers. • Consistency with the profile of the teachers and what the school expects from them.
	Perception about SIMCE outcomes	• Perception about SIMCE outcomes. • Perception of the causes that led to the results obtained.

TABLE 3. Continuation of the table

CLASS-ROOM	ATE program strategies	• Strengths and weaknesses of the teachers' work inside the classroom. • Improvement throughout the years. • Contribution of the ATE program to the improvement of the teaching – learning outcomes. • Satisfaction with the educational level. • Motivation of the students. Pedagogic strategies.
EXTERNAL ACTORS	School's holder	• School's holder work in the school. • Evaluation of that work and of the changes regarding the last year.

5.3 Available data

The data available for this study is consolidated into 18 reports that contain the analysis of the improvement process of each school within two years. There is one report per school of the year 2011 and of 2012. These include the results and analysis of the qualitative and quantitative data collected. Additionally, there are available the transcriptions of 27 interviews during the year 2012, all schools are included except for the school S3. Lastly, one document is available that consolidates the analysis of the 18 reports. This document also includes the national statistics to measure effectiveness, efficacy, internal efficiency and equity. However, these statistics are integrated into graphs that allow the comparison between the nine schools and their schools of comparison, those of the country and region.

5.3.1 Quantitative data

The sample size of the questionnaires was the total population of each target group. The total number of annual questionnaires of the nine schools is described in the Table 4. In order to obtain a normal distribution of the data, the following two activities were accomplished: 1) the main components of the full sample were estimated. In order to create the corresponding aggregated index, the variables belonging to each factor were obtained along with the weights associated to each factor. 2) Afterwards, so as to estimate whether there were significant differences, it was applied a mean test using 1000 bootstrap replications. The index in each replication was calculated with the same coefficients estimated in the first activity. As a result of that, the CIAE produced comparative tables with the indexes and sub-indexes with the perception of the respondents in a value of 1 to 4 as it was previously explained. The tables allow the comparison between the schools and the schools of comparison during the year 2011 and 2012.

As for the national statistics of student outcomes, the CIAE consolidated the information into 26 graphs of two types (see Appendix I). The first type consisted of a comparative trajectory through the years of the nine schools, the regional schools and national schools. The starting year was the previous before the ATE program started in the schools so as to show the position of them before the ATE. The second type of graphs consisted of the progress of the schools compared to their respective comparison schools. The purpose of the graphs was to show the differences between the two variables so as to analyze to what extent the school improvement has been meaningful regardless to the external conditions. E.g., if the schools showed to have improved in the first type of graphs but not in the second type, the achievement is not as relevant as it would seem.

TABLE 4. Number of questionnaires addressed during 2011 and 2012 (CIAE, 2012; CIAE, 2013a)

QUESTIONNAIRES IN 2011									
	SCHOOLS								
	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**
School management team	2	2	0	3	3	2	3	0	2
Teachers	2	9	39	6	11	10	33	19	33
Parents	39	19	147	54	62	87	96	53	117
Students	68	23	76	44	58	72	62	47	48
Total	**111**	**53**	**262**	**107**	**134**	**171**	**194**	**119**	**200**
QUESTIONNAIRES IN 2012									
	SCHOOLS								
	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**
School management team	2	2	5	4	3	3	5	4	7
Teachers	14	2	34	17	9	13	40	17	19
Parents	34	4	136	36	34	94	76	37	44
Students	25	9	63	46	34	91	32	49	51
Total	**75**	**17**	**238**	**103**	**80**	**201**	**153**	**107**	**121**

5.3.2 Qualitative data

The total number of interviews per school per year is described in the Table 5. The number varies from one school to another due to difficulties external to the CIAE. The researchers visited the school once per year and had to address the interviews within a given time span. However, sometimes the schools had different activities that hindered the availability of the staff. Thus, the researchers conducted interviews to all of the schools principals, to minimum one of the school management team, and to minimum four teachers. The length of the interviews was in between 40 minutes and 1.40 hours, being some partly shorter and

some partly longer. The interviews were transcribed and afterwards analyzed to include the main information, and sometimes quotes, in the reports.

TABLE 5. Number of interviews addressed during 2011 and 2012 (CIAE, 2012; CIAE, 2013a)

INTERVIEWS IN 2011									
	SCHOOLS								
	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**
School management team	2	2	2	2	2	2	2	2	2
Teachers	5	5	5	6	4	4	6	4	4
Total	**7**	**7**	**7**	**8**	**6**	**6**	**8**	**6**	**6**
INTERVIEWS IN 2012									
	SCHOOLS								
	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**
School management team	2	2	2	2	2	2	2	3	7
Teachers	5	4	8	5	4	5	9	5	5
Total	**7**	**6**	**10**	**7**	**6**	**7**	**11**	**8**	**12**

RESEARCH QUESTIONS AND METHODOLOGY

6.1 Aim of the study

The aim of the master thesis is to assess the sustainability of school improvement in challenging contexts, particularly in Chile. The thesis will analyze the data produced from the CIAE study of improvement in public schools in Antofagasta. The analysis will identify the schools that have been improving through the years. The theoretical framework presented in chapter 4 will be the basis for the analysis to reveal the schools that have the ability to sustain their improvement.

6.2 Research questions

With regards to the sustainability of school improvement in Chile in challenging contexts the following questions are asked:

1. In what ways have the schools improved?
2. What factors are necessary to sustain school improvement?

6.3 Methodology

For the first research question I used the information contained in the document that consolidates the analysis of the 18 reports on the schools. This document integrates all the quantitative and qualitative data from the study and shows the improvements of the schools during the years studied. Thus, I performed a descriptive summary of the results of this document, following the eight internal processes that the CIAE measured (see Table 2). I then integrated this summary with the national statistics on student outcomes in these schools (Appendix I). The former was performed with the aim of having an overall analysis of the entire available data, as well as to give coherence to the analysis of the CIAE by showing the progress of the student outcomes through the years studied. With this, I could identify the ways in which the schools studied had improved and was able to select those schools that have improved significantly throughout the years in question. Lastly, I only used the selected schools to address the second research question.

For the second research question, the qualitative data was the most important source of information. However, the quantitative data helped to support the analysis. I integrated both qualitative and quantitative data into a thematic analysis methodology (Lapadat, n.d.).

I coded the information following the theoretical framework introduced in chapter 4. I structured the analysis according to the three factors and 11 sub factors (themes) contained in the theoretical analysis. I focused my analysis on the relationship between the data and the factors (see Table 6). In this way, I was able to validate the theoretical framework and to identify the factors needed to sustain school improvement in Chilean schools in challenging contexts.

TABLE 6. Thematic areas and focus analysis for analysis of the sustainability of school improvement

LEVEL	THEMATIC AREA	ANALYSIS FOCUS
STRUCTURAL FACTORS	School culture	• School's vision. • Communication between teachers. • Teachers' time available for capacity building. • System for communicating the pedagogical and organizational processes. • School's resilience.
	School autonomy	• School's autonomy to determine its improve strategies. • Constant reflection about policy implementation. • Internal monitoring and evaluation system.
	Collaborative attitude within and with the school	• Collaboration of school actors. • School supporting the staff. • Enough time for teachers' planning, training and collaborative networks.
ORGANIZATIONAL FACTORS	Leadership	• Perseverant leader with communication skills. • Efficiency to manage processes and resources. • Maintain alliances to facilitate improvement. • Promote leadership among staff. • Plan leadership transition.
	Teacher's professional development	• Training. Motivation towards student learning. • Collaborative networks. • Clear understanding of change process. • Specialized teachers in leaning problems. • Monitoring, coaching and peer review.
	Staff stability	• Teacher turnover.
	Ownership of the educational policy	• Implementation of the educational policy. • Readiness to policy change. • Organizational structure allowing teachers training to each other on the educational policy. • Avoiding complacency.
	External support	• Solid partnership with external agents. • Capacity for selection of the external agents. • Support for teachers to optimize time and reduce pressure. • Support to the school to analyze data and implement policy reforms.

TABLE 6. Continuation of the table

CONTEXTUAL FACTORS	Governmental authorities	• Relationship with the authorities with direct influence on the school. • Political agreements with them.
	Financial resources	• Satisfaction of the material and human resources needs of the school. • Reduce children per classroom. • Optimize time and improve learning community.
	Educational policy	• Improvement despite or because of the educational policy. • Manage of the educational policy to its own benefit.

The qualitative data used are the transcriptions of the 27 interviews. The quantitative data used are the results of the questionnaires on five internal processes: school culture, planning and actions towards improvement, leadership, satisfaction of the professional work, and learning community (see Appendix III). The interviews helped me to analyze the internal and external processes of the schools from the point of view of the school staff. I coded the data by selecting the recurrent answers of the interviewees respecting the themes of the theoretical framework. Afterwards, I used the quantitative information to support the information analyzed by giving a numeric explanation of the perception of the school staff.

Since the interviews were designed by the CIAE, information in the transcriptions dealt with topics not always relevant for the purpose of this study. Thus, to discern the relevant data I coded the transcripts based on the 3 factors and 11 sub factors contained in theoretical framework. After coding the data I gathered the common information of the interviewees from each school. This process helped me to compare and understand the opinion of different actors in the same school.

Afterwards, I grouped the information of the schools by factor (e.g. the information of all the schools regarding school culture were under that same factor). However, the grouping of schools was done with the purpose of facilitating the analysis and not of making comparisons among them. During this process I had to exclude information not precisely common for all the schools (e.g. in the case that data on a particular factor was missing for a school, I excluded the data on that factor for the rest of the schools). Moreover, in order to have a more concise description and to avoid giving importance to certain schools I abstained from quoting the interviewees (if I had cited the whole study group, I would have

included a large number of quotes). Instead, I described in a narrative mode the perception of the school actors stated in the interviews. Finally, the quantitative data was used to support and give coherence to the analysis of the qualitative data. I examined the correspondence between the qualitative analysis and the quantitative data that included the student outcomes of each school.

DESCRIPTIVE SUMMARY OF THE RESULTS

So as to respect the confidentiality of the schools, their names will be omitted. Thus, I will call them by numbers from S1 until S9. S1 to S6 belong to the cohort 2006 – 2007; and S7 to S9 belong to the cohort 2008. This chapter is divided into two subchapters. The first one describes the general characteristics of the schools and the second one describes the schools internal processes.

7.1 Description of the schools

S1 has been unique among the others since it has drastically increased its school population. In five to six years it transformed from rural school of 150 students to urban school of 656 students. In 2012 it received 100 new students. The reason is the rapid population growth of the commune. Thus, the school has students of great cultural and socioeconomic differences. This situation has taken the school through rapid adaptations and deterioration of its ethnic label. The school belongs to a commune characterized by having an ethnic culture of a great value nationwide. The school teaches students of preschool and basic level. 39.96% of them are priority students. It is categorized as emergent school of Socio Economical Status (SES[9]) type C. In 2006 it started with the Educational Technical Assistance (ATE) program. This school is unique among its region since the rest of the schools are characterized by having a small population, being multi-level and having no more than one to two teachers in total. This has produced the rise of the school demand. S1 is located in a mainly rural commune that has grown exponentially due to the high amount of tourists arriving to the area from neighboring and European countries. Thus, the floating population[10] has increased in the area along the recent years (CIAE, 2012 & 2013a).

S2 is the smallest school of the study. It has 127 students and it is the only rural school of the study. It has 38.91% of priority students and it is categorized as emergent school of SES type C. It teaches students only of basic level. It started its ATE program in 2008. It

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[9] SIMCE classifies the schools into A type for high SES, B type for medium-low SES and C type for low SES

[10] Floating population is "a group of people who frequently move from place to place" (Cambridge Dictionaries Online, n.d.)

offers accommodation to students from the fifth to eighth grade living in some other rural areas. The companies working in the Salt industry are the main economic support of the families in the area. There is a strong commitment of the teachers to the school and some of them have moved to the area in order to work in the school. Some of the teachers have been working in the school for long time (CIAE, 2012 & 2013a).

S3 is the third largest institution of the study. Its school population is of 1272 students and has a considerable high demand due to its high recognition in the area where is located from years ago. For this reason, students of different sectors of the city attend this school. It teaches students of basic level and has four courses per level. It has 36.10% of priority students and it is categorized as autonomous school. Its SES is type C. In 2006 it started the ATE program. This school is located in Antofagasta, the provincial capital of Antofagasta and the fifth most populated city in Chile with 400,000 inhabitants. It is situated near to a conflictive sector with drugs and crime problems. This is also one of the reasons why the school is of a great value in the commune where it belongs (CIAE, 2012 & 2013a).

S4 has a school population of 485 students. Students of the preschool and basic level attend this school. It has 54.15% of priority students and it is categorized as emergent school. Its SES is type B. In 2008 it started the ATE program. The school is located in the provincial capital of Antofagasta, specifically in a commune that has serious social problems, which have become a challenge for the school. The students come from disintegrated families in which the parents do not look after their children properly. This has become a priority for the school since it has to make a big effort to reduce the discipline problems among the students. The school population has steadily reduced during the last years due to the population aging (CIAE, 2012 & 2013a).

S5 has a school population of 309 students. It teaches students of the basic level from third to eighth grades and has one course per level. It has 41.29% of priority students and it is categorized as emergent school of SES type C. It was created in 1997 as an annex of other school but it became independent the following year. In 2007 it started with the ATE program. It has three teachers in the management team. This school is located in a commune of Antofagasta called Mejillones with 10,000 inhabitants. The commune has a

considerable amount of floating population due to its proximity to the capital, which causes constant transit of people between the two cities (CIAE, 2012 & 2013a).

S6 has a school population of 700 students. It teaches students of basic level and has two courses per level. It has 32.63% of priority students and it is categorized as emergent school. Its SES is type C. It is located in the provincial capital of Antofagasta. The school was created 10 years ago and it has successfully established during that time to the point that nowadays is very well appreciated among the community where is located. The majority of the school management team has been working in the school since its inception. Since the beginning, S6 has been focused on environmental and social inclusion topics, being its main distinguishing feature. In 2007 it started with the ATE program (CIAE, 2012 & 2013a).

S7 is the largest institution of the present study. It has 1322 students and enrolls students of the preschool and basic level. It has 37.78% of priority students and it is categorized as emergent school of SES type C. It has three teachers in the school management team and has one support team of four teachers collaborating in specific topics such as integration, orientation and school environment. In 2008 it started with the ATE program. It is located nearby S3 and faces the same problems in its surrounding area. In 2012 the school had a significant change in its mission and vision towards a place that fosters the integral development of the students (CIAE, 2012 & 2013a).

S8 has a school population of 553 students, however, it has had up to 1000 students in the past. It has students of the preschool and basic level. It has 53.27% of priority students and it is categorized as emergent school. Its SES is type B. It was created in 1961 with the objective of enrolling students coming from families working in the saltpeter production. Part of the staff has worked in the school for long time, some of them since the 1970s. The families of the students are of high vulnerability with large poverty levels and social problems. The school has discipline problems among its students and has had difficulties to maintain its development. In 2006 started the ATE program (CIAE, 2012 & 2013a).

S9 is the second largest of the study. It has a school population of 1310 students. It has 57.07% of priority students and it is categorized as emergent school with SES type C. It is a relatively new school in the commune. It was created nine years ago with the main

purpose of having a distinctive identity focused on sports. Thus, the school has invested large capital on its infrastructure. It started with the ATE in 2008. The families of the students have high vulnerability and high poverty levels. Some parents have crime and drugs problems as well as cognitive difficulties. This has had severe consequences on the students and the school does not have enough psychosocial team to support them (CIAE, 2012 & 2013a).

Finally, the nine schools have undertaken the ATE program through two different institutions. S1 to S6 have worked with one institution and S7 to S9 with another one. S1, S2, S3 and S4 started in 2006; S5 and S6 in 2007; and S7, S8 and S9 in 2008.

7.2 School improvement

The following summary will describe the improvement of the schools' internal processes after four to six years of ATE program. The description will follow eight processes: school culture, leadership, school organization towards improvement, school environment and community integration in the school, learning community, teachers training and quality of teaching-learning practice, classroom environment, and external factors. This description will use the results of the questionnaires measuring such internal processes of the schools.

7.2.1 School culture

The criteria established by the CIAE to measure the school culture are 1) identity of the school, 2) commitment of the staff towards the same school project and 3) staff expectations regarding the student outcomes. According to the aforementioned, the schools are divided into three groups regarding their degree of improvement of school culture during the years comprised. The first has the greatest improvement and the third the least. The first group consists of S1, S3, S5, S6, S7 and S8; the second S2 and S4; and the third S9. The first group has strong school culture and sense of belonging among the school staff, parents and students. The ATE program has helped them to adopt pedagogic strategies towards the learning improvement. They have also adopted evaluation and monitoring practices. The school staff is committed to the schools and to the improvement project. They have incorporated new teaching methodologies and have a better staff organization. Additionally, they have high expectations of their student outcomes and confidence on the school progress (CIAE, 2013b)

The second group has also a defined identity and the school staff is committed to the schools. However, the school staff does not work towards common goals. The staff does not show a sense of belonging and tends to work individually. Nevertheless, the teaching methodologies delivered by the ATE program have been effective enough for the increase of staff's expectations about the student outcomes. Lastly, the third group has a negative self-perception. The school actors have low expectations regarding the achievements of the students and the school. It has failed in meeting the original objective of the school focused on the sports. It has discipline problems among the students and low student outcomes (CIAE, 2013b).

Finally, according to the criteria established by the CIAE for measuring the improvement of school culture, the schools that have achieved valuable improvement in the three criteria are S1, S3, S5, S6, S7 and S8. These have a strong identity, their staff is committed to the same school project and they have increased their expectations regarding student outcomes.

7.2.2 Leadership

The criteria established by the CIAE to measure the leadership of the schools are 1) leadership of the school management team and 2) engagement of the school management team with the techno-pedagogical practice. According to the aforementioned, the schools are divided into three groups regarding their degree of improvement of leadership during the years comprised. The first group has the greatest improvement and the third the least. The first group consists of S1, S3, S6 and S7; the second S4, S5 and S8; and the third S2 and S9. The leadership of the school management team of the first group has been essential for the school improvement. The team has been very involved into the techno-pedagogical practice. Thus, the school staff greatly appreciates the leadership within the school. The leaders have been able to successfully coordinate the whole school staff towards new practices regardless the implied extra work. Leaders work collaboratively and have good communication with each other. Additionally, they are engaged with the techno-pedagogical practice (CIAE, 2013b).

The second group has not had as good improvement as the first group. Its school management team does not have strong cohesion, which has hindered the work

coordination. However, the development of the schools of this group has been different from each other. The school staff of S5 and S8 appreciates the leadership of the school management team. The team of S5 actively participates in the techno-pedagogical practice, whereas the team of S8 has low participation. The school management team of S4 has had low engagement with the techno-pedagogical practice. The staff perception is divided into those who appreciate the principal's leadership and those who do not. The ATE program has contributed to the better organization of the school management team and the improvement of their work in S5, S6, S7 and S8. Lastly, the third group has weak leadership. It has not been able to foster the change in the school. This is in part due to the low participation of the principal in the techno-pedagogical issues and problems with decision-making (CIAE, 2013b).

Finally, according to the criteria established by the CIAE for measuring the improvement of leadership, the schools that have achieved valuable improvement in the two criteria are S1, S3, S6 and S7. The school management team of the former schools has strong leadership and is engaged with the techno-pedagogical practice. However, S5 and S8 have good leaders with the characteristics to achieve a strong leadership for the school improvement.

7.2.3 School organization towards improvement

The criteria established by the CIAE (2013b) to measure the school organization towards improvement of the schools are 1) institutional planning, 2) monitoring of learning outcomes and improvement actions and 3) monitoring of teachers' work.

- *Institutional planning*

According to the CIAE (2013b), all the schools except for S9 have a pedagogic focus in their institutional planning towards improvement. Their priorities are the improvement of teachers' capacity and technical work. The SIMCE outcomes are paramount for the majority of the schools. However, S9 has an additional focus on the community integration of the school since without it the pedagogic activities cannot be properly developed. All the schools have adopted a new methodology for lesson plan and operational standards for better school performance. Additionally, S4, S5 and S6 have adopted a monitoring and evaluation system. Furthermore, the CIAE divides the schools into three groups regarding

the participation of the teachers in the institutional planning. The first group has the greatest participation and the third the least. The first group consists of S1, S2, S3, S5, S6 and S8; the second S4 and S7; and the third S9. The teachers of the first group are greatly involved in the institutional planning and evaluation of the strategies. The teachers of the second group are not as involved as the first group in the institutional planning. In fact, most of the time they solely validate the planning once the school management team has done it. Lastly, the teachers' participation of the third group is scarce and has been decreasing over time.

- *Monitoring of learning outcomes and improvement actions*

All the schools have adopted a system of monitoring and analysis of school outcomes. The ATE program has delivered a system for internal evaluation helpful for planning the students' improvement. Hence, the schools can monitor the progress of their students with the aid of the internal evaluations and take corrective decisions. However, it should be noted that the schools have still not developed the capacity for the design of future internal evaluations. Nowadays they totally depend on the ATE program. Moreover, all the schools, except for S5 and S9, have already established a system to analyze student outcomes. The whole school staff participates in the analysis and in some cases the results are also shared with parents and students. In addition, S1, S3, S4, S7 and S8 have fostered the participation of teachers in the corrective strategies and activities to improve the student outcomes (CIAE, 2013b).

- *Monitoring of teachers' work*

The CIAE (2013b) evaluates the monitoring system of teachers' work and the perception of the teachers about it. As a result, the schools are divided into three groups. The first has the greatest perception and the third the least. The first group comprises S1, S3, S4 and S7; the second S2, S5, S6 and S8; and the third S9. The school management team of the first group has a structured system to observe and deliver feedback and support to teachers. Additionally, the team has a fixed system to revise the lesson plan of teachers. These activities are highly appreciated by the teachers. The schools of the second group have a developing system of teachers monitoring. The school management team of S5 and S8 performs observation of teachers' practice but not in a systematic way. Likewise, S6 is not systematic in the supervision of lesson plan and practice monitoring. Furthermore, S2 performs observations of teachers' practice but with the aim of evaluate them instead of

support them on what they need. Lastly, although the school management team of the third group has planned to undertake a system to monitor teachers' work, it has not implemented it yet.

Finally, according to the criteria established by the CIAE for measuring the improvement of the organization of the school towards improvement, the schools that have achieved valuable improvement in the three criteria are S1 and S3. The staff of both schools actively participates in the institutional planning, monitoring of learning outcomes and improvement actions. Additionally, their school management team has a systematic monitoring system of teachers' work.

7.2.4 School environment and community integration in the school

The criteria established by the CIAE (2013b) to measure the school environment and community integration in the schools are 1) organizational environment, 2) student discipline and 3) student interaction. According to the aforementioned, the schools are divided into three groups regarding their degree of improvement during the years comprised. The first has the greatest improvement and the third the least. The first group consists of S2, S3, S5 and S6; the second S1, S7 and S8; and the third S4 and S9. The schools of the first group have good relationship and communication between school management team and teachers. In addition, they do not have important discipline problems among students.

The second group has an overall positive school environment, however, it also has some opportunity areas. S1 has had to adapt to the rapid growing of its multicultural school population. Additionally, the strictness of its principal has triggered some internal conflicts among the staff that have been solved over time. S8 has had problems triggered by the unclear roles and functions of the school staff. And S7 has had some problems with student assistance and punctuality. The school environment and community integration of the third group has been its main hurdle hindering its improvement process. The most frequent problems are internal conflicts of the staff and discipline problems of the students. S9 faces the biggest challenge since the problems of student interaction has delayed its improvement (CIAE, 2013b).

Finally, according to the standards established by the CIAE for measuring the improvement of school environment and community integration, the schools that have achieved valuable improvement in the three criteria are S2, S3, S5 and S6.

7.2.5 Learning community

The criteria established by the CIAE (2013b) to measure the learning community of the teachers in the schools are 1) communication and confidence regarding the professional practice and 2) quality of collaborative practice. Although all the schools' teachers have expressed to be willing and confident to work with their colleagues, the schools are divided into three groups according to their degree of improvement of learning community during the years comprised. The first has the greatest improvement and the third the least. The first group consists of S1, S3, S6 and S7; the second S4 and S8; and the third S2, S5 and S9. The first group has a system for collaborative work between teachers of different school grades. The schools pay detailed attention to this activity and consider it important for the development of teachers and school in general. The schools have designed special opportunities for teachers' collaborative work to exchange pedagogical practices and plan with their peers. Some, such as S1 and S3, have developed an induction process for teachers.

Although the schools of the second group have collaborative work practices between teachers, these are not systematically performed. Their main improvements are on teacher support, induction process for teachers and teacher collaboration for the transition of students from the first to the second school cycle. However, the teachers have a low perception of the school's learning community. They consider that it solely works as a strategy to integrate everyone to the school strategy but not as a process of teacher development and learning innovation. Thus, the schools have not developed effective strategies to foster the collaborative work between teachers. The third group has not developed a formal learning community. The poor leadership of S2 and S9 has hindered the creation of opportunities for collaborative work. S9 does not implement the decisions that are taken collaboratively. Thus, the staff does not appreciate the available opportunities for common decisions (CIAE, 2013b).

Finally, according to the standards established by the CIAE for measuring the improvement of school learning community, the schools that have achieved valuable improvement are S1, S3, S6 and S7. These schools have shown to have positive communication and confidence between teachers. Additionally, they have adopted systematic practices facilitating quality results from their collaborative work. Further, despite the improvement of S4 and S8 in this matter, both schools still have to be more systematic in their collaboration practices. Thus, they have slightly improved.

7.2.6 Teachers training and quality of the teaching-learning practice

The criteria established by the CIAE (2013b) to measure the teachers training and quality of teaching-learning practice in the schools are 1) the perception of the school about the teachers training and 2) the perception about the quality of teaching practice including the strategies in the classroom to organize it and motivate the students. According to the aforementioned, the overall evaluation of the schools' teachers about the quality of their teaching-learning practice is positive. The school management team of all the schools, except for S8, appreciates the ATE program for the improvement of the quality of teachers' practice. In all the schools, the lesson plan introduced has contributed to the time efficiency in classroom. The new methodology of S1 and S6 has endowed teachers of better tools to teach, having as a consequence the increase of motivation of the students. In addition, the new methodology has solely contributed to specific teaching-learning aspects of S7, S8 and S9. However, teachers of these schools have still not gained the motivation to implement the new strategies. Moreover, in all the schools, except for S8 and S9, the teachers' trainings have significantly contributed to the preparedness of teachers.

The school management teams of all the schools, except for S8 and S9, recognize that the teachers have good quality of teaching, motivate their students, have a structured practice utilizing diverse strategies, and are able to properly manage the classroom. Moreover, the school management team of S8 has an intermediate perception about the quality of teachers' practice. The main criticism is that teachers are not enough prepared in the Reading and Mathematics subjects. Nevertheless, the school management team has a positive perception about the quality of teachers' practice regarding motivation of students and management of the classroom. Furthermore, the school management team of S9 has a negative perception about the quality of teachers' practice. It declares that teachers are not properly trained mostly in Mathematics and especially those teachers of the second school

cycle. Additionally, teachers are not as responsible as they should since they have problems of punctuality and absenteeism hindering the systematization of their practice (CIAE, 2013b).

Finally, according to the standards established by the CIAE for measuring the improvement of teachers training and quality of teaching-learning practice, all schools, except for S8 and S9, have achieved valuable improvement in the two criteria.

7.2.7 Classroom environment

The criteria established by the CIAE (2013b) to measure the classroom environment in the schools is the discipline and motivation of the students in classroom. The schools are divided into three groups according to their degree of improvement of classroom environment during the years comprised. The first has the greatest improvement and the third the least. The first group consists of S2, S3, S5 and S6; the second S1, S4, S7 and S8; and the third S9. The first group has positive student discipline and students motivated towards learning. This enables the achievement of an efficient class in due time. Additionally, the motivation is related with the teachers' ability, their pedagogic resources, and the ICT tools.

The second group has specific weaknesses that hinder the work in the classroom. S4 and S7 have discipline problems and difficulties to motivate students. In S1 and S8 the difficulties are produced by the teacher turnover. The new teachers have more problems to manage and control the classroom. Lastly, the third group has had significant problems of discipline and motivation of the students. The aforementioned is related with the low motivation of teachers to innovate in their practice. The school has hired assistants to support teachers, however their aid is limited since they lack of the enough pedagogical training. Lastly, in all the schools, except for S9, the improvement of the classroom environment of the first school cycle is higher than of the second school cycle.

Finally, according to the standards established by the CIAE for measuring the classroom environment, S2, S3, S5 and S6 have achieved valuable improvement.

7.2.8 External actors

The criteria established by the CIAE (2013b) to measure the relationship with external actors are 1) relationship with students' parents: their participation in the school and their perception about the school, and 2) relationship with school holder: support and participation of it in the school matters.

- *Parents*

The schools are divided into three groups according to their level of relationship with the students' parents during the years comprised. The first has the greatest relationship and the third the least. The first group consists of S2, S3, S5, S6 and S7; the second S1, S4 and S8; and the third S9. The first group does not have significant problems with the students' parents. These schools have designed different strategies to foster parents' participation since they are recognized as an important asset for the student learning. S6 has a program called *Helper Mom* in which mothers assist the classroom of the first school cycle. S3 has asked the parents' help for the infrastructure maintenance and the purchase of material. As a result, in these two schools the parents have high commitment with the school and the education of their children (CIAE, 2013b).

The parents of the second group of schools are moderately involved with the schools. The schools do not have a substantial strategy to foster the participation of the parents. In S1, the parents used to have a negative perception about the school regulation towards them but they have accepted it over time since the student outcomes have been increasing. Lastly, the school of the third group has not been able to integrate the parents into the school regulation. And in some occasions the parents' behavior has gotten out of control. In addition, the parents do not actively participate in their children's learning and sometimes they oppose teachers' decisions. However, the school has created some strategies to tackle these problems and foster parents' participation in the students' learning (CIAE, 2013b).

- *School holder*

The school holders do not give comprehensive technical support to the schools. The most significant support has been focused on financing or co-financing teacher trainings. However, they are also responsible of the management of human and material resources of

the school, the decisions about the infrastructure and school facilities, and the important decisions of the school. The CIAE identifies three groups of schools according to the level of support received from the school holder. The first has the greatest support and the third the least. The first group comprises S3, S5 and S8; the second S1, S2, S4, S6 and S7; and the third S9. The school management team of the first group categorizes as positive the support received by the school holder. They have received the material resources requested on time and the school holder has managed the human resources according to the schools needs. These schools have had the support of the school holder for the recruiting and dismissing of teachers (CIAE, 2013b)

The second group has an overall positive perspective of the school holder regarding all the aspects. However, the schools need more autonomy to decide on the recruitment or dismiss of teachers. Lastly, the school management team of the third group is very critical towards the school holder. The school does not feel supported nor part of the priorities of the educational system in the region. The school has to enroll students that are expelled from other schools and it does not get the human and material resources required on time. In addition, the school has unsolved needs regarding infrastructure and facilities. Furthermore, the school holder does not implement the decisions already taken towards school improvement (CIAE, 2013b).

Finally, according to the standards established by the CIAE for measuring the relationship with the external actors, S2, S3, S5, S6 and S7 have achieved valuable improvement. These schools have close relationship with parents and good support from the school holder. Additionally, although S1, S4 and S8 have improved to a lesser degree, they have progressed in this matter as well.

DATA ANALYSIS AND DISCUSSION

This chapter is divided into three parts. The first (subchapter 8.1) assesses the improvement of the nine schools, the second (subchapter 8.2) analyzes the sustainability of that improvement and the third (subchapter 8.3) discusses the findings contained in the previous two parts. The following analysis will consider both quantitative and qualitative data. For the subchapter 8.1, I will use the quantitative data for the selection of the schools that have improved through the time span measured. For that, I will consider the national statistics of student outcomes that measure the effectiveness, efficacy, internal efficacy and equity of the schools. Further, I will also use the results of the questionnaires that measure the internal processes of the schools: school culture, leadership, school organization towards improvement, school environment and community integration, learning community, teachers training and quality of teaching-learning practice, classroom environment and external actors. These results have been summarized in chapter 7. Once I have selected the schools that showed improvement, I will proceed to analyze their internal processes in the subchapter 8.2 so as to identify whether they meet the conditions necessary to sustain the improvement over time. To do that, I will use the quantitative data of the questionnaires aforementioned, as well as the qualitative data of the transcriptions of the interviews.

8.1 The improved schools

The following analysis will help to address the first research question regarding the ways in which the schools studied have improved their outcomes.

Generally speaking, the nine schools studied have a similar situation since they belong to challenging contexts and are attended by students of low and middle socioeconomic status. According to Harris (2010) the aforementioned is an important condition affecting student outcomes. However, in spite of the situation of the schools, some of them have demonstrated an improvement in their student outcomes. Chapter 7 described the improvement of the nine schools in relation to eight internal processes. Thus, as a result of what was described in chapter 7 it is possible to identify the degree of improvement in the schools' internal processes throughout the period covered. These schools are categorized into three groups according to their degree of improvement. The groups will be called A, B

and C. Group A achieved the greatest improvement and group C the least. Group A consists of S1, S3 and S6; group B S4, S5, S7 and S8; and group C includes S2 and S9.

Group A schools stood out for their overall improvement in their processes. The school S3 improved significantly in regard to all of the internal processes assessed. Likewise, schools S1 and S6 have achieved great improvement in almost all their internal processes. However, this study shows that S1 still needs to improve its school environment and community integration, classroom environment and relationship with external actors. As for S6, it needs to improve the monitoring of teachers' work and relationship with the school holder.

This group exhibits the three factors postulated by Creemers, Stoll, Reezigt, et al. (2007), for achieving school improvement: improvement of culture, improvement of processes and improvement of outcomes. Regarding the first factor, the schools improved their culture by having internal motivation to improve and a shared vision within the school, they have an ongoing learning organization, they have undertaken an improve program (ATE) since at least five years, and their school management teams, including their principals, have strong leadership. Regarding the second factor, the schools have engaged in an improvement process in which all the staff has fully participated in the planning, implementation, monitoring and evaluation of the methodology and strategies for improvement. Regarding the third factor, the schools have achieved a remarkable improvement of their student outcomes.

Townsend (2007) has said that there is a relationship between the stability of the schools in terms of structure and culture and their improvement of outcomes. This statement corresponds to group A since their improvement in structure and culture is reflected in the improvement of their outcomes. The student outcomes of the schools measure four indicators: effectiveness, equity, efficacy and internal efficacy. Thus, group A has achieved an overall improvement in effectiveness, equity and efficacy. Additionally, S3 and S6 have had significant improvement in internal efficacy. And the entire group is ahead of their schools of comparison. Their improvement in terms of efficacy shows that the schools have significantly contributed to the student outcomes (school effect), considered by Townsend (2007) as a paramount indicator to assess the school improvement. Additionally, their

improvement in efficacy shows stability of the school population and quality of learning achieved by the students (CIAE, 2012).

Moreover, the four schools in group B have improved their internal processes in different ways. S5 achieved improvement in almost all its internal processes, yet it still needs to improve in terms of leadership, monitoring of teachers' work and learning community. School S7 improved in almost all the internal processes, yet it still needs to make improvements in terms of school environment and community integration, classroom environment, and relationship with the school holder. School S8 improved its school culture, school organization towards improvement, teachers training and quality of their practice, classroom environment, and relationship with parents. Lastly, S4 has achieved improvement in school organization towards improvement, teachers training and quality of their practice.

According to the factors for achieving improvement postulated by Creemers, Stoll, Reezigt, et al (2007), group B shows different degree of improvement. All the schools have become learning organizations by undertaking an improve program (ATE) since at least four years. However, only the staff of S5 and S8 has fully participated in the whole process of planning, implementation, monitoring and evaluation of the technical improvement program. Moreover, the schools S5, S7 and S8 have improved in school culture, their staff works with a common vision and they principals have strong leadership. However, the school management teams have had cohesion troubles in all the schools, including S4.

Regarding the student outcomes (see Appendix I), the schools in group B performed better than their schools of comparison. S8 achieved an overall improvement in effectiveness, equity and efficacy. This is in part due to its improvement in six of its internal processes, specifically in terms of structure and culture, which Townsend (2007) has claimed as important for improvement of outcomes. Likewise, S5 and S7 improved in five of their internal processes. However, their student outcomes have been solely in terms of internal efficacy, in the case of S5, and in terms of equity, in the case of S7. This is in part due to internal factors, such as poor leadership in the school management team, but also to contextual factors. Creemers, Stoll, Reezigt, et al (2007) claim that the adequate conditions for teachers are among the contextual factors influencing school improvement. In S5 the teachers did not have enough monitoring and support for their work and in S7 teachers

were not completely involved in the institutional planning. S4 improved in terms of efficacy, which shows its significant contribution to the student outcomes (school effect). Nevertheless, its improvement in solely three internal processes leaves it behind the rest of the schools in its group. This is because it still needs to strengthen its structure, culture, leadership and participation of the staff in the planning, implementation, monitoring and evaluation of the improvement strategies.

Group C, similarly to group B, shows different degree of improvement. S2 achieved improvement in four of its internal processes, whereas S9 shows a partial improvement in the monitoring of learning outcomes. The main weaknesses of S2 are in part due to important internal processes for the school improvement such as school culture, leadership, learning community and monitoring of teachers work. This strongly corresponds to the inconsistent improvement of its student outcomes. Likewise, S9 has slightly improved in terms of efficacy, which relates to its low improvement in its internal processes. Thus, the improvement of group C has been inconsistent and needs to become more systematic to support the improvement of the rest of its internal processes and the increase of its student outcomes.

The analysis of the sustainability of improvements made will be carried out among those schools that achieved improvement in their student outcomes, since sustainability is a process of "lasting improvement" (López-Yáñez & Sánchez-Moreno, 2013) and only those that have improved can aim for achieving sustainability. Thus, the schools to be considered belong to groups A and B. Moreover, the research has shown that not all the schools have the conditions for achieving improvement. Hence, the internal processes of the selected schools have to be analyzed in order to identify those that have the conditions to sustain their improvement in the long run. In order to do this, the schools have to meet several characteristics categorized into three factors: structural, organizational and contextual. These three factors will be discussed below in relation to the seven schools selected.

8.2 Analysis of the sustainability of the schools' improvement

The following analysis of subchapters 8.2 and 8.3 will help to address the second research question regarding the necessary factors to sustain the school improvement made by Chilean schools in challenging contexts.

As the literature described in chapter 4 indicates, there are three factors that are prevalent in the successful processes of sustaining the improvement of the schools in challenging contexts. These factors are 1) structural, 2) organizational and 3) contextual. Different subcategories correspond to each factor: school culture, school autonomy, collaborative attitude within and with the school, leadership, teachers' professional development, staff stability, ownership of the educational policy, external support, governmental authorities, financial resources and educational policy (see Table 1). The analysis of sustainability will follow the factors and subcategories aforementioned.

8.2.1 Structural factors

The structural factors are 1) school culture, 2) school autonomy and 3) collaborative attitude within and with the school.

1) School culture

In order to build a solid school culture, the literature suggests certain characteristics that the school has to exhibit. The school and all its actors must be resilient, work with the same vision and have good communication and confidence among them. Based on the aforementioned, all the seven schools have a different degree of school culture. However, they can be clustered into two groups according to their degree of school culture. These are group A, consisting of S1, S3, S5, S6 and S7, with a higher degree; and group B comprising S4 and S8, with a lesser degree.

The literature indicates that the resilience of the school is the fundamental component for sustaining the improvement and overcoming unwanted and unexpected adversities. Resilience becomes the capacity to maintain the essence of the school regardless the adversities. Additionally, the school staff has to develop such capacity towards sustaining the improvement while being supported by the school (Giles, 2006).

Group A shows higher resilience. The schools in this group have built the capacity to facilitate the improvement process. The staff of this group has a strong identity and is cohesive. Its pride and sense of belonging has engendered a collaborative work ethic with a shared vision towards enhancing student learning outcomes. Group A schools are constantly working to increase the support of their personnel. Accordingly, the staff is

satisfied with, feels recognized and appreciated for, its work. This group has achieved important goals that were established in the PME (Educational Improvement Plan) of the school. Additionally, the leadership of the schools has been strong enough to promote the commitment of the staff towards the institutional improvement project. The schools are appreciated in the community where they are located and are in a great demand, except for S7.

As a result of their resilience, group A has achieved important accomplishments. S1 has been able to adapt to its rapid increasing multicultural school population, bullying problems among students, and teacher turnover of the second school cycle. In addition, the school has constantly been improving its student learning outcomes. As for S3, the school has achieved a remarkably improvement of its student learning outcomes, quality of teaching-learning practice and organization of the staff. In fact, its learning outcomes have exceeded the average of the region and of the country. Furthermore, its outstanding outcomes have been despite the vulnerable area where it is located, and its large school population of 1272 students. The staff of this group has increased its confidence about the future learning achievements of its students. More than 50% of the staff of S3 and S7 and more than 80% of the staff of S1, S5 and S6, believe that their students will achieve a professional degree. Indeed, school S3 has a special department dedicated to counseling the students on their professional future.

Group B has developed its resilience but to a lesser degree than group A. The schools in this group have improved their expectations about the future learning achievements of their students. More than half of their staff believes that its students will achieve a professional degree. The external image of both institutions has been affected due to the challenging area where they are located. Thus, new teachers arrive to the school unmotivated. However, both institutions have been able to stimulate teachers so they can increase their motivation towards the students and school.

A significant source of adversity affecting the schools in the study is the unexpected increase or decrease of their school population. The school population of S7 has decreased due to the competition with surrounding private schools taking away their best students. As for S1 and S8, their school population has increased and decreased respectively due to

migration to the region. This has been faster than expected by the schools. Hence, their capacity to adapt to and overcome this challenge has depended on the schools resilience.

School vision is listed in the literature as an important element for aligning values, objectives and aspirations of the school actors. The vision has to be focused on the students (Giles, 2006) so as to make them participants of the change process (Chapman & Harris, 2004). The vision will help the staff to better understand the school processes (Jerald, 2005). And finally, Chapman & Harris (2004) postulate that teachers and students need to share the same vision, to work in an environment of trust and to have good communication.

Based on this, both groups A and B have succeeded in involving students and parents in the school improvement project. Their main strategy has been to share with them the outcomes of the student evaluations so as to reflect on the weak areas and foster their participation. As a result, the students feel motivated. Additionally, some schools have achieved a further relationship with the parents, such as S3, S4, S6 and S7. The schools S3 and S7 have the parents' technical and financial support for improving the infrastructure of the school. S6 has the parents' support in the classroom helping the teachers.

Moreover, schools S5, S6 and S7 have been recognized by their positive staff interaction. In fact, the Ministry of Education has awarded the school S5 for its good community integration. As a consequence, this school has developed a positive image both internally and externally. Furthermore, the school has consolidated its processes for cultural change. School S7 undertakes motivational activities dedicated to teachers during the most difficult times of the year. As a result, the teachers have strengthened their commitment to their job and have been able to work better with the students. Group B schools have experienced challenges in motivating new teachers due to their poor image. The schools of group B are perceived as places where is difficult to work due to their challenging context.

Interestingly, in spite of its short life of only ten years, school S6 has achieved stability and is of greatly valued by the community where is located. This is due to it having undertaken important projects regarding community integration and cultural promotion. They have placed the children at the center of the learning process and they plan around them. The principal of the school S6 believes that education is a human right and not a commodity, and therefore tries to give the students the education they deserve. The school's priority is

to improve the student learning process rather than to increase the student outcomes. As for S7, it has developed a system to recognize teachers' efforts through public ceremonies. This comes along with individual feedback delivered by the school management team. In addition, this school has also been able to develop an innovative induction process for new teachers. Also it has reinforced the identity among the students through civic, cultural and sporting activities.

Group B has been working on increasing the self-esteem of their students and enhancing the students' view of school as a place offering them an opportunity for development. The school S4 has had to adapt to the arrival of new students affecting the classroom environment. Consequently, it has implemented innovative strategies to motivate the students, such as ICT activities. It has also introduced an innovative induction process for new teachers. The school S8 has improved its student outcomes in the recent years and the students and parents are satisfied with that. The students have sense of belonging and are generally respectful towards the school staff. Nevertheless, the school needs to work on the recognition of its teachers since some old teachers are reluctant to accept the new improvement methodology of the school.

The biggest challenge for both groups A and B is the second school cycle since the main focus of the improvement program has been done in the first school cycle. Therefore, those that have more capacity established will be likely to transfer the improvement and sustain in throughout the second school cycle.

The Fig. 1 illustrates the perception of the school management team and teachers about the school culture. The index evaluates the shared values and expectations, recognition of teachers' work and attitude towards change. Thus, it shows that group A has increased its perception of school culture among both the school management team and the teachers. The schools that demonstrate the greatest in group A are S3, S6 and S7. It is also notable that the perception of the teachers tends to be more critical than of the school management team, especially those of the schools S4 and S5.
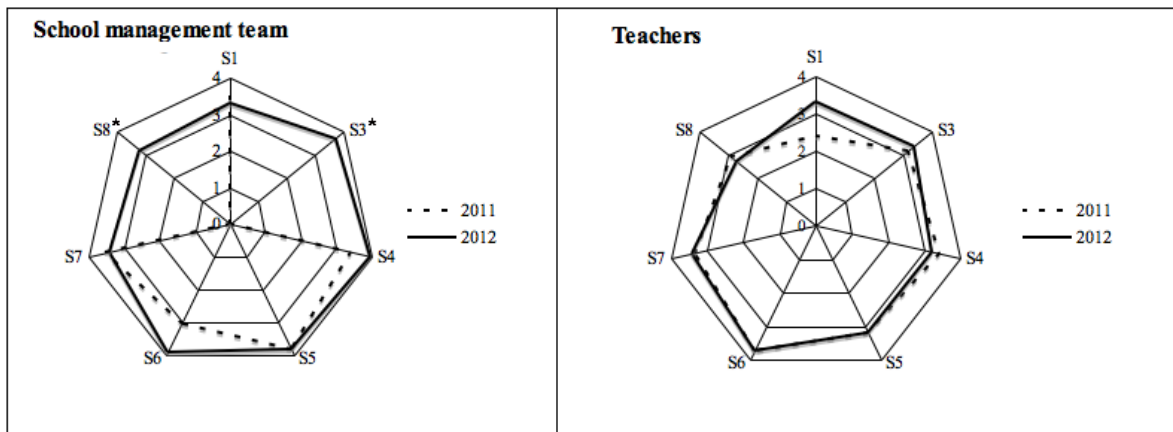
* The indexes of the school management team of S3 and S8 during 2011 are missing.

Figure 1: Perception of the school management team and teachers about the school culture of the schools S1, S3, S4, S5, S6, S7 and S8. Years comprised: 2011 and 2012 (see Appendix III) (CIAE, 2013a).

To summarize, in terms of school culture, group A had a higher resilience than group B. As a result of that, group A increased its expectations regarding their student achievements in the future. Both groups have demonstrated a strong school vision since the schools have developed strategies to foster the staff interaction and to engage students and parents with the school project. However, it is noticeable that the point of view of the teachers of both groups about the improvement in school culture is more critical than of the school management team. Furthermore, both groups share the challenge to improve the second school cycle since the first cycle is more developed and with a better established improvement.

In conclusion, there are important characteristics that schools must meet in order to develop a strong school culture. They have to be resilient in order to cope with unexpected changes such as the rapid increase of the school population and teacher turnover. Besides that, the resilience is important for improving community integration in the school and increasing the expectations of the teachers regarding student outcomes. Finally, a good school culture comprises 1) satisfied and committed staff, 2) good classroom environment and good self-esteem of the students, 3) good relationship between teachers, 4) vision and goals shared with students and parents, 5) parents' participation in the school improvement strategy, 6) good induction process for the efficient integration of new teachers in the school, and 7) school appreciated in the community where it is located.

2) School autonomy

The literature suggests different aspects that the schools have to achieve so as to establish their autonomy: the development of internal evaluation and monitoring systems that enable the reflection upon their weaknesses and strengths; the proper utilization of the data to take decisions; and the development of special programs for the schools needs. Based on the preceding, it can be said that all the schools are on the path to achieve autonomy. However the schools S3, S5 and S6 have engaged with some practices that will likely lead them to achieve a stronger autonomy. Henceforth such schools will be called group A.

It is worth mention that the Chilean educational policy does not give the entire autonomy to schools for decision-making regarding their human and material resources and infrastructure. For that, the participation of the school holder is paramount. However, the schools have the autonomy to decide upon their teaching-learning methodology, school management and organization, and internal evaluation and improving strategies. Nonetheless, the schools S1, S3 and S8 have been able to influence the school holder regarding recruiting staff according to their needs.

Stoll (1999) recommends the schools to create their own evaluation and monitoring system. Related to this, all the seven schools have been able to obtain benefits from their student internal evaluations. Consequently, they have identified their weaknesses and strengths, as well as developed corrective strategies. This has been greatly appreciated by teachers. As a result of the internal evaluations, the schools have been able to adapt the planning and training of their teachers. Additionally, those evaluations have enabled internal collaborative work since the results are analyzed among the school staff to facilitate the decision-making.

Stein, Hubbard & Toure (2010) postulate that is advisable to help the schools to build their own meaning so they can create their own improving tools and strategies. The data produced will be valuable to give feedback to the schools and teachers, as well as to define the main problems (Chapman & Harris, 2004). Based on that, the seven schools have developed particular strategies to improve the student learning depending on their own needs. S4 focuses on the students belonging to the intermediate and higher achievement. The school declares that through that, those with lower achievement will not stop the learning progress. S6 focuses on the students with intermediate achievement since it

postulates that advanced students have already the tools to keep on progressing and those of lower achievement have a higher chance to drop out of school and if that is the case, all the effort will be wasted. S5 focuses on the students with lower achievement and aspires to help them maintain their improvement through the time. The former is because their student outcomes have been very unstable.

Furthermore, group A has adapted the methodology of evaluation to their own needs. The school S3 and S5 have embraced an evaluation culture that constantly monitors the student learning outcomes and the implementing of teachers' lesson plan. Consequently, the teachers of S3 have developed the capacity to design their own evaluations that enable them easily identify students' weaknesses. And the school S5 has been implementing periodically internal evaluations so as to help students to get acquainted with the SIMCE. However, the disadvantage of having a national evaluation (SIMCE) as a priority for the school is that most of the school effort is focused on the outcomes more than on the learning. And this not necessarily enables the improvement of the school. Stoll (1999) has said that the external evaluations may be devastating for the staff morale. Thus, a decrease of points in SIMCE for the schools mainly focused on it might be counterproductive for them. Moreover, the school S6, unlike the rest, does not have the student outcomes as a main improvement focus. Its main priority is the significant learning of its students despite it entails harder work and slower results. The school perceives the improvement of SIMCE as a consequence rather than as a main goal. Therefore, this school may achieve a slower improvement but most likely more sustainable.

It is worth noting that all the schools have received the consultancy of the ATE program. Consequently, they have adopted new methodologies, tools and strategies for their techno-pedagogic and organizational improvement. Thus, their autonomy lies on their capacity to establish this new knowledge and adapt it to their needs, as well as to be able to expand the knowledge conveyed and grow independently from the external support. The ATE program has been constantly delivering the lesson plan to all the schools for optimizing teachers' time and help them focus on other activities such as the design of material for class. The methodology given is flexible enough so teachers can adapt the planning to their students' needs. Hence, so far all the schools have fully adopted the methodology offered by the ATE but none of them have developed their own structured methodology for the design of lesson plan. In addition, some of the schools greatly depend on the ATE for the teachers'

trainings. As a consequence, the schools have grown depending on external actors regarding the techno-pedagogic practice. This affects not only their autonomy but also their sustainability of improvement. Nonetheless, S3, S6 and S7 have acknowledged that fact and have been taking actions on it.

To summarize, all the seven schools are in the path to achieve school autonomy. All the schools perform internal evaluations and take them as basis for their decisions on improving strategies. Additionally, all of them adopted a new improving methodology as a result of their alliance with the ATE program. However, group A (S3, S5 and S6) performed more significant strategies to sustain the development of its autonomy.

In conclusion, the school has to have autonomy on decisive issues despite its lack of freedom to decide on every matter. The school needs to decide on its teaching-learning methodology, as well as on its evaluation and monitoring system. These two processes have to be adapted to the school needs. Thus, the school staff has to be fully involved in the school processes, work collaboratively with each other and with the external agents that support the school. Consequently, the school would be able to maintain its autonomy while external agents help with its development. Furthermore, it is more rewarding for the school if it is focused on the effective learning of the students rather than having the student outcomes as its main goal.

3) Collaborative attitude

According to the theory, schools must have a collaborative attitude with its personnel. It is also helpful for the school to work collaboratively with other schools, but only if the conditions are favorable for both parts. The school needs to guarantee the conditions for the teachers' improvement and facilitate the development of an internal learning community. According to this, all the schools show to have collaborative attitude within them. However, there are two groups identified according to their degree of collaboration. Group A consists of S1, S3, S5, S6 and S7 with a higher degree; and group B comprises S4 and S8 with a lesser degree.

Stoll (1999) claims that teachers need to have enough time for planning, training and sharing knowledge with each other. This will facilitate the development of a learning community: "…a group of people who take an active, reflective, collaborative, learning-

oriented and growth-promoting approach toward the mysteries, problems and perplexities of teaching and learning" (Sackney, 2007: 172).

Based on the above, the teachers of both groups are confident to work collaboratively and have good communication with each other. The Teacher Council is the most important space where to exchange experiences and work together focused on pedagogic issues. This has allowed the developing of a learning community within the schools. However, the lack of time has disabled the establishment of a strong and structured learning community. S7 is the only exception because its teachers have enough time to work collaboratively in peers. It is worth noting that all the schools have demonstrated better development of a learning community between teachers of the first school cycle. The main reason is because the focus of the ATE program has been on such cycle. Thus, the big challenge of the schools face nowadays is the ability to transfer the knowledge conveyed to the second school cycle.

Moreover, the staff of group A works collaboratively in the planning of the PME (Educational Improvement Plan). This activity has empowered teachers since they have become part of the decision-making process. At the same time it has helped the school management team to receive feedback from the teachers about the relevance of the strategies undertaken. Furthermore, S1, S4 and S8 have developed a practice of exchanging information about students in transition from one grade to another. This facilitates the teachers' work and helps them to get acquainted with their new students.

S6 has an exceptional specialization system for teachers of four school grades. Teachers with exceptional performance in a subject become specialists and are in charge of the supervision and support of teachers of four grades in that specific subject. This school is also ahead on sustainability of its learning community since it has grown independent from the ATE program and has been developing its own practice, methodology and strategies. As for teachers support, the school management team of S1, S3, S5 and S6, have a systematic process of monitoring teachers' work. Through classroom observations, the team gives feedback and support to teachers and works together with them to adopt new strategies.

Regarding the induction process, S3, S4, S6 and S7 have developed a system to ease the arrival of new teachers to the school. Although the induction process is not systematized,

the practice helps new teachers to learn the teaching-learning methodology of the school. Experienced teachers of S4 and S7 receive new teachers in their classroom as assistants or interns and teach them the methodology.

The learning communities may work inside a collaborative network of different schools. Nonetheless, networking between schools is positive only if it happens in an appropriate environment and conditions as they bring both advantages and disadvantages to the schools. (Muijs, West & Ainscow, 2010). Regarding this, all of the schools have reduced their collaborative network with other schools due to some of them, such as S1 and S3, does not have appropriate conditions for it.

Both groups have two main weaknesses. First, the lack of time of teachers to properly plan, monitor and evaluate their work, as well as to work collaboratively with their peers. However, this appears to be a problem regardless their size, learning outcomes, leadership, or administration. Thus, the cause and solution of it may seem an extrinsic factor pointing towards the policy rather than to the school capacity to distribute the school time. The only exception is S7 that has succeeded on fixing teachers' schedules for their collaborative work in peers regardless it has four courses per grade and 1322 students. However, this is an exception among the schools, which does not contradict what has been said about the policy. The second weakness it the significant focus that the schools have on mastering the methodology that the ATE program has delivered. This has distracted them from developing other competences that the teachers need such as classroom management, motivation techniques and different techno-pedagogic strategies.

The Fig. 2 illustrates the indexes of planning and actions towards improvement. The index evaluates the engagement of both the school management team and teachers with the evaluation of the PME (Educational Improvement Plan), as well as the time organization for techno-pedagogic work. However, since all the schools have the same conflict regarding the lack of time for techno-pedagogic work, it is expected that they have a similar evaluation about it. Thus, the indexes explain better the engagement of the staff with the PME. The table is congruent with the previously mentioned in which group B shows a decreased perception about their participation in the PME.
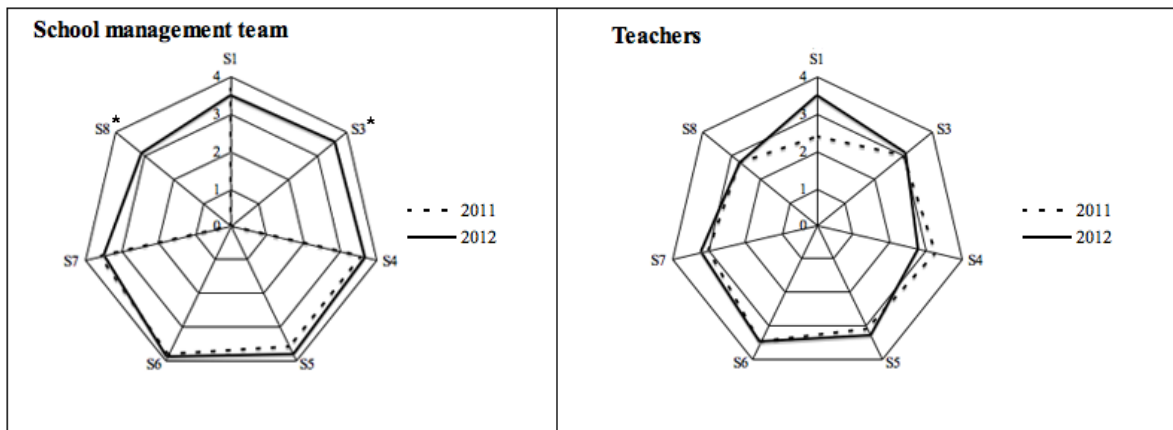
* The indexes of the school management team of S3 and S8 during 2011 are missing.

Figure 2: Perception of the school management team and teachers about planning and actions towards improvement of S1, S3, S4, S5, S6, S7 and S8. Years comprised: 2011 and 2012 (see Appendix III) (CIAE, 2013a).

To summarize, all the teachers of group A and group B have trust relationship and good communication between them. However, group A succeeded in engaging the school staff with planning and evaluating of the institution. Group A, except for S7, has a systematic process of monitoring teachers' work. Four schools of the two groups have a structured induction process. And both groups, except for S7, have conflicts with the time to work collaboratively. Therefore, their learning communities are still on development. S7 is the only school that has been able to grant the teachers with the enough time to work in peers. And none of them work collaboratively with other schools.

In conclusion, the collaborative attitude of the school depends on the opportunities and conditions granted to teachers. The time of the teachers is paramount. They have to be able to work collaboratively with each other, to plan, monitor and evaluate their work and to develop their classroom material. The teachers have to actively participate in the decision-making process. In this former matter, teachers of both groups believe to have lesser participation than the school management team. Furthermore, the school needs good induction process for new teachers. Lastly, the school has to develop a strong and effective learning community that allows teachers to share knowledge and information about students, to specialize in certain subjects or grades and to develop teachers' competences.

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8.2.2 Organizational factors

The organizational factors are 1) leadership, 2) teachers' professional development, 3) staff stability, 4) ownership of the educational policy and 5) external support.

1) Leadership

The theory recommends having a consistent leadership among the school management team, including the principal (Roy & Kochan, 2010), with enough communication skills and knowledge to motivate the teachers. Teachers have to be empowered with leadership. And the principal transition has to be planned. Finally, the literature does not suggest a special type of leadership since it depends on the context. All kinds of leadership are valid as long as the leader meets the characteristics previously mentioned. Based on this, there are two groups of schools in the study regarding their degree of leadership of both school management team and principal. Group A has a higher degree and comprises S1, S3, S6 and S7; and group B has a lesser degree and consists of S4, S5 and S8.

Giles (2006) and Jerald (2005) underline that the principal must have perseverance and communication skills to motivate the staff during the change process. Leaders have to master the processes, resources and alliances to facilitate the improvement. Based on this, the school management team of group A demonstrated to have strong leadership. S1 and S3 have a well-organized structure and distribution of tasks among the school management team that enables its better performance. This has been important for the motivation of the staff towards a single vision. Moreover, S7 developed a Manual that details the roles and functions of the school management team according to the school needs. This has helped the better organization of the team. Nowadays the team coordinates annually staff group sessions for motivation and bonding, as well as for training teachers in general pedagogic methodologies. Group B needs more cohesion and communication among the school management team. S8 and S5 need to improve their support to teachers and S4 needs to consolidate the team since it has had constant changes of its members.

As for the principals, both groups A and B, except for the school S8, have strong leadership. The principals of S1 and S4 have been characterized by their strictness. This has triggered the division of the teachers into those who agree with the discipline and those who do not. However, the principals have achieved better organization of the school staff.

And in the case of S1, the principal has also increased the quality of the techno-pedagogic practice. In the case of S4, the principal has fostered the communication with the parents. By contrast, the principal of S8 needs to be stricter and build up the leading skills for controlling and supporting the staff in the techno-pedagogic methodology. The staff of S3, S5, S6 and S7 has acknowledged the principals as good leaders that have been able to balance their strictness with the empathy towards teachers' work. The principals of S3 and S6 have successfully performed the dissemination of the vision and values among the staff. They have also been capable to organize the schoolwork regarding the techno-pedagogic practice, community integration and discipline, relationship with parents and with school holder. As for S7, the principal has been able to properly coordinate the work of the school management team.

Moreover, Jerald (2005) postulates that the leader has to promote leadership within the school so as to stabilize the school during the change process. Consequently, the teachers will be able to both put pressure on the leaders and compensate the leadership in case of the school lacks of it.

Regarding the distribution of the leadership in the school, none of the schools have achieved it in a systematic way. In fact, the principal of S3 is the main actor who holds the leadership and hardly shares decision-making responsibilities. He has to approve all the decisions taken in the school so as to verify whether they are aligned to the same vision. Thus, the lack of leadership distribution among the school staff is a paramount constraint for the sustainability of the schools.

Nicolaidou & Ainscow (2005) claim that leader transition is a paramount strategy to avoid school failure. The inadequate leader transition is a common characteristic among schools that have failed in their improvement process. According to this, none of the schools have a specific plan for leader transition. This is a threatening situation for all the schools since principals have been key for their improvement and in some schools, such as S3 and S5, the principals will retire soon. In S3 leadership strongly depends on the principal rather than on the whole school management team. The principal of S3 has been working in the school for 20 years and is responsible for the main decisions. And the leadership has not been widely distributed among the rest of the school management team. Moreover, the principal of S6 has been working in the school since its inception 10 years ago. As for S1

and S7, their school management team has achieved better work organization and improved leadership. The principals of S1, S4, S6 and S7 show the skill to delegate to the school management team important activities of the improvement process.

Lopez-Yáñez & Sánchez-Moreno (2013) say that leadership differs from one school to another depending on their context. Hence, there is not a specific leadership style among the schools in challenging contexts. The situation of the schools of the study is coherent with this theory since all the schools show to have principals with different traits but nevertheless the school staff recognizes their work and commitment to the schools. Even the principal of S7 is recognized despite he has recently assumed his position in 2012. The principals of S4 and S6 try to be constantly trained so as to be able to properly advice the staff. The principals of S5 and S6 have a strong emphasis on engaging the school staff with the annual plan and establishment of the goals.

The Fig. 3 illustrates the perception of teachers regarding the leadership of the principal and the school management team. The index evaluates the leading capacity of leaders and their monitoring and support to teachers' work. This figure shows that group A has a higher degree of leadership of both principal and school management team. Group B has lesser degree of leadership and especially of the school management team of S4 and S8.
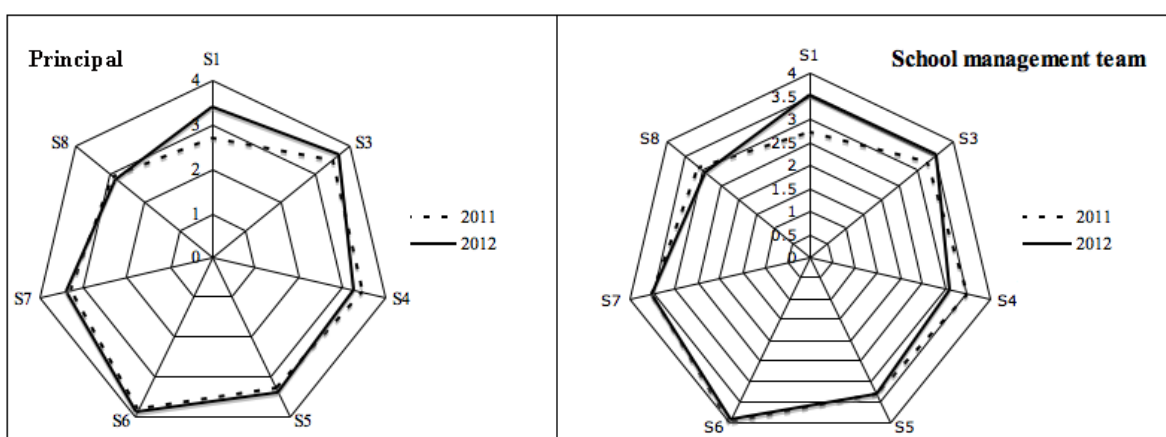
Figure 3: Perception of teachers about the leadership of the principal and school management team of S1, S3, S4, S5, S6, S7 and S8. Years comprised: 2011 and 2012 (see Appendix III) (CIAE, 2013a).

To summarize, group A had stronger leadership, whereas group B had certain recession in its leadership. One of the main reasons of the former related to group B is the lack of solid

organization of the school management team. Moreover, the leaders of all the schools are committed to the school and have achieved strong leadership, except for S8. However, none of the schools have a structured plan for leadership transition.

In conclusion, although there is not a defined leadership style of schools in challenging contexts, the leaders have to meet certain characteristics. They need to be consistent, perseverant and know how to effectively communicate the vision and values to teachers. The leaders need to have an organized structure, good communication and defined roles among all the members of the management team. The members of the management team have to be stable and the leader transition has to be well planned. Additionally, the leaders need to know how to delegate and spread the leadership among the school staff. Consequently, the decision-making process may be more effective since all the staff participates in it. Lastly, leaders have to master the processes of the school, as well as the resources for the school development project. As a consequence, they will be more able to integrate all the teachers in the same project, seek for the support of the parents and other external agents of the school.

2) Teachers' professional development

The literature places teachers in the center of the school improvement, and therefore their development is paramount. It is important for them to have enough space and time to work collaboratively and to have available incentives to motivate their progress. This will foster their specialization in priority topics and the effective use of their time. Their training depends on the available conditions for them to learn in peers and through coaching. For that to happen, the school needs to guarantee the proper organizational conditions. According to this, the study identifies two groups according to their degree of teachers' professional development. Group A has a higher degree and comprises S1, S3, S6 and S7; and group B has a lesser degree and consists of S4, S5 and S8.

Chrispeels & González (2006) claim that teachers' motivation helps student learning and promotes the creation of collaborative networks. Their motivation may increase if the school has economic incentives to motivate their work in a challenging context (David, 2004). Related to this, the Fig. 4 shows the perception of satisfaction with the professional work of school management team and teachers. It illustrates that overall the motivation of both is very high. In fact, the scores are so high that the score of the teachers of S1, which

is intermediate (3.4), seems to be lower than it is in comparison to the others. The same happens with S3 and S8 (3.7). These results show a positive attitude of the school staff towards the establishment of a learning community and overall school improvement.
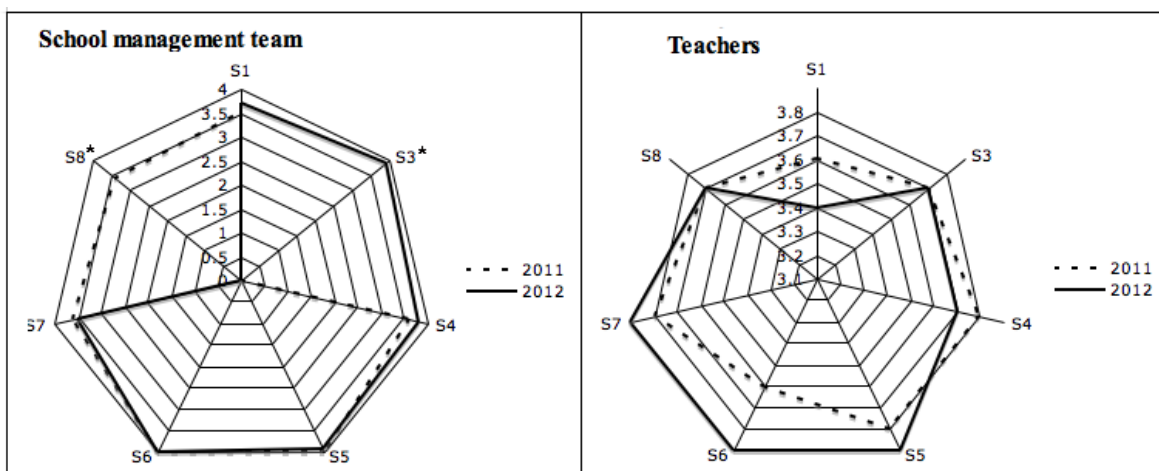
* The indexes of the school management team of S3 during 2011 and of S8 during 2012 are missing.
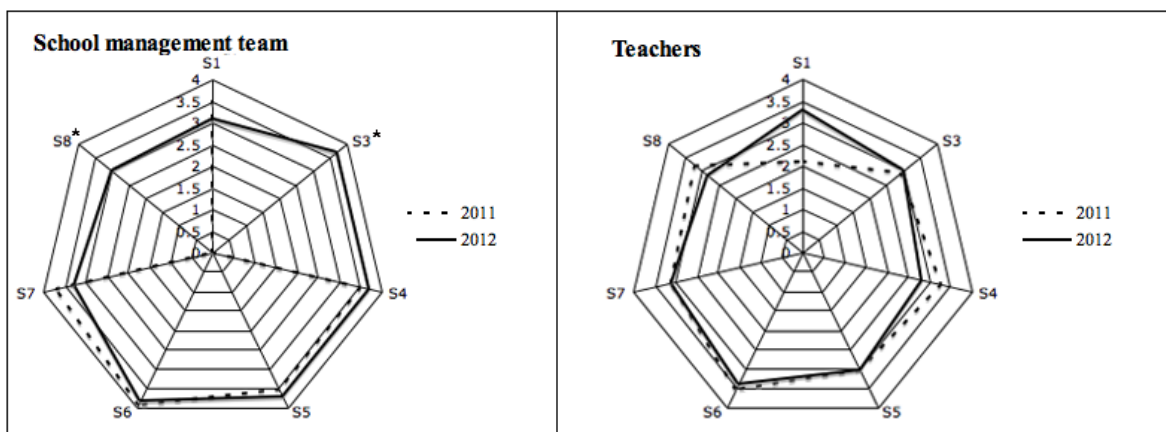
Figure 4: Perception of satisfaction with the professional work of school management team and teachers of S1, S3, S4, S5, S6, S7 and S8. Years comprised: 2011 and 2012 (see Appendix III) (CIAE, 2013a).

Thoonen, Sleegers, Oort et al. (2012) claim that the school has to have proper organizational conditions to promote the teachers' professional development. Moreover, Chapman & Harris (2004) postulate that teachers need to learn from their peers and that it is positive for them the coaching and peer review. Based on the aforementioned, the subcategory *Collaborative attitude* has explained that the teachers of all the schools are confident to work collaboratively and have good communication with each other. However, the teachers of group A show to have a more structured practice to work collaboratively. The school management team of all the schools delivers good support for teachers' professional development. And S1 and S3 invest on teachers' external trainings. Teachers of both groups A and B, except for S8, are well prepared for their teaching-learning practice, especially in the subjects of Reading and Mathematics.

Tam Wai-ming (2009) explains that the development of learning professional community is fostered by collaboratively decisions, teamwork in a positive atmosphere and shared responsibility, values and leadership. Related to this, S5 is focused on fostering teachers' innovation in class by giving them the enough freedom to develop new strategies. S6 gives teachers the freedom to adapt the improvement program to their own needs. On the

contrary, teachers of S4 perceive that they do not have the full autonomy to take decisions regarding their students. S3 has a system to guarantee the quality of teaching practice. S8 has not been able to adapt the methodology to teachers' needs and has triggered dissatisfaction among them. Teachers perceive the new planning system as significantly long and not helpful for their teaching practice since it takes the time that they should spend on designing didactic material. Additionally, some of the staff of the school management team of S5 and S8 needs to be more prepared to properly support teachers.

The Fig. 5 illustrates the perception of the learning community of the school management team and teachers. The index evaluates the collaborative teacher work, the communication and confidence among staff regarding professional matters, the support to teachers and the exchange with colleagues from other schools. It shows that the school management team has a higher perception about it. The school management team of S3, S4, S5 and S6 show to have a high perception and the perception of S1, S7 and S8 is intermediate (3.0 to 3.3). As for teachers, S1, S3, S4, S5, S6 and S7 have an intermediate perception (between 3.0 and 3.3), however the perception of S4 and S6 has reduced respecting the year 2011.

* The indexes of the school management team of S3 and S8 during 2011 are missing.

Figure 5: Perception of learning community of the school management team and teachers of S1, S3, S4, S5, S6, S7 and S8. Years comprised: 2011 and 2012 (see Appendix III) (CIAE, 2013a).

To summarize, the staff of all the schools shows to be highly motivated with their professional work. This is in part due to the good communication between teachers and their confidence to work collaboratively. The aforementioned is coherent with the good perception about the developing learning community between the schools. However, S4 and S8 need to strengthen their support to teachers and grant them with the enough

autonomy. Teachers of both groups tend to be more critic regarding their learning community.

In conclusion, teachers' professional development depends on the collaborative work between teachers. This will lead to the creation of learning communities towards improvement. Teachers need to be trained, to have incentives to increase their motivation, to have enough space and time to work in peers and to specialize in priority topics. They also need to have support from the school and share responsibilities, values and leadership. Finally, since teachers are one of the central assets of the schools, they have to be considered in the improvement process of it.

3) Staff stability

The literature suggests that the high staff turnover can be very damaging for the sustainability of the school processes (Anderson, 2010). It can erode teachers' cohesion (Talbert, 2010) and it is associated with the low morale of teachers, affecting the student achievement (Leithwood, Seashore & Wahlstrom, 2007).

In Chile, the teacher entry rates between 2006 and 2011 have fluctuated between 15% and 21% approximately. As for the teacher exit rates in Chile they have been in the range of 14% and 20% approximately. Regarding the teacher entry rates in Antofagasta they have been in the range of 15% and 20% approximately between 2006 and 2011. In addition, the teacher exit rates in Antofagasta have fluctuated between 13% and 19% approximately.

There are three groups in this study according to their degree of staff stability. Group A consists of S5 and S6; group B consists of S3 and S4; and group C consists of S1, S7 and S8. Groups A and B had an overall steady rate of exit and entry of teachers. However, the stability of group A was higher. S4 and S6 had the closest rates to the national and regional average. Group C had inconsistent rates during the whole time span (see Appendix II). This is in part due to their unsteady school population, previously explained in the subcategory *School culture*. In the case of S1, the reason of the unstable exit rate is in part due to the exit rate of teachers of the second school cycle that have withdrawn from the school due to intrinsic and extrinsic facts. Among the extrinsic facts are the high standard of living and difficult weather of the place where the school is located. Among the intrinsic facts is their

lack of established capacity to properly work the strategies for improvement in the second school cycle.

Moreover, Sutton (2010) declares that it is necessary to have a balance between new and old staff as the first brings new ideas and experiences, whereas the second maintains the school culture. The preceding is related with the positive effect that teacher turnover has had in S4. Several teachers have retired but the new teachers have been able to bring new knowledge to the school since some of them are specialists in certain topics.

For the rest of the schools, the available data do not offer further information about the consequences of teachers' exit and entry rates. The solely available explanation is that the teacher turnover is mostly caused by external facts.

4) Ownership of the educational policy

The theory postulates that the educational policy is an independent factor that directly affects the sustainability of school improvement. Thus, the schools need to have ownership of the educational policy and adapt it to their own needs without affecting their processes.

Stein, Hubbard & Toure (2010) postulate that the implementation of the policy in the school requires constant reflection. Therefore, the school has to have good understanding of its own traits in order to apply the policy. And for that, it is helpful to have support from policy consultants with the comprehensive knowledge of the policy. Based on this, all the schools have gained clear understanding of the SEP policy. This policy has given the opportunity to the schools of having external technical support for several years. As a result, the schools have established new methodologies and processes for their improvement. Now, the schools are in a period of strengthening their processes towards the sustainability of improvement. However, there are some schools that are ahead, such like S7 that has started a reform process of adapting the system of planning, monitoring and evaluation according to the school needs. By contrast, S8 is behind, since the person in charge of the curriculum and the techno-pedagogic support is not extensively prepared for the role. Thus, the teachers cannot receive the required support to improve.

Furthermore, Jerald (2005) warns about the prevention of the complacency, which is when the school reduces its efforts towards improvement once it has met its improvement goals.

For that, the school has to keep on adapting to the policy reform and change of students, teachers and authorities. This is related to the situation of S5 in which some teachers have expressed their concern regarding the complacency of the school. They perceive that due to the improvement of student outcomes, the school has reduced the exigency of the schoolwork. However, the improvement in student outcomes achieved is in comparison to the schools in the area where is located not to schools of the region or the country. Thus, the school has to expand its point of reference and affront several challenges before reducing its efforts towards improvement. Finally, all the schools show to have ownership of the educational policy regarding their improvement and have fully adopted the tools that the policy reform has offered

In conclusion, schools have to have a fully understanding of the educational policy in order to perform a sustainable improvement project. As a result, the school will be able to create new methodologies and prevent complacency of the success achieved. The school has to be acknowledged as a live organization in constant change and adaptation to the policy reforms.

5) External support

The literature recommends to schools to have the aid of external support to implement processes, to evaluate their results and to analyze their data. However, the schools need to take into account that not all the external support suit their needs and that it is not always fully effective. Thus, they have to be critical of all kinds of external support.

Jerald (2005) declares that a solid partnership with external agents enables the strengthening of the implementation. This makes more effective the time of the teachers. Moreover, Stoll (1999) postulates that schools need support on the analysis and interpretation of the data so as to make efficient the staff's time. Regarding the former, all the schools, have undertaken an external support through an ATE program as a result of the SEP policy. The ATE participating in the schools were two different organizations. One worked with one set of schools, hereinafter referred to as group A; another one worked with a second group hereinafter referred as group B. Group A comprises S1, S3, S4, S5 and S6; and group B consists of S7 and S8.

The two ATE organizations have delivered the methodology for the improvement process of the schools to both groups, as well as helped them with the systematization of the improvement of practices. They have also supported the schools on the design, implementation and monitoring of the PME (Educational Improvement Plan). Additionally, the two ATE have given the training and monitoring for the schools to undertake an improvement process. They have also delivered the lesson plan and internal evaluations to the schools so as to make efficient the teachers' time. In addition, they have been in charge of processing and interpreting the results of the internal evaluations.

Therefore, the ATE has been an asset for the structure of the schools' internal processes and methodology. However, S5, S7 and S8 have been very critical of the support given by the ATE regarding the material. They declare that sometimes the planning is inconsistent with the evaluations, it does not suit the school needs and sometimes the material do not arrive on time. Additionally, S1 has declared that it has not received the enough classroom support from the ATE. Overall group B has had more inconveniences with the ATE. The aforementioned is related to what García & Donmoyer (2005) said about external support in schools. They declare that the school has to be cautious with the external support since sometimes they have predefined solutions not always suitable to the schools' needs. Thus, the schools need to guide them to understand the school reality. The school staff has to be critical of the methodology and strategies suggested so as to make the most of them. Consequently, S1, S3, S5 and S8 have developed more interest on finding more external and complementary support regarding particular matters. As for S6, it has grown separately from the ATE and nowadays it solely has eventually evaluations from it.

To summarize, The ATE has been an important contribution for the improvement of the schools and the school staff acknowledge that. However, nowadays the schools are in the stage of sustaining what they have improved and the challenge increases for those that have not embraced any strategy towards the sustainability of improvement. S1, S3, S5 and S8 are those that have started taking actions towards sustainability.

In conclusion, the external support is recommendable for the development of the improvement project of the schools. This external agent could help the schools with the design, implementation and monitoring of the improvement practices, as well as with the internal evaluations. However, since every school has its own characteristics and

conditions, the external support not always works as expected. The school has to know how to make use of an external agent and how to avoid standardized solutions that might not work for it. The school has to work closely to the external agent so as to adapt the methodologies to its own traits and problems.

8.2.3 Contextual factors

The contextual factors are 1) governmental authorities and financial resources and 3) educational policy.

1) Governmental authorities and financial resources

The theory says that since some important decisions of the school depend on the governmental authorities, the school has to build up consensus and trust with the governmental authorities. This will ease the development of the school, its autonomy and the access to resources.

As it has been mentioned in the chapter 3, the school holder of each school administers the human and material resources of it, and therefore, the financial resources as well. In the case of the schools of the study, the school holders are the different educational departments of the municipalities where the schools are located. Thus, the governmental authorities and financial resources are directly related. The main responsibilities of the school holder towards school improvement are the planning and evaluation of improvement, management of competencies and incentives, delivery of human and material resources needed by the school, and planning the infrastructure for the school's needs. It is worth noting that the school holders of the study are usually in charge of several schools. For instance, the school holder of S6 is in charge of 60 schools. Thus, sometimes they do not have enough time to build up closer relationships with the schools and support them on their needs. This may cause delays on the delivery of resources, becoming a great problem for the schools. Furthermore, the participation of the Ministry of Education is paramount for the planning of schools. The Ministry sets specific goals for the school regarding student outcomes. However, some schools perceive such goals out of balance. The former is because the Ministry of Education asks to every school for a standardized increase of student outcomes regardless its improvement record. It does not take into account that schools with lower achievement tend to increase in a bigger proportion than

those that have already accomplished an advanced achievement. Thus, the schools consider this as an unfair request since some institutions reach the goals easily and some institutions have a hard time reaching that goal.

Levin (2010) postulates that the school has to make political agreements in order to continue with its improvement project. Thus, it has to make consensus with the authorities, otherwise the sustainability of the schoolwork might be hindered (Chrispeels & González, 2006). Thus, it is important the confident relationship between schools and local government. Based on this, S4 and S7 exhibit to have a good relationship with the school holder. Indeed, the principal of S4 has the support of the school holder in terms of training and advice. However, the schools of the study declared that sometimes they lack of the requested support from the school holder, including S4 and S7.

In regard to the planning and evaluation of the improvement, S4, S5 and S6 have had the school holder's participation. As for the management of competencies and incentives, only S5 has had the school holder's support. Moreover, the school holder of S5 and S6 has regularly delivered the human resources on time and according to the school needs. The school holder has not been so regular with the support on human resources in S3, S4, S7 and S8, and even less in S1.

As for the material resources, the school holder has regularly delivered them on time to S4, S5 and S6. In S3 and S8 it has not been so regular and even less in S1 and S7. Finally, regarding the infrastructure, all the schools have received an extensive support of the school holder. Indeed, S1 has enhanced the spaces for extracurricular activities, S3 has increased the green spaces of the school and S4 has recently improved its infrastructure. The school holder of S6 has recently changed and it has increased the participation in the school, however the school still needs to work on building up a good relationship with it.

Moreover, some schools have achieved significant improvement with the use of financial resources. S4 has noticed an improvement of student achievement since the introduction of the lunch for students. S5 has invested in the recognition of students through material rewards. S6 has been able to reward parents participation in the program *Helper Mom*, in which they support teachers in classroom. S8 has motivated teachers by offering them more hours to increase they wage. And S1 has invested on the training of teachers.

To summarize, the school holder is the main governmental authority with whom the schools work closer. However, since each school holder is in charge of a large number of schools, sometimes its support is delayed. However, S4, S5 and S6 have had the participation of the school holder in their planning and evaluation of the improvement. These schools have had the ability to effectively use the financial resources to support the staff motivation and increase the learning conditions of students. And all the schools have had the support of the school holder in terms of infrastructure.

In conclusion, the school strongly depends on the governmental authorities for its management and resources. Thus, the school has to build a good relationship with them and create political agreements. The school needs the freedom to give feedback to the authorities regarding the impact of the policy on its improvement practice. This could increase the opportunities for the school to meet the policy requirements. Therefore, the closer the school is to the governmental authorities the better chances its improvement project will have.

2) Educational policy

The literature suggests that schools are in the constant challenge of adapting to the educational policy. Chrispells & Harris (2006) postulate that the change in the school is discontinuous and integrates all different kind of quick solutions. However, Teddie & Stringfield (2006) suggest that although the educational policy directly affects the schools, it is not decisive for the school outcomes. The policy solely defines the direction and sets the framework, but the student outcomes depend on its implementation. Moreover, the policy can be managed for the school's own benefit. And the school has to use it to support its improvement initiatives. (Jerald, 2005; Levin, 2010; Stein, Hubbard & Toure, 2010).

In regard to the above mentioned, the SEP Policy has become an important input for the improvement of all the schools. It has granted them of more resources and methodologies, along with more responsibilities and demands. The main goal of the SEP Policy has been the improvement of student outcomes. And the main indicator used by the Ministry of Education to measure improvement is the SIMCE. This has triggered some disadvantages for the schools since they are under the pressure to improve their "numbers" and neglect some other important problems that can be the basis for their further improvement. This triggers high stress among the students and among the school staff. The schools have been

forced to reduce the student repetition rate. However, some schools have only reached this goal by passing students to the next grade despite some of them do not have the required knowledge for it.

According to the policy, it can be said that all the schools have achieved the improvement goal since all of them have improved their student outcomes. However, their outcomes are not equitable despite they have received the same external support during the same time span. The main reasons are the policy implementation, the school traits, and external factors beyond the control of schools. As for the external factors, there can be included three: 1) the level of student learning, 2) the staff recruiting and 3) the implementation of the SIMCE evaluation. As for the first factor, the SEP law dictates the school to receive students applying to it regardless their learning level. However, this damages the community integration in the school since some of the students do not have the learning level according to the grade and sometimes the students have been expelled from other schools because of discipline problems. S1, S4 and S6 have been significantly affected by these aforementioned difficulties.

As regards the staff recruiting, the Chilean policy dictates that the school holder has to recruit the human resources required by the schools through a contest. The school has to send a requirement describing the expected characteristics of the new staff and the school holder has to search for it through a national contest. The school does not interfere in the process. Thus, sometimes the school holder hires staff that does not suit the school needs or expectations. Consequently, in the case of the school has already planned the leader transition and trained a suitable candidate, the policy hinders the possibility of such candidate to get the position. As for the implementation of the SIMCE evaluation, the Ministry of Education sometimes does not directly perform such evaluation but it does it through external institutions. These institutions sometimes do not have the enough experience and do not respect the protocol of implementation. This causes confusion among the students and affects their outcomes, triggering negative impact on the overall student outcomes.

Regarding the policy implementation in the schools, the ATE program has been a paramount actor. It has supported the design, implementation and monitoring of the improvement program of the schools. The ATE program has helped the schools in adopting

an improvement methodology, organization of the staff and its processes, implementing of internal evaluations and constant monitoring of the teaching-learning process. Moreover, it has trained the school staff for the proper development of the improvement process and delivered to the school the material required to make more effective the teachers' time. However, as it has been declared in the subchapter *External support,* not all the schools have had the same experience working with the ATE. Some of them have not had the ATE support according to their needs. Moreover, the planning delivered by the ATE not always corresponds to the evaluations and thus the schools have to perform extra work adapting it. Additionally, the monitoring has not always been as what required by schools.

One of the most important deficiencies of the ATE is that it has not had special focus on the sustainability of the consultancy delivered to the schools. Although there are some schools that have already established the capacity to sustain the improvement of some processes, most of them still depend on the ATE for getting some teaching material. There are some schools that have already been replicating the improvement methodology on the second school cycle since the ATE program was mainly focused on the first school cycle. However, up to date none of the schools have fully achieved a sustainability of their improvement on all their processes and the ATE program will retire soon from those institutions. The intervention of the ATE program in the schools has significantly influenced the improvement of them, it has given to the schools the tools to develop the sustainability of improvement, but it has also created a dependency of the schools hindering their sustainability.

To summarize, the SEP Policy has introduced a set of improvement tools to all the schools, but it also has introduced some difficulties to the schools for implement and sustain their improvement. The ATE program is part of the improvement tools that has been paramount for the improvement of the schools. But at the same time it has decreased the capacity of the schools to sustain their improvement since all depend on the program. Now, the schools are in the stage of developing the capacity already established, sustaining the improvement achieved and achieving the enough autonomy that enables their further development.

In conclusion, despite the policy defines the direction and framework for the schools, the improvement of student outcomes depends on the quality of implementation of the policy. Additionally, the policy outcomes have to be measured with fairness for all the schools. If

the national evaluation is the solely indicator to measure the policy outcomes, the schools tend to be solely focused on improving the student outcomes rather than the overall teaching-learning practice. Thus, the policy needs to have a broad evaluation system to foster the integral improvement of the school processes. Lastly, the schools have to plan the sustainability of new methodologies or processes so as to avoid dependence to any external support and guarantee their lasting improvement.

8.3 Discussions

The data presented in the subchapter 8.2 has shown the progress of the seven schools towards the sustainability of their improvement. As a result of that, it can be identified one group of schools that meet the majority of the factors needed to achieve a sustainable improvement over time. The schools belonging to this group are S1, S3, S5, S6 and S7, hereinafter referred to as group A. These schools have had diverse progress in the factors determinant for the sustainability. Thus, it cannot be said that the entire group A will most likely achieve the sustainability of improvement in the same level. The schools S4 and S8 hereinafter referred to as group B, have not fully met the main factors important for the sustainability of improvement. However, these schools have achieved improvements that will most likely support them to develop what is needed for the sustainability.

As it was mentioned in the subchapter 8.2, a good leadership at the head of the school is paramount for the sustainability of the improvement. Likewise, it is important that the leadership is shared with the entire staff and that the leadership transition is planned in order to maintain the progress achieved. Hence, the schools in which the director controls almost all the leadership tend to be the most vulnerable since the leading and important decisions solely depends on one person. Therefore, the improvement of those schools may be less sustainable over time. This is the case of S3 where its principal has the last word in every decision of the school. However, this school has a motivated staff, solid school management team and capable teachers that might sustain the leadership in case of a change of principal. The rest of the schools of group A are in the same situation as S3 since the principals have been paramount for their improvement. In the case of S6, it has had only one principal since it was founded. However, the schools S1, S6 and S7 have a more shared distribution of leadership among the school management team.

Moreover, none of the schools of the study is completely autonomous since the educational policy restricts their decision-making regarding their human and material resources. Their autonomy strongly depends on their relationship with their school holder, as well as on the priorities of the municipality and different extrinsic factors that the school cannot control. However, both groups have accomplished a significant process towards their autonomy. They undertake constant internal evaluations, monitor their outcomes and analyze them to take decisions based on that. Furthermore, both groups have adopted a new improvement methodology for their internal processes as a result of the incorporation to the ATE program. However, this has been an ambivalent contribution for both groups. On one hand the schools have obtained valuable knowledge that might have been difficult to develop by their own. It has also opened a set of opportunities to the schools by experimenting the usefulness of being counseled by an external agent to compensate some weaknesses. On the other hand, the external support has hindered their autonomy by producing a dependence of the schools on such program, mostly regarding the internal evaluations, trainings and material for the techno-pedagogic practice. Consequently, the schools have reduced their capacity to develop their own material.

Additionally, some schools have expressed that the ATE program has not completely fulfilled their expectations since some of the services delivered do not meet their needs. As it was already mentioned in the subchapter *External support*, there were two different institutions that provided the ATE service to the schools. The schools S1, S3, S4, S5 and S6 received it from one institution, and S7 and S8 from another one. The service of both institutions has differed but the institution that has had more troubles when delivering its services is the belonging to the schools S7 and S8. However, the school S5 has had also certain complaints regarding services delivered by the ATE. The main concern of the schools is regarding the internal evaluations, trainings and material for the techno-pedagogic practice. These former are also the main reasons why the schools remain dependent on the ATE. Thus, insofar the schools start developing their own material and seeking for other providers for trainings they will achieve more autonomy and improve the quality of their processes and outcomes. The schools that have taken further steps are S3, S5 and S6 that have started developing their own evaluations.

Moreover, the school actors of group A have developed the required resilience to cope with the externalities affecting the school environment. The overall school staff is working

towards a same vision in a collaborative way and with the confidence of their outcomes. Their school staff has the solidity and empowerment needed to support the teachers and take care of the teaching practice. Their teachers have good domain of the methodology of improvement, are motivated and actively participating in the Educational Improvement Plan of the school. The schools have a good image in the community where they are located and therefore, the support from them. They have an extensive understanding of the educational policy and have the capacity to adequate to the policy changes. Nevertheless, the school S6 shows to have developed a stronger resilience than the rest. This school has been taken steps towards achieving autonomy from the ATE program. It is the only school that does not consider the SIMCE outcomes as its most important improvement indicator and is satisfied with achieving slower but constant improvement. The great advantage of the school is that the majority of the school management team has been working in it since its foundation and has been building the resilience together.

The group A factors aforementioned may help the schools to tackle the challenges. Among the main ones are a) their uneven progress between the first and second school cycle, b) their dependence on the ATE program, c) their lack of a solid learning community and d) the policy that hinders their autonomy to recruit teachers and to perform the proper leadership transition. As for S1, its main challenges are a) the reluctant teachers that disagree with the strictness and discipline of the principal affecting the cohesion of the staff, b) the high teacher turnover and c) the rapid increase of school population bringing to the school students with discipline problems. As for S3, its main challenge is the low distribution of the leadership among the school staff. The main challenge of S6 is the low improvement of its student outcomes in terms of effectiveness and equity. As for S5, a) it has shown complacency about the achievement of student outcomes, b) it needs to improve the cohesion of the school management team c) it has to improve the support to the teachers and d) it has to improve its student outcomes in terms of effectiveness, equity and efficacy. The main challenges of S7 are a) unsteady teacher turnover, b) unsteady school population and new students with discipline problems affecting the student interaction, c) unsystematic monitoring of teachers' work and d) low student outcomes regarding effectiveness, equity, internal efficacy and efficacy.

Additionally, three schools from group A show to have increased their student outcomes in a progressive way to the point to be close and sometimes ahead to the national average in

the case of S1 and S6, and always ahead to the national average in the case of S3. All of them have been located ahead of their schools of comparison. The score of school S3 has been remarkable in the four indicators (effectiveness, equity, efficiency, and internal efficiency). The schools S1 and S6 have had a remarkable progress regarding efficacy. Additionally the school S6 has also improved in terms of internal efficacy. Further, the two other schools belonging to group A (S5 and S7) have not achieved as higher student outcomes than the three former. S5 has improved in terms of internal efficacy and the overall of its outcomes have been near to the regional or national average, and sometimes, over the national. Most of the times it has been located ahead of its school of comparison. As for S7, it has improved its outcomes in terms of internal efficacy. And its results have been sometimes near to the regional average, but most of the times lower than it. Finally, it has been equally located, and sometimes behind, its comparison school.

As a result of what have been said, there are two levels of consolidated improvement towards the sustainability among group A. The schools S1, S3 and S6 have a higher level of consolidation and the schools S5 and S7 have a lesser level. This means that all the aforementioned schools meet the characteristics that most likely will lead them to achieve sustainability of their improvement. However, the schools S5 and S7 most likely will face more challenges in their process.

Lastly, group B does not show to have met the required factors to sustain their improvement. The main hindrances of S4 are the teachers' lack of training and autonomy for implementing innovations. And without a well-prepared staff, the school will not be able to tackle its difficulties. The school has not placed the teachers as an important factor of the improvement process. Nor have promoted their participation in institutional decisions such as the school planning. The teachers are still not completely trained and adapted to the new methodology of improvement and the school management team does not show to have the enough training and consolidation to support them. Nevertheless, the principal has strong leadership and the ability to delegate, the teachers have a confident relationship among them and the school has a good induction process for new staff. This may be the basis to build resilience and develop a better strategy to tackle its main challenges and further ahead, to start with a project of sustainable improvement.

As for S8, its main hindrances are its lack of strong leadership among the school management team, including the principal. They do not have the enough skills and knowledge about the methodology to support teachers. The teachers are unsatisfied with the methodology and with the low recognition that the school offers them. Moreover, the teachers do not have participation in the institutional planning and therefore, they are far away from influencing the improvement strategy of the school. Hence, this school has a bigger challenge to address for the building of a sustainable improvement process.

Finally, as it was mentioned in chapter 4, the structural factors are the foundation for the improvement, the organizational factors are the implementation of the improvement process and the contextual factors are the independent variables that directly affect the schools. Based on that, group A shows a solid development of the structural and organizational factors that can maintain the stability of the schools so as not to be significantly affected by the contextual factors. However, the schools S1, S3 and S6 have shown to have a suitable condition for a better sustainability of their improvement. The schools S5 and S7 have also advanced on that process but to a lesser degree.

CONCLUSIONS

The present study has investigated the progress of nine Chilean schools in challenging contexts in achieving improvement. The schools have participated in an external support program so as to aid their improvement. However, although the schools have followed a similar methodology, not all of them have improved to the same degree. Thus, the present study has shown the diversity of outcomes between the schools and selected the schools that have improved for their analysis. The analysis examined the factors that, according to the theory, must be present to ensure that the school improvement is sustainable. To this end, this thesis compared the schools' outcomes with the theory regarding sustainable school improvement in challenging contexts.

The thematic analysis methodology selected for the analysis of the data was the most suitable for the study undertaken. The main reason is that the methodology allowed the incorporation of the data from a secondary source that had a different focus to that of the present study. The interviews and questionnaires were based on a methodology designed by the CIAE to investigate the school improvement after several years of external support in the schools. Thus, the data consisted of a great amount of information on different topics both related and unrelated to the study. Hence, the thematic analysis methodology was beneficial to organize the data and discern the valuable information.

This study shows that five of the nine schools analyzed have the characteristics necessary to sustain their improvement over time. That indicates that the external support program undertaken has been beneficial for their sustainability of improvement. This program has helped the schools with the methodology and systematization of their internal processes and improvement practices. Additionally, it has given support to the school leaders for decision-making and has helped the school staff with their training, student evaluations and material. However, the fact that not all the schools have sustained their improvement in the same way indicates that the support program is not the only factor responsible for such sustainability. The program has been a valuable partner of the schools during their improvement process. It has provided the schools with tools to accomplish their improvement plan. Without it, the schools might not have had the required means to implement the strategies. Nevertheless, the schools with strong leadership, school culture

and school autonomy prior the support program are those that benefited the most from the support program and therefore, sustained their improvement. Thus, it was a combination of both the external support program and the core traits of the schools that triggered the sustainability of school improvement.

The conclusive analysis of the study highlights that the leadership of the entire school management team, including the principal, is one of the determinants of sustainability. The leadership of the principal shapes the organization of the school and its actors. It also fosters the participation of the external actors such as parents and governmental authorities. Likewise, the principal is the one who can enable the distribution of the leadership among the school actors. And he or she is the person in charge of the overall management of human and financial resources essential for achieving sustainability. It is also the principal's duty to assemble an appropriate school management team to be in charge of the proper administration of the school. The school management team must meet the school's needs and be capable of properly supporting the teachers in their work. It is paramount that the school management team has well defined roles and responsibilities among its members. Furthermore, it is also relevant that both principal and school management team receive constant training so as to be able to support the teachers. A cohesive relation between the principal and management team, as well as good communication is also vital.

Moreover, the school must have a solid culture and vision that is conducive to improvement and sustaining it. The school culture determines the resilience of the school actors. Their resilience is paramount especially for schools in challenging contexts that experience different internal and external threats. Once resilience prevails among all actors, the constant shortcomings (for example the rapid increasing of school population) do not significantly affect the school stability. It is also important that the school culture is spread among the external actors so as to achieve support and participation in the school project.

Parallel to the building of school culture, school autonomy must be fostered and respected. Without autonomy, the school remains in a vulnerable position regardless of the resilience of its actors. Although the school cannot be completely an autonomous body, it has to build a certain degree of internal strength to reduce its vulnerability when external actors get involved with the school. These unrelated actors could be the external support that the school needs to keep on improving. The external support might bring very valuable help to

the school such as trainings, techno-pedagogic material and evaluations, among others. And since the workload of the school is extremely high, the external support might be useful for making more effective its time and resources. But if the autonomy of the school is not secure enough, the external support might endanger the stability of the school. Accordingly, the school strongly depends on the external support for its key processes without developing internal knowledge.

Furthermore, although the school's planning must be focused on the students, the teachers have to be considered as well. The teachers are those who implement the improvement project in classroom and to be able to do that, they need to be well trained, motivated and satisfied. They also need to have the enough autonomy to make decisions in the classroom and to have the proper lesson material for an appropriate learning-teaching practice. Ensure the teachers have enough time is a top priority since they need to be prepared to face the challenges that the classroom presents. Time is essential to develop a learning community among the teaching staff that enables them to support each other. The more solid the learning community is, the more effective the teachers' practice will be. This in turn will increase their motivation and decrease the teacher turnover within the school. Teachers also need to be supported by the school management team and the principal and to be involved in the planning and decision-making of the school since they are the ones who must implement the decisions taken.

Moreover, it is important that the school is aware of the main externalities that constantly affect it, such as policy reform, the governmental authorities and the financial resources. Educational policy is constantly under reform and sometimes it changes faster than the school expects. Thus, the better the school's understanding of the educational policy, the faster the school will be able to adapt to any policy reform. Additionally, policies usually present a generic framework and do not take into account particularities that might be hazardous for schools in challenging contexts. Therefore, it is very important that the school invests time and resources in understanding the policy, adapting it as appropriate and spreading it among its actors. This way, the school will reduce the negative effect that a change in educational policy might bring with it.

Lastly, it is important that schools invest time in building relationships with the relevant governmental authorities, as they are the ones in charge of distributing financial resources.

The school should communicate its needs, challenges and achievements to the authorities. For that, it is useful if the school has the help of the parents. Since the authorities are in charge of different projects beyond the education system, the school has to motivate and encourage them towards their particular school project. The school has to emphasize its contribution to society and the importance of the support of the authorities in its improvement process.

The study has been able to identify the factors that have to be present to sustain improvement in Chilean public schools in challenging contexts. First, the school needs strong leadership of the school management team, including the principal. Without this, the rest of the factors cannot be properly developed. Second, the school has to build a strong school culture that promotes the resilience of the school actors. The resilience will strengthen the structure already built and make it more sustainable. Third, the school has to achieve autonomy so as to be prepared for any kind of external and internal influences that might hinder its improvement. Forth, the school has to foster the teachers' professional development through the collaboration with its staff and promoting the collaboration within it. Lastly, the school has to achieve an ownership of the educational policy. The schools will not be able to adapt the policy to their own needs if they do not have a thorough understanding of it. Consequently, the school will have the tools to face educational challenges and tackle the externalities that endanger its improvement. Moreover, it will secure the conditions for the stability of its staff. If these five aforementioned factors are fully achieved, the improvement of the school will likely to be sustainable.

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Research Data

Unpublished manuscript: CIAE (2012) Informe Escuelas Básicas E-26, E21, D58, D59, E132, D-138, D65, D86, D136. CIAE: Chile.

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APPENDIX I

Quantitative data of the SIMCE results in the nine schools of the study. The following graphs measure the effectiveness, internal efficacy, equity and efficacy of the nine schools of the study. The graphs 1 to 6 measure the effectiveness. The graphs 7 to 12 measure the internal efficacy. The graphs 13 to 18 measure the equity. And finally the graphs 19 to 26 measure the internal efficiency.

1. Trajectory of the SIMCE in the subject Reading. Schools S1 to S6. Adapted from CIAE, 2013.
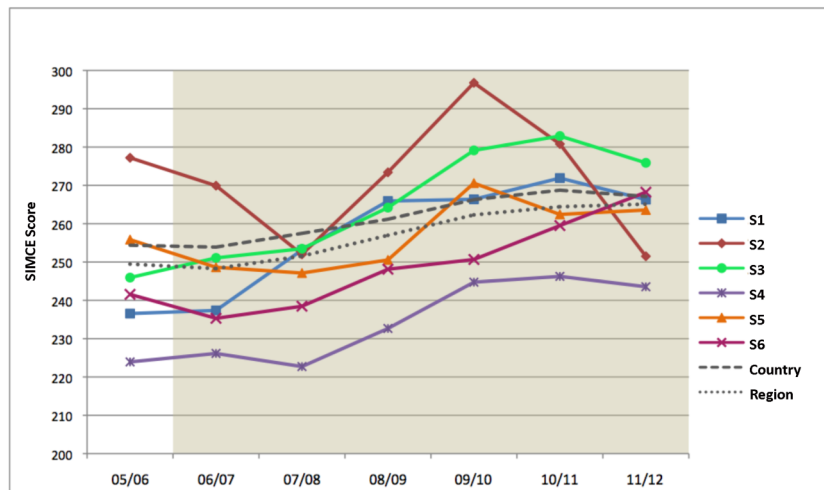
2. Trajectory of the SIMCE in the subject Reading. Schools S7 to S9. Adapted from CIAE, 2013.
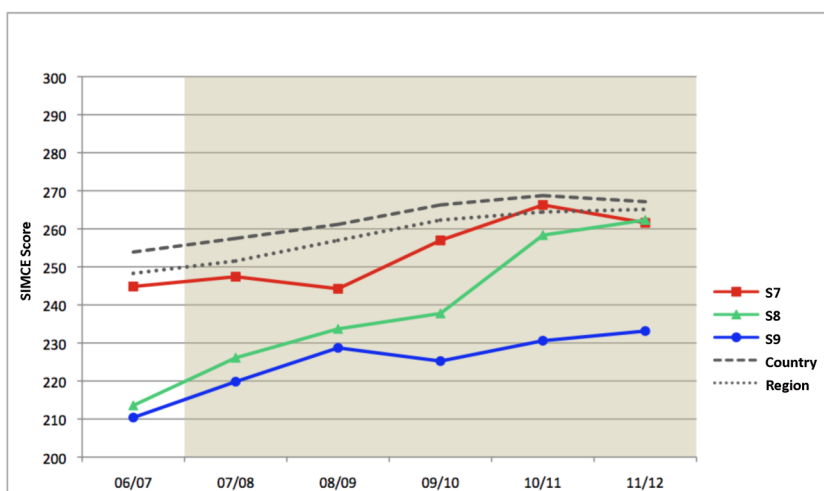
3. Progress of the SIMCE in the subject Reading in relation with their schools of comparison. Adapted from CIAE, 2013.
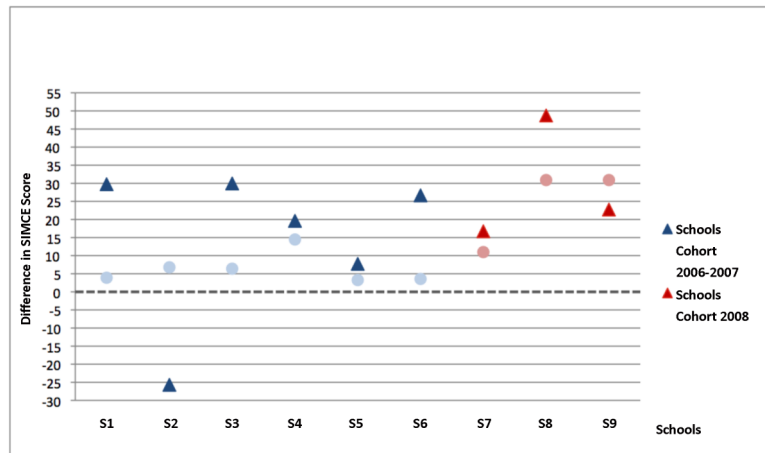
4. Trajectory of the SIMCE in the subject Mathematics. Schools S1 to S6. Adapted from CIAE, 2013.
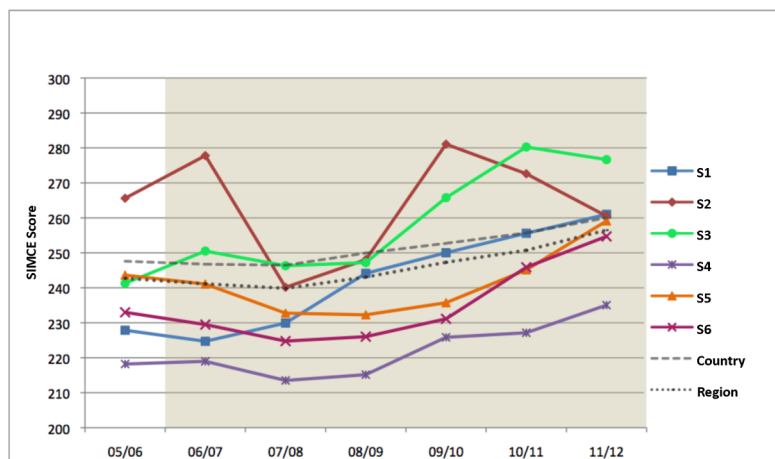
5. Trajectory of the SIMCE in the subject Mathematics. Schools S7 to S9. Adapted from CIAE, 2013.
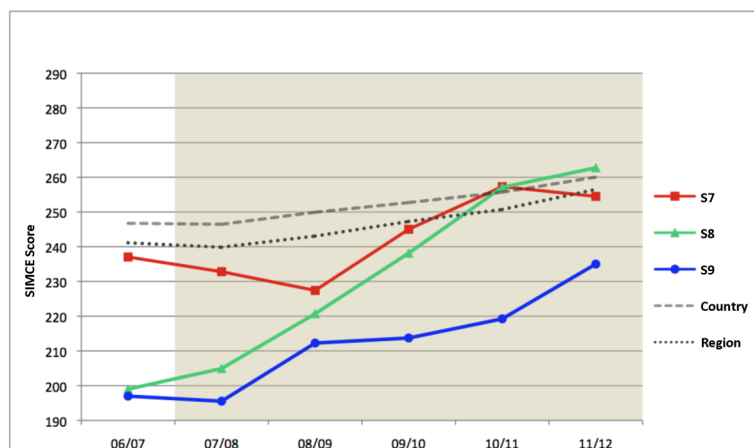
6. Progress of the SIMCE in the subject Mathematics in relation with their schools of comparison. Adapted from CIAE, 2013.
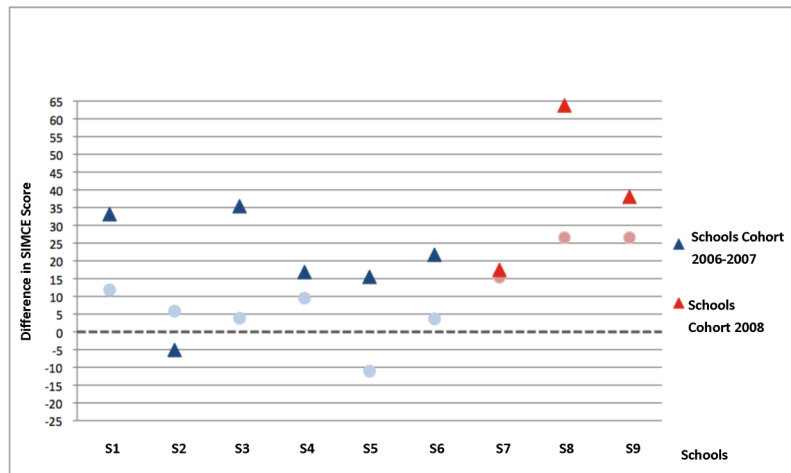
7. School effect in the subject Reading. Schools S1 to S6. Adapted from CIAE, 2013.
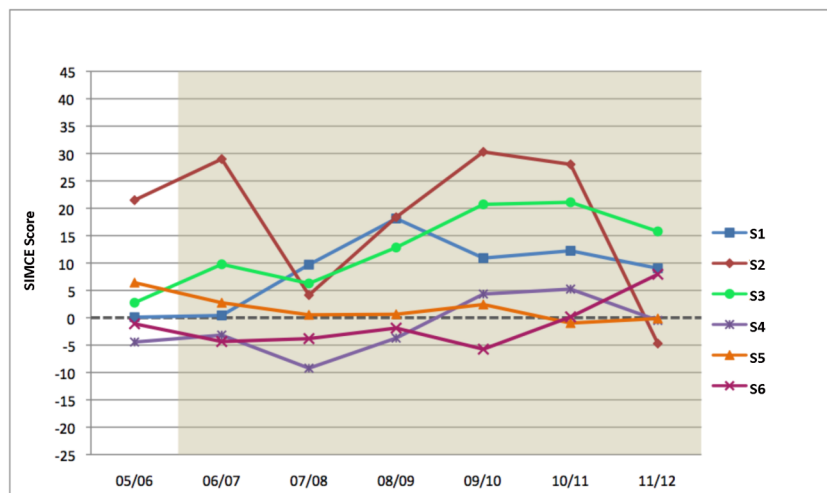
8. School effect in the subject Reading. Schools S7 to S9. Adapted from CIAE, 2013.
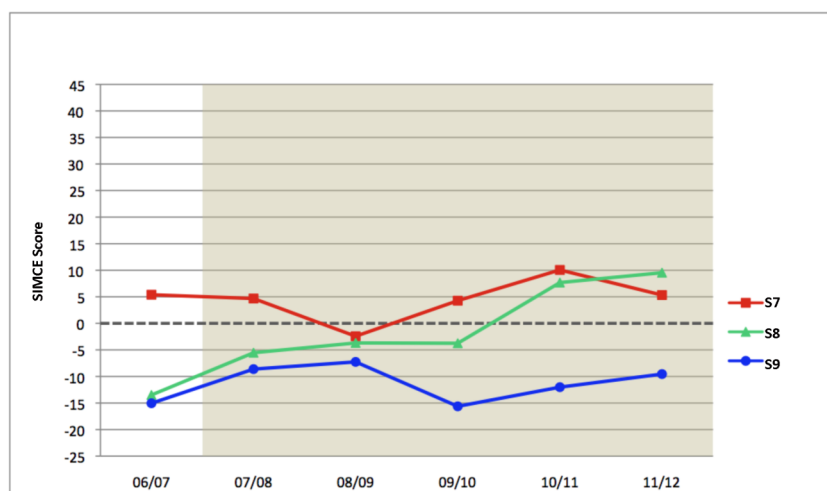
9. Progress of School effect in the subject Reading in relation with their schools of comparison. Adapted from CIAE, 2013.
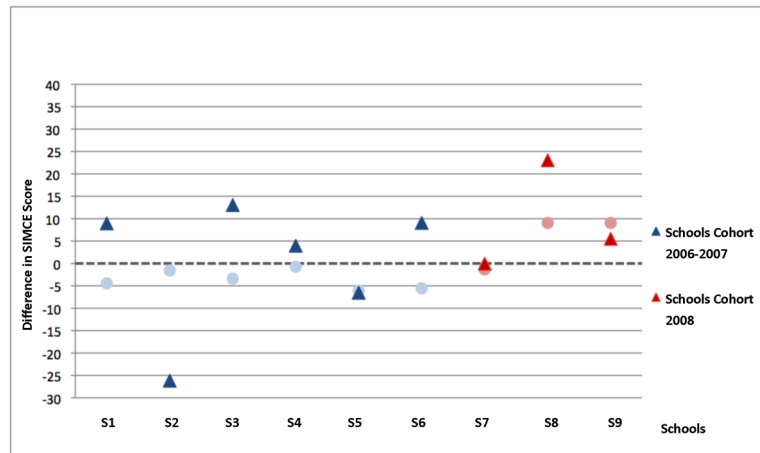
10. School effect in the subject Mathematics. Schools S1 to S6. Adapted from CIAE, 2013.
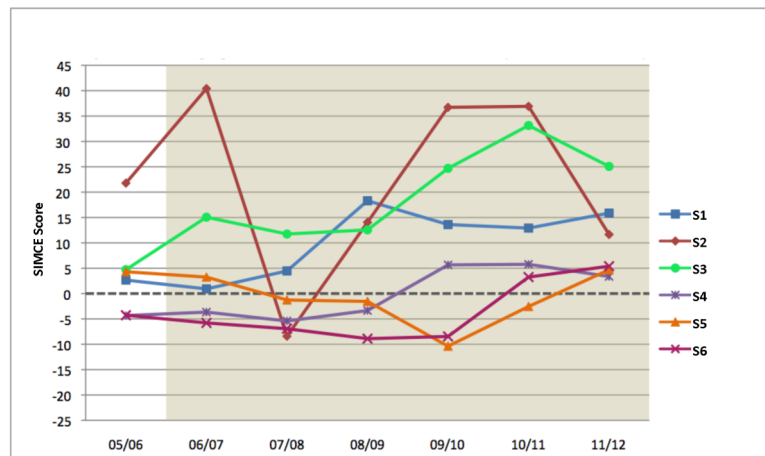
11. School effect in the subject Mathematics. Schools S7 to S9. Adapted from CIAE, 2013.
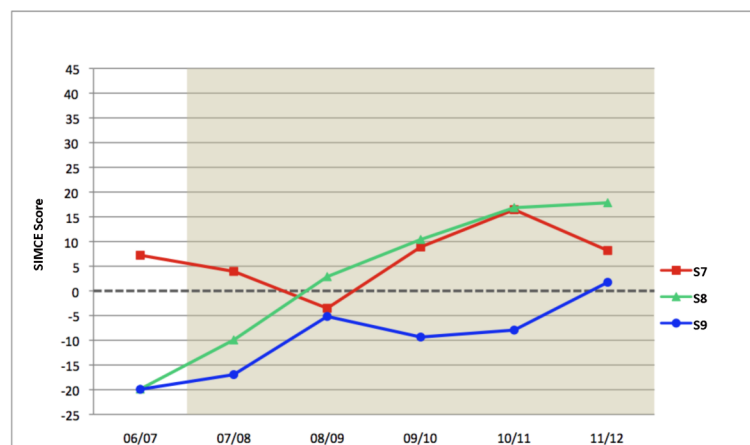
12. Progress of School effect in the subject Mathematics in relation with their schools of comparison. Adapted from CIAE, 2013.
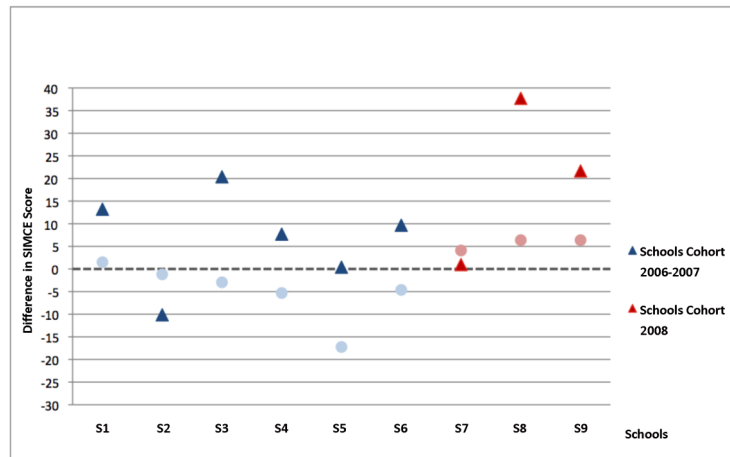
13. Percentage of students with Insufficient Level of Learning in the subject Reading. Schools S1 to S6. Adapted from CIAE, 2013.
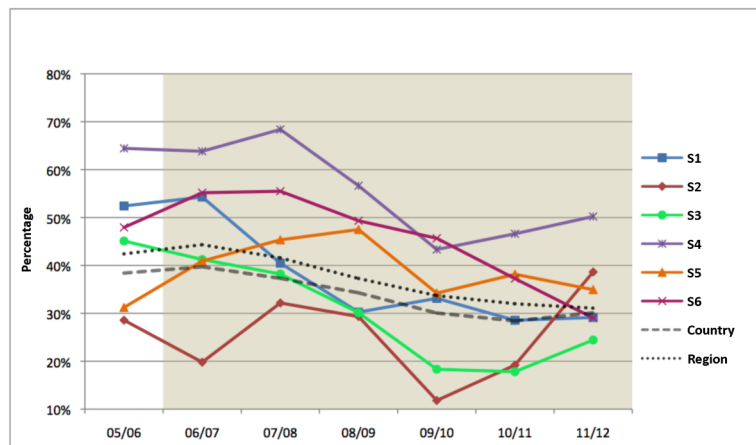
14. Percentage of students with Insufficient Level of Learning in the subject Reading. Schools S7 to S9. Adapted from CIAE, 2013.
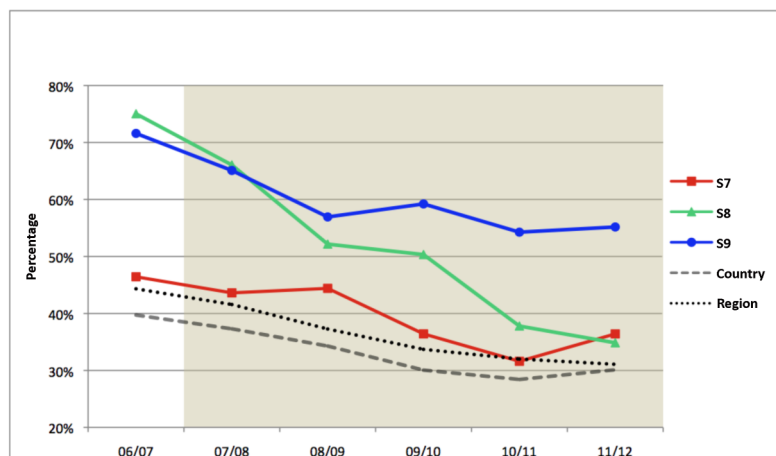
15. Process of students with Insufficient Level of Learning in the subject Reading in relation with their schools of comparison. Schools S7 to S9. Adapted from CIAE, 2013.
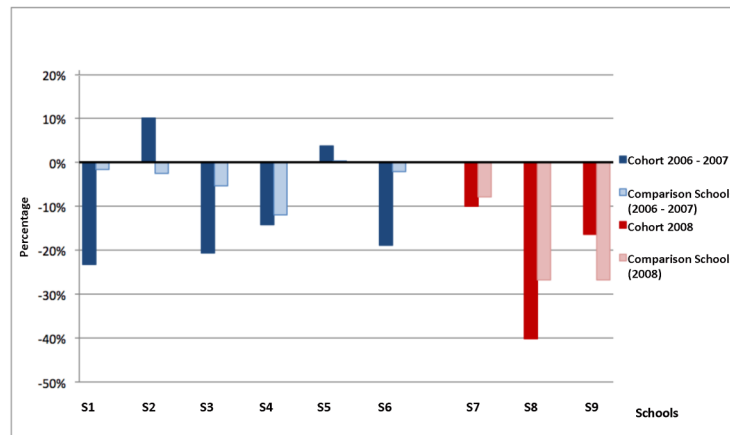
16. Percentage of students with Insufficient Level of Learning in the subject Mathematics. Schools S1 to S6. Adapted from CIAE, 2013.
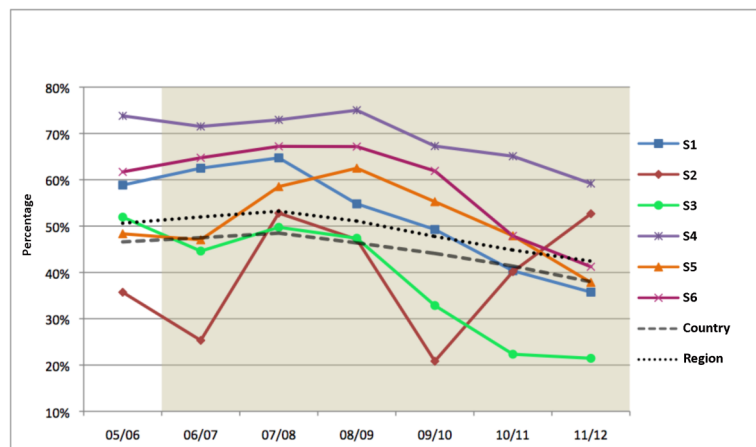
17. Percentage of students with Insufficient Level of Learning in the subject Mathematics. Schools S7 to S9. Adapted from CIAE, 2013.
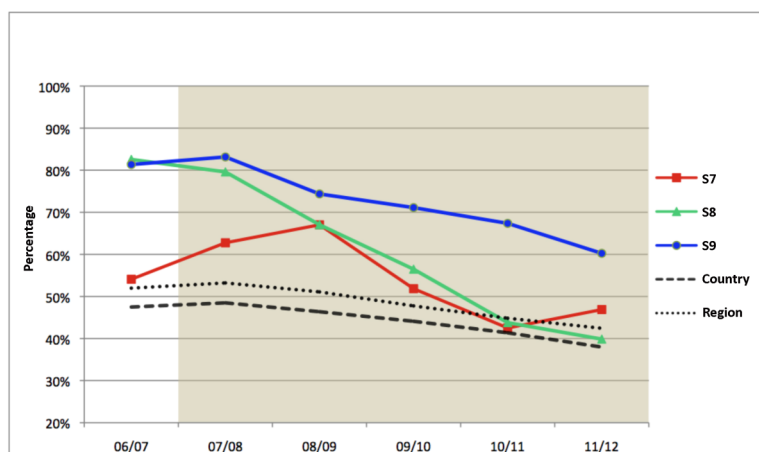
18. Process of students with Insufficient Level of Learning in the subject Mathematics in relation with their schools of comparison. Adapted from CIAE, 2013.
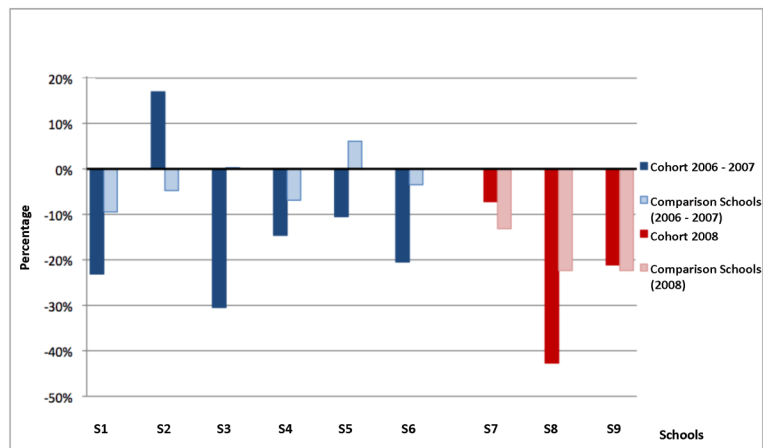
19: Student repetition rate in the first basic cycle. Schools S1 to S6. Adapted from CIAE, 2013.
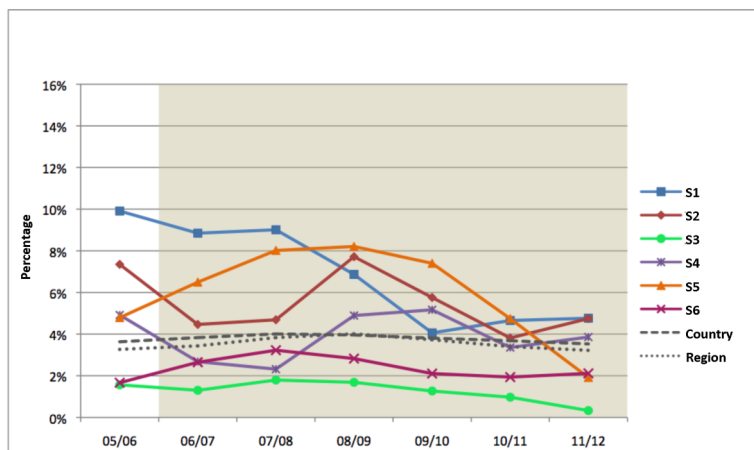
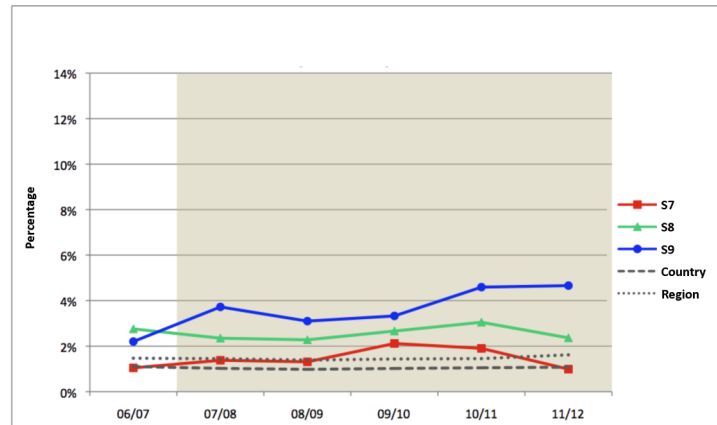**20: Student repetition rate in the first basic cycle. Schools S7 to S9. Adapted from CIAE, 2013.**
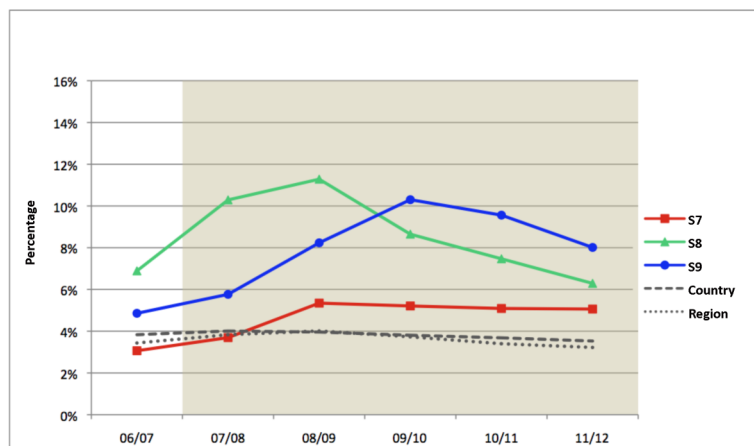
21: Student repetition rate in the second basic cycle. Schools S1 to S6. Adapted from CIAE, 2013.
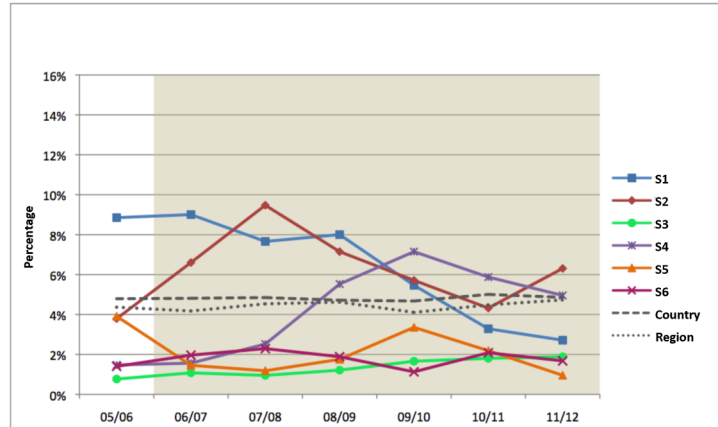
22: Student repetition rate in the second basic cycle. Schools S7 to S9. Adapted from CIAE, 2013.
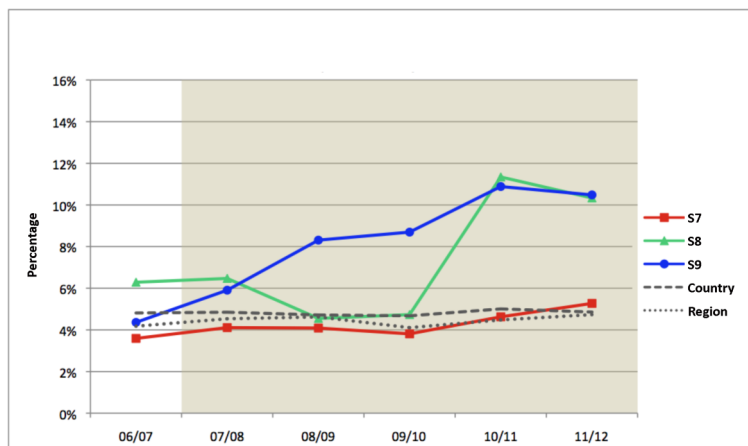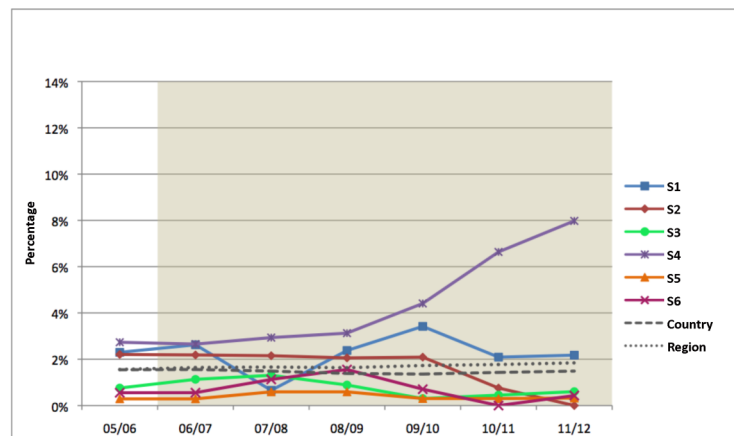

**23: Student withdrawal rate in the first basic cycle. Schools S1 to S6. Adapted from CIAE, 2013.**
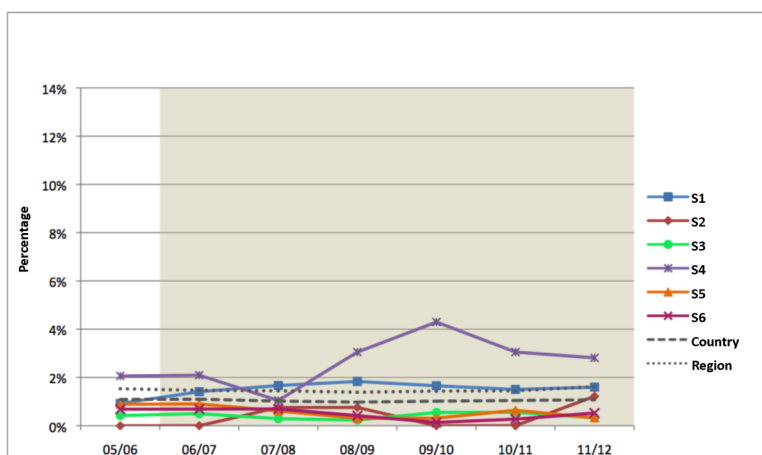
24: Student withdrawal rate in the first basic cycle. Schools S7 to S9. Adapted from CIAE, 2013.

25: Student withdrawal rate in the second basic cycle. Schools S1 to S6. Adapted from CIAE, 2013.
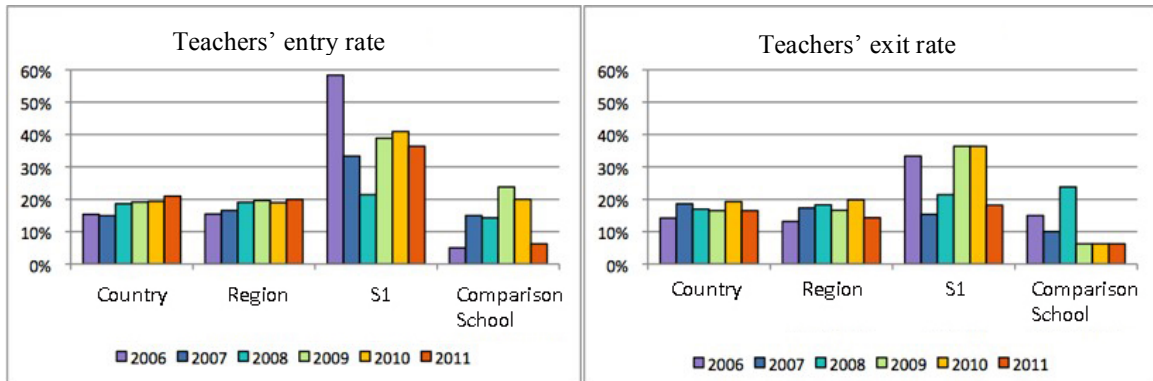

26: Student withdrawal rate in the second basic cycle. Schools S7 to S9. Adapted from CIAE, 2013.
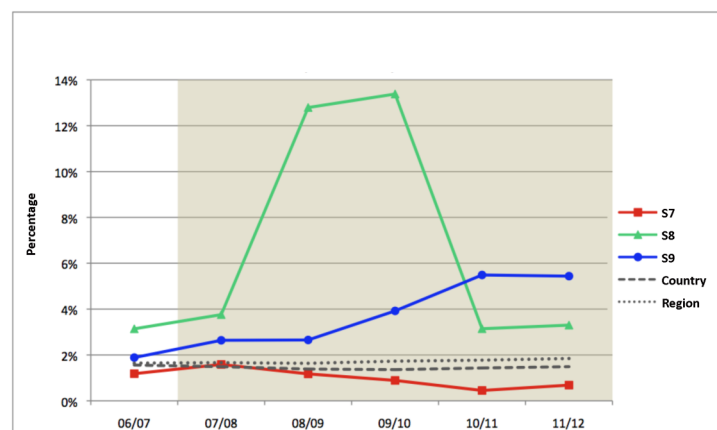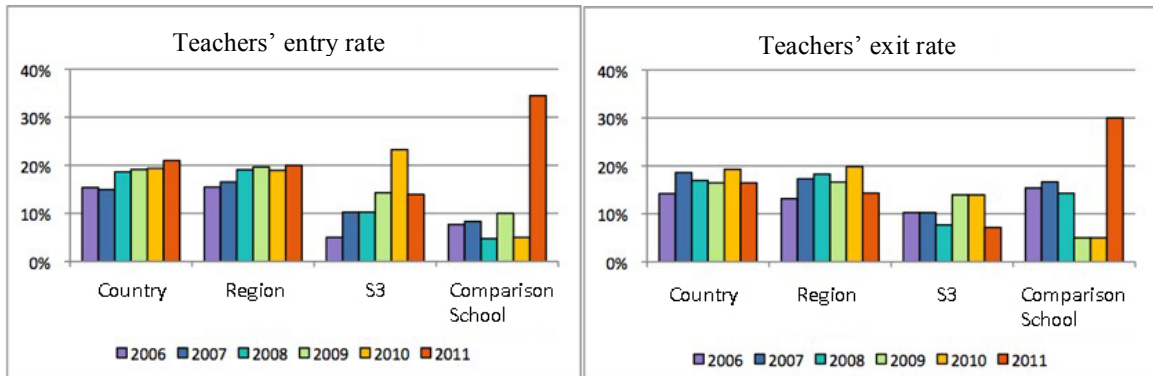
APPENDIX II

National statistics of entry and exit of teachers of schools S1, S3, S4, S5, S6, S7 and S8 and their schools of comparison, the schools of the country and of the region.
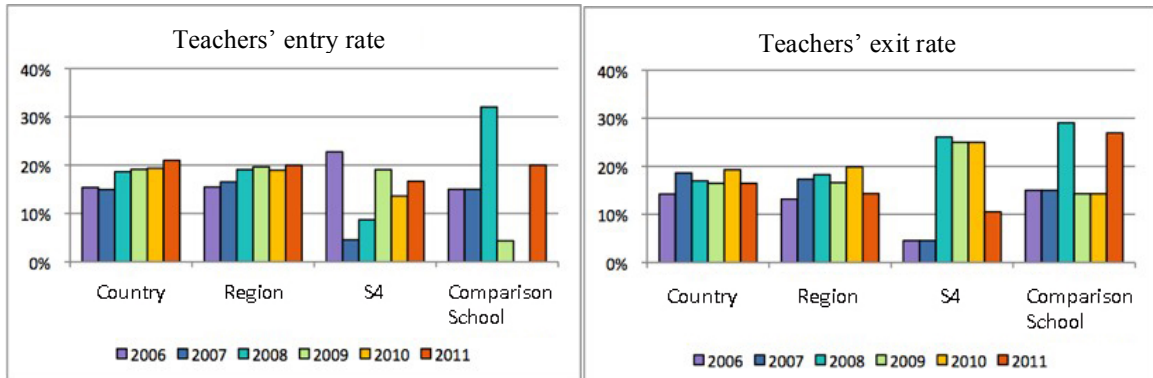
1. Teachers' entry and exit rate of S1 from 2006 until 2011. Adapted from CIAE, 2013.
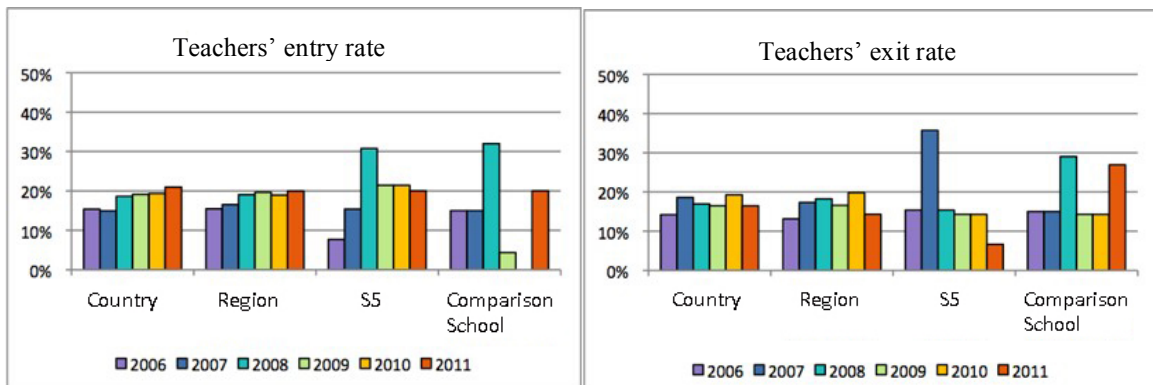

2. Teachers' entry and exit rate of S3 from 2006 until 2011. Adapted from CIAE, 2013.

3. Teachers' entry and exit rate of S4 from 2006 until 2011. Adapted from CIAE, 2013.

4. Teachers' entry and exit rate of S5 from 2006 until 2011. Adapted from CIAE, 2013.
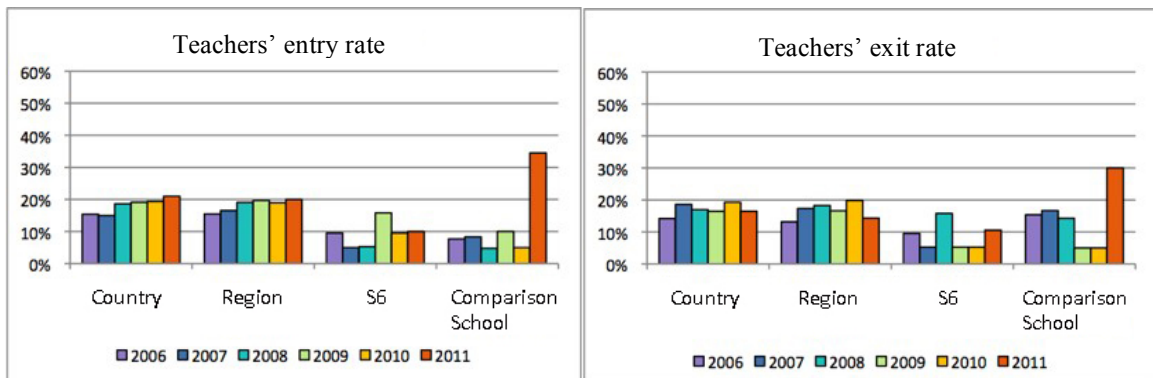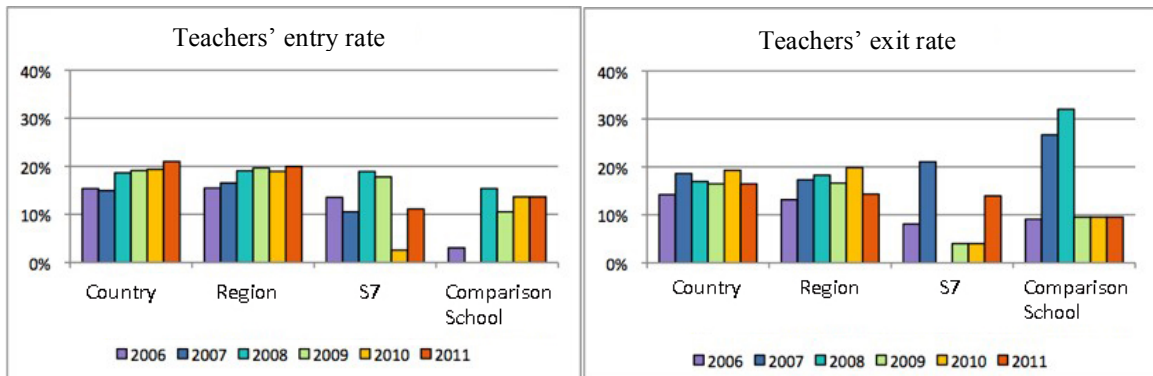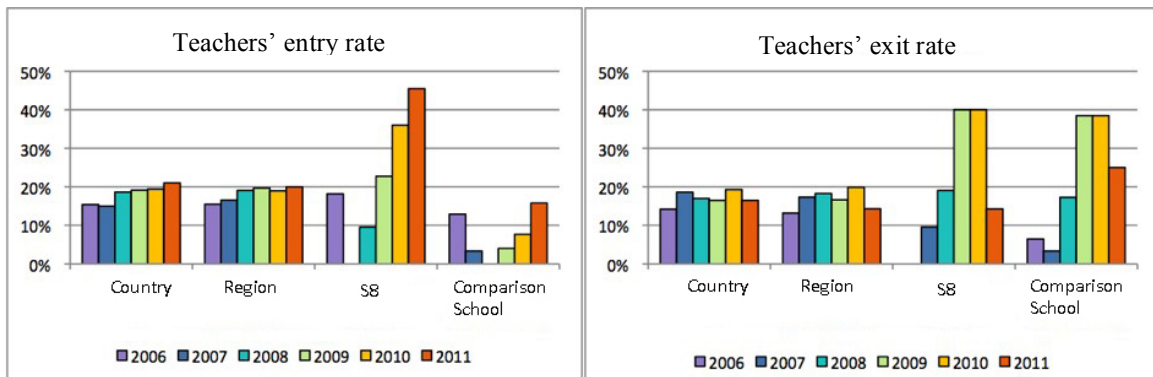

5. Teachers' entry and exit rate of S6 from 2006 until 2011. Adapted from CIAE, 2013.

6. Teachers' entry and exit rate of S7 from 2006 until 2011. Adapted from CIAE, 2013.

7. Teachers' entry and exit rate of the S8 from 2006 until 2011. Adapted from CIAE, 2013.

APENDIX III

Results of the questionnaires that measure the perception of the school management team and teachers about the following internal processes: school culture, planning and actions towards improvement, leadership, satisfaction of the professional work, and learning community. Schools comprised: S1, S3, S4, S5, S6, S7 and S8. The scale ranged between 1 and 4.

1. School culture

School culture	School management team		Teachers	
	2011	2012	2011	2012
	S	S	S	S
S1	3.5	3.3	2.4	3.3
S3	NA*	3.7	3.2	3.4
S4	3.4	3.9	3.4	3.2
S5	3.8	3.8	3.2	3.2
S6	3.0	3.9	3.7	3.7
S7	3.5	3.4	3.3	3.4
S8	NA*	3.2	2.9	2.7

* Not available
S: School

2. Planning actions towards improvement

Planning actions towards improvement	School management team		Teachers	
	2011	2012	2011	2012
	S	S	S	S
S1	3.7	3.5	2.4	3.5
S3	NA*	3.6	3	3.1
S4	3.6	3.7	3.3	2.8
S5	3.6	3.8	3.1	3.3
S6	3.8	3.9	3.5	3.5
S7	3.6	3.5	3	3.2
S8	NA*	3.1	2.7	2.7

* Not available
S: School

3. Leadership of principal

Leadership of principal	Teachers	
	2011 S	2012 S
S1	2.7	3.4
S3	3.5	3.7
S4	3.5	3.3
S5	3.3	3.4
S6	3.8	3.9
S7	3.3	3.4
S8	2.9	2.8

S: School

4. Leadership of the school management team

Leadership of school management team	Teachers	
	2011 S	2012 S
S1	2.7	3.5
S3	3.3	3.5
S4	3.5	3.1
S5	3.3	3.3
S6	4	3.9
S7	3.5	3.5
S8	3.1	2.9

S: School

5. Satisfaction of the professional work

Satisfaction of the professional work	School management team		Teachers	
	2011 S	2012 S	2011 S	2012 S
S1	3.5	3.7	3.6	3.4
S3	NA*	3.9	3.7	3.7
S4	3.6	3.8	3.8	3.7
S5	4	3.9	3.8	3.9
S6	4	4	3.6	3.9
S7	3.6	3.5	3.8	3.9
S8	3.4	NA*	3.7	3.7

* Not available
S: School

6. Learning community

Learning community	School management team		Teachers	
	2011	**2012**	**2011**	**2012**
	S	S	S	S
S1	3.5	3.1	2.1	3.3
S3	NA*	3.7	2.9	3
S4	3.5	3.7	3.3	2.8
S5	3.5	3.7	3	3
S6	3.9	3.8	3.5	3.4
S7	3.7	3.3	3.1	3.1
S8	NA*	3	3.2	2.8

* Not available
S: School

ACRONYMS

ATE	*Asistencia Técnica Educativa*, Educational Technical Assistance
CIAE	*Centro de Investigación Avanzada en Educación*, Center for Advanced Research in Education
DAEM	*Departamentos Administrativos de Educación Municipalizada*, Administrative Departments of Municipal Education
ILL	Insufficient Level of Learning
PEI	*Proyecto Educativo Institucional*, Institutional Education Project
PME	*Plan de Mejoramiento Educativo*, Educational Improvement Plan
SEP	Preferential scholar subsidy (Subvención Escolar Preferencial)
SES	Socioeconomic Status
SIMCE	*Sistema de Medición de la Calidad de la Educación*, National System of Results Evaluation
UTP	*Unidad Técnico Pedagógica*, Technical Pedagogic Unit