UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL, HUMAN, AND MATHEMATICAL SCIENCES

Southampton Education School

AN EXPLORATION OF EFFECTIVE SCHOOLS IN RURAL MEXICO:

CONAFE PRIMARY SCHOOLS OF OAXACA

by

Rosa María Cruz Avendaño

Thesis for the degree of Doctor of Education (EdD)

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ABSTRACT

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Rural populations in Mexico face numerous challenges including those related to the availability and quality of school services. This has been acutely noted in the low educational attainment facing states like Oaxaca where most of its population live in rural municipalities. To date, three main school type services are found in rural settings: indigenous, general, and community-based schools. Community-based school services are provided by the National Council for Promoting Education (CONAFE) following a particular multi-grade approach for instruction.

The evidence regarding rural schools in relation to their state of effectiveness suggested by test scores has been limited and mixed as not all rural schools are consistently –or properly- assessed using standardised tests. Furthermore, issues of accessibility, budget, and even micro-politics existing in rural settings do not facilitate the further exploration of inferences made by quantitative approaches. In the case of Oaxaca, the diversity of the population requires more research that can provide account of the state of schools and their effectiveness based on stakeholders' context and needs. Thereby, research based school interventions could meet the actual capacity of schools towards educational change and improvement.

This study has been conducted using School Effectiveness and School Improvement research bases as it aims to gain a deep understanding of CONAFE rural school processes and their influence in pupil achievement in recent years. A mixed method approach has been used to look at the factors explaining two opposite pupil achievement trajectories observed in ten CONAFE multi-grade schools in Oaxaca, Mexico. Following the multilevel nature of schools, individual, classroom and school-community levels were analysed. The quantitative findings of this study revealed important differences at pupil level such as socioeconomic status and socio-cultural background. At a classroom level, significant differences between instructional practices of novice and return teachers were found using structured classroom observation data. Finally, the qualitative findings noted the importance of school governance, school leadership and parental involvement in their interrelationship with classroom and pupil level factors.

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Table of Abbreviations

AGE	Apoyo a la Gestión Escolar (Support for School Management)
APEC	Asociación de Padres por la Educación Comunitaria (Parent Committee for Community Education)
BERA	British Educational Research Association
CEP	Compensatory Education Programme
CONAFE	Consejo Nacional de Fomento Educativo (National Council for Promoting Education)
CONAPO	Consejo Nacional de Población de México (National Council of Population of Mexico)
DGEI	Dirección General de Educación Indígena (Indigenous Education Directorate)
EDUCO	Educación con Participación de la Comunidad (Education and Community Participation)
EI	Educational Index
ENLACE	Evaluación Nacional de Logros Académicos en Centros Escolares (National Evaluation of Academic Performance at School Centers)
EXCALE	Exámen de la Calidad y el Logro Educativos (Educational Achievement and Quality Asssessment)
HDI	Human Development Index
ICT	Information and Communications Technology
IIEEPO	Instituto Estatal de Educación Publica del Estado de Oaxaca (Institute of Public Education of Oaxaca)
INEE	Insituto Nacional de Evaluación de la Educación (National Institute for Educational Assessment)
INEGI	Instituto Nacional de Estadística Geografía e Informática (National Institute of Statistics and Geography)
ISERP	The International School Effectiveness Project
LLECE	Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación (Latin American Laboratory for Assessment of the Quality of Education)
MM	Mixed Methods
OECD	Organisation for Economic Cooperation and Development
OTL	Opportunity to Learn
PERCE	Primer Estudio Regional Comparativo y Explicativo (First Regional Comparative and Explanatory Study)
PISA	Programme for International Student Assessment
PROHECO	Programa Hondureño de Educación Comunitaria (Honduran Programme for Community Education)
PRONADE	Programa Nacional de Autogestión para el Desarrollo Educativo (Community-managed Programme for Educational Development)
QUAL	Qualitative
QUANT	Quantitative
SCC	Socio-cultural capital
SD	Standard Deviation
SEM	Sistema Educativo Mexicano (Mexican Educational System)
SEP	Secretaria de Educación Pública (Ministry of Education)

SER	School Effectiveness Research
SERCE	Segundo Estudio Regional Comparativo y Explicativo (Second Regional Comparative and Explanatory Study)
SES	Socio-economic status
SI	School Improvement
SIMCE	Sistema de Medición de la Educación (Educational Measurement System)
TAP	Talleres de Aprendizaje (Learning workshops)
UNDP	United Nations Development Programme
WDR	World Development Report

DECLARATION OF AUTHORSHIP

I, Rosa Maria Cruz Avendaño declare that this thesis and the work presented in it are my own and have been generated by me as the result of my own original research.

'An exploration of effective schools in rural Mexico: CONAFE primary schools in Oaxaca'

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
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Signed: .....

Date:.....

Acknowledgements

I dedicate this thesis to my beloved parents who always encouraged me to pursue my goals and provided me with the education they always dreamed for themselves. I also dedicate this thesis to my brother Héctor who has been there for me in every step of the way as my unconditional mate. I feel immensely grateful for my family's patience and understanding in every decision I have made so far, including the realisation of this PhD far from home. I also would like to dedicate this work to all my friends in Mexico who have supported me at a distance and whose unconditional friendship has been essential in the completion of this work.

I would like to express my gratitude to my PhD colleagues and friends that touched my heart and nurtured me with their knowledge and their ways of embracing life, my profound admiration and respect to each of them.

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To Inés and Severiano, who made my wings grow big and strong.

Ñuu coo´

Kachi me matzanu tantanee co ñuu coo´, uúnchua squintooó ñaa.

Si´ i kachi tono tikua´a ndava co ñuu nutzikaá, sansoó ndanchi coco´ ndanducu co ichi… Ndanducu co ndanchi coco´ nchitxio ani cacu nacuncha tucani , nchitxio tzicata chií tachii baa cha café tatchaan chiico ñuú vixhoó.

Ñuu coo´ cuu yoo, a icá. Ñuu coo´ nchitxio cha canta anu nduchinuú , nchitxio kuevee tzi nchachá ndava. Tzi nchitxio cundakuaa ña tza´a bi yoo.

Our place

My great grandmother says that when we find our place, it is hard to leave it.

She also says that we are like butterflies that fly far away but always come back or keep finding their way... Seeking to go back where faith lives, where the wind is good, where the morning coffee smells like wet soil.

Our place can be here, but also there. Our place is where our heart beats as if it were dancing, where our eyes shine, where our body is light and where our wings get a head start. It is the place in which we can be grateful for being here.

Nadia López García

Chapter 1 Introduction

In the first section of this chapter, I present the context of the study and the statement of problem as the rationale for conducting this research. In a following section, the main purpose of the study and the research questions to address the problem statement are presented. Finally, I explain the significance of this study and I include an overview of the chapters contained in this thesis as the final part of this chapter.

1.1 Context of the study

Mexico is the eleventh most populous countries in the world, as it has nearly 120 million inhabitants (INEGI, 2016). Most of the Mexican population (78%) is located in urban areas that are dominated by mega-agglomeration, medium-sized and satellite cities, whereas the remaining percentage of the population (22%) is located in rural areas that, by definition, comprise less than 2500 inhabitants (INEGI, 2010b). It is worth noting that the dispersion of the rural population is closely related to low community development due to the geographical locations and conditions that challenge service supply (OECD, 2012). Furthermore, the indigenous population (speakers of languages different from Spanish) represents nearly 6.5% of the national population (INEGI, 2010b). Thus, rural settings – especially those comprising indigenous people – are found at the tail end of the population in practically all aspects relating to socioeconomic wellbeing (Trevino, 2013).

The diversity of the Mexican population has shaped and challenged the structure and size of Mexican educational system (SEM, by its acronym in Spanish) that has not yet tackled the educational needs derived from population diversity (Blanco, 2011; INEE, 2014a). Poverty and inequity in Mexico are some of the main issues that are observed across the country, especially with regards to educational outcomes. National and international test results (e.g. PISA, ENLACE and EXCALE) have disclosed that children who attend indigenous and rural-setting schools (low SES) tend to show lower achievement than their higher-income counterparts, resulting in a wide pupil attainment gap in the country, even larger than in other countries such as Argentina and Chile (Murillo & Román, 2008; Puryear et al., 2012). Thus, while higher-income

students are significantly more likely to move across the educational levels, obtaining higher scores and pursuing higher education, most low SES children are likely to repeat grades and drop out of school (Puryear et al., 2012). In addition, it has been highlighted that low-quality schools in poor areas do little to reduce pupils' risk of dropping out or to improve their learning opportunities so that they can achieve higher levels of education (Puryear et al., 2012). Several studies (e.g. Munoz Izquierdo & Rodriguez 1976; Schmelkes et al., 1996, Santibáñez, 2010) have suggested that education provided in low-income communities is usually inefficient, due to the lack of well-trained and motivated teachers and good infrastructure conditions (Blanco, 2011).

Regarding educational expenditure, while Mexico faces major challenges to achieve equitable funding for schools and pupils, it has been noted that allocating higher spending per student is not the only answer for more equitable school conditions and outcomes. Addressing the issues regarding lack of transparency and a more sensible allocation of resources is more likely to lead to effective use resources (Guichard, 2005; Hopkins et al., 2007; OECD, 2013a). Therefore, as suggested by OECD (2010, 2013a), the main challenge for SEM is to establish a more transparent and equitable funding mechanism to reach schools and students in need.

The degree of school autonomy in Mexico is less strong than in an average OECD country, particularly with regard to curriculum and pedagogical practices (Hopkins et al., 2007; OECD, 2014). Despite the attempts of SEM to diversify the educational system (e.g. general, community-based indigenous schools), it has been noted that using the same curriculum and resources – even methods – has contributed to providing low-income populations with an education that is not relevant or appropriate for pupils' actual needs and realities. However, very little is known about the schools located in rural settings and the processes that can lead to the development of suitable policies to tailor practices and materials to students' needs (Blanco, 2011).

Thus, there are huge inequalities in the allocation of educational resources, a weak educational system running in isolated and low-income populations, along with the huge disparity observed in both the economic and human capital across the

educational system. These do not only represent a challenge for achieving educational quality and equity but also imply specific methodological and theoretical issues when conducting research to explain school phenomena in complex societal structures such as those in Mexico (Blanco, 2011).

1.2 Problem statement

One school effectiveness research's (SER's) earliest foci was to provide evidence of what schools do in order to make a difference in pupil achievement, especially for those attending schools in disadvantaged circumstances. This led to a series of studies that initially promoted equity in education by providing evidence of effective schools in low-income areas (e.g. Lezotte & Bancroft, 1985; Weber, 1971, Edmonds, 1979). Further development stages of SER enabled more accurate estimates of the effects of school processes and strong evidence of the influence of context variables, especially pupils' socioeconomic background (Reynolds et al., 2000).

Although most SER has been conducted in developed countries, the field has influenced studies in developing countries that have provided evidence of the extent of SER methods and how school factors can travel across countries. SER in developing countries has highlighted the importance of factors such as school infrastructure and resources, the context surrounding schools (e.g. urban, rural), SCC and SES on pupil achievement and school attainment (Murillo & Román, 2011b; Fuller & Clarke, 1994).

SER in Latin America has shown an equity focus, just as SER in its early stages in the developed world, adding an emphasis on equity as one of its main loci. This has raised educational and social researchers' awareness and commitment to addressing educational inequity within the region, using the SER scope and methods. This is reflected in recent studies, reinforcing a two-way relationship with school improvement in which the knowledge generated by SER has served to analyse school improvement reforms and programmes implemented in the region (e.g. Anderson, 2002; Di Gropello, 2004; Avalos, 2007). The so-called 'applied character' of SER in Latin America has also enabled researchers to focus on disadvantaged schools that have increased their effectiveness over time or the factors explaining ineffective schools. The findings of such studies intend to assist or improve schools in similar

circumstances as a way to embrace educational transformation and change in Latin America (Murillo, 2007b; Reynolds et al., 2015).

It has been noted that contextual variables are highly important for the region, such as pupils' SES (measured by possession of certain household items) and SCC (measured by parent educational attainment). Furthermore, the empirical evidence suggests that the school effect can be greater than pupils' SES and SCC in some countries of the region (see Reynolds et al., 2015; Murillo & Román, 2011a).

Some of the most comprehensive and earliest SER studies in Mexico were specifically designed to identify classroom and school factors influencing pupil achievement (i.e. Munoz Izquierdo & Rodriguez 1976; Schmelkes et al., 1996). These studies noted sociocultural, nutritional and even health characteristics at pupil individual level as significant factors related to students' academic performance in several states of Mexico. Furthermore, a mixed-method approach conducted by Schmelkes et al. (1996) highlighted school infrastructure, school climate and management, as well as teachers' educational background, practices and attitudes as very influential factors when explaining high between-school variance in different school types located in the southeast of Mexico.

SER in Mexico is still a young field mostly characterised by quantitative studies that have met the criteria for its validity and reliability in Mexico (Blanco, 2009). These SER studies have relied on statistical approaches to seek factors influencing pupil achievement, including the effect of school and SES factors using national (ENLACE, EXCALE) and international (PISA) assessment data. The studies that have focused on educational inequality in Mexico using SER approaches have highlighted the achievement gaps in relation to contextual variables such as school type (i.e. general, private, indigenous), pupil background characteristics (SES and SCC) and population type (e.g. rural-indigenous, rural mestizo). It has been noted that, due to compositional effects (SES composition of the student body), indigenous schools, community-based schools and general schools in rural settings are at the lower end of achievement compared to pupils attending urban school settings (see INEE, 2007).

Recent SER studies in Mexico have revealed that school factors can account for up to 28% of variance in mathematics performance and 26% of variance in reading performance in primary schools (Blanco, 2008; Fernández & Blanco, 2004; Lastra, 2006). Once sociocultural factors are controlled for, the actual percentage of variance explained by school effect can reach up to 14% and 12% for both maths and reading performance, respectively (Blanco, 2008, 2009). Furthermore, it has been suggested that pupil achievement (third graders) can be explained by school contextual factors (e.g. school type, school infrastructure, number of hours at school, teacher and pupil SES) reaching up to 61% and 52% of variance in maths and Spanish test scores, respectively. However, the variance in pupil achievement that has been solely explained by the type of school (as a contextual variable) has been found to be rather minimal for most subjects (1.5–2.5%), apart from Spanish, which can reach up to 7% (INEE, 2008).

Blanco (2008, 2011) conducted a quantitative study that includes analyses of individual and school-level factors influencing sixth graders' attainment. Blanco's study (2007, 2011) revealed that pupil intake characteristics that are negatively correlated to academic achievement in sixth grade. Such characteristics include being a female student, being an indigenous student and being a working (4+ hours) student. Furthermore, it was found that pupils' family SES (socioeconomic status) and SCC (sociocultural capital) showed a positive correlation with student achievement (Blanco, 2008, 2011).. Blanco (2007) found that pupil expectations to attain higher education were positively correlated to the educational support received within the family which, accordingly, was positively associated with the family's SCC (Blanco, 2007). Similarly, Blanco (2007) found a small significant correlation between pupil educational support variables and the perception of obstacles to study in the future that suggested a close link between having open communication and having high school expectations (Blanco, 2011). A non-significant negative correlation was found between educational control scale and the perception of future obstacles to study in the future that suggests that such control attitudes and practices would not affect the perception of future obstacles to study in the future. Finally, Blanco's study (2007) suggested that, once family sociocultural variables are controlled for, higher education expectations are

significantly positively correlated to academic achievement (maths and language). Thus, high expectations (e.g. attaining higher education) could be a factor that explains the positive influence of sociocultural capital on pupils' achievement. While school factors could influence such expectations, it was unclear what concrete factors would explain such expectations (Blanco, 2007, 2011).

In relation to pupils attending rural schools (e.g. general, indigenous), Blanco's study (2007) found positive significant correlations between rural schools and academic achievement after controlling for the sociocultural context (i.e. composition effect) of the schools. This finding suggests that rural school outcomes might not be statistically different from their counterparts in urban contexts (Blanco, 2007). Trevino (2013) conducted a study in order to compare the learning outcomes of indigenous children attending two types of schools: rural-general and indigenous. The criteria for the selection of students for this analysis were attending schools located in rural areas (less than 2500 inhabitants) that participated in EXCALE test (sixth graders), students with similar SES and schools located in states with high proportion of indigenous population (e.g. Chiapas, Oaxaca, Yucatan).

The results of the analysis conducted by Trevino (2013) suggest that Mexican indigenous pupils attending general schools perform better than those attending indigenous schools. When testing the factors that could account for the performance gap, it was found that SES and school resources were not significant factors. However, teaching quality was found to be significantly correlated to academic performance of indigenous students (Trevino, 2013). Thus, the results of this analysis suggest that indigenous schools do not provide indigenous children with expanded educational opportunities and that improving teacher quality could reduce the achievement gap between children attending indigenous and rural schools (Trevino, 2013). Similarly, Santibáñez' (2010) study regarding rural-indigenous bicultural education in the southwest of Mexico suggested that some teacher characteristics are positively associated with student outcomes on national test scores (Santibáñez, 2010).

Very few -quantitative- SER studies include data and findings regarding community-based schools (CONAFE) in Mexico as they exist in low income/density settings that are

difficult to access which makes it difficult to gather data due to the time and costs involved. Former EXCALE test data analyses have suggested that CONAFE third graders can show greater attainment than pupils located in other public schooling stratum (Backhoff et al., 2007; INEE, 2007). More recent evidence on community-based schools suggests a positive association between teachers holding upper secondary school education and pupil achievement. Other community-based teachers' features that showed greater effect on teacher effectiveness variables (e.g. starting lessons on time) are SCC background (i.e. mother schooling attainment) and teachers experience (two years, on average) (Santibáñez, 2010). Community-based schools possessing enough classrooms for multi-grade instruction have also been positively associated with effective teaching (Santibáñez, 2010).

Thus, as noted above, the empirical evidence regarding rural-indigenous and community-based schooling in Mexico is small and mixed, and very little is known about classroom processes in Mexican schools, including their impact and their association with other school organisational and community factors. There is no doubt that statistical approaches have provided the effects of diverse variables on pupil achievement in Mexico. However, net effects or direct effects of single isolated variables cannot provide a full account of the interactions at school-, individual- and classroom-level factors, especially when aiming to generate greater understanding of school phenomena in rural or disadvantaged settings. Thus, more studies focusing on effective teaching are needed, as classroom-level factors have proven to be highly significant for pupil achievement in low-income settings. Finally, a more comprehensive understanding of school phenomena in disadvantaged settings is needed to design tailored strategies, programmes and interventions to support instructional practice and pupil achievement, as well as to promote and design local policies supporting stakeholders in such contexts.

1.3 Aim and scope of the study

The aim of this study is to generate a greater understanding of school processes and factors that influence high pupil achievement in rural community-based schools. In order to do this, a sample of ten primary schools located in Oaxaca, Mexico are

analysed under a mixed-method approach. In the quantitative data analysis phase, pupil individual-level differences (i.e. SES, SCC) and teacher background were explored via a survey questionnaire yielding descriptive data. In a second stage of the quantitative analysis, effective teaching factors were tested using class observation data. The qualitative data analysis sought to highlight the most important factors influencing pupil achievement and the management of schools via a thematic analysis conducted on semi-structured interview data.

1.4 Research questions

In order to address the problem statement, this study was guided by the following research questions:

1. How are CONAFE schooling services run in order to cater for rural low-density populations in Oaxaca, Mexico?

2. What are the main differences in relation to instructional practice in improving schools, as opposed to non-improving CONAFE primary schools?

3. What other key differences are there between improving schools and non-improving CONAFE primary schools?

4. To what extent can the presence or absence of SER/SI factors provide an account of improvement trajectories for both school groups?

1.5 School effectiveness in this study

Although the term 'effectiveness' is central to the management of schools, the definition of an 'effective school' varies depending on the orientation or theory of those examining the issue (Chapman, 1991). Most of the research until now has been constructed with what scholars have considered constitutes an effective school in different countries (Townsend, MacBeath & Bogotch, 2015).

One of the earliest definitions in SER provided by Edmonds (1979) has a clear focus on social justice, referring to an effective school providing the 'children of the poor' with the basic school skills representing the minimal learning gains of middle-class children.

In this regard, an effective school has been considered to provide 'an added value' so that low-income or disadvantaged pupils can achieve as much as their counterparts from higher-income settings. This emphasis of the so-called 'added value' in SER studies has shaped the definition of what an effective school should be like, regardless of its student intake characteristics and the context in which the definition is applied.

However, the perspective of Edmond's definition along with other scholars' (e.g. McGaw, Banks & Piper, 1991; Townsend, 1994) has led to issues of interpretation of what a school's value added should represent in terms of gains for high-, middle- and low-income pupils (Townsend, et al, 2015). Issues of school 'value added' have also comprised the extent of importance placed on measuring children's learning and ignore other important aspects such as contextual limitations, learning difficulties or gender/race stereotypes (Thrupp, 2007; Townsend, et al., 2015).

This conception of the 'added value' that effective schools should provide has reached the Latin American region, where social and educational equity is a major issue. In this regard, Murillo (2005b, 2007b, 2013) has defined an effective school – in the Latin American region – as:

> the school that provides every single student with an integral development (cognitive and non-cognitive outcomes), higher than expected despite their former achievement, their socio-economic status, and their cultural background conditions. (Murillo, 2007a: 38)

Yet, most effective schools are associated with pupil learning gains that are usually reflected in high performance on standardised tests. This has attracted criticism of SER as the correspondence between educational goals and test content may not always converge (Luyten, Visscher & Witziers, 2005). SER's apparent neglect of wider educational goals beyond mere academic achievement has not only raised discussions about who the effectiveness is for and what the measures of effectiveness and school outcomes should represent (Bogotch et al., 2010).

Criticism of SER has promoted idea of a broader SER framework, including personal and social development, creativity, social, awareness or lifelong learning, suiting stakeholders' expectations of what schools should do or not. This idea has been followed by several SER studies analysing non-cognitive school outcomes such as

wellbeing and capability (e.g. Opdenakker & Van Damme, 2000; Van Petegem et al., 2008) and academic self-concept (e.g. Marsh & Hau, 2003; De Fraine et al., 2007).

As noted by Townsend, MacBeath and Bogotch (2015), despite international bodies aiming to compare schools in their effectiveness using a common mould, we have to constantly remember that schools have different historical roots and weak or strong ties to their local communities, and that there are differing sociocultural constructions of what a school 'is' and what essential purposes it serves. Moreover, the appreciation of cultural differences raises the question of the extent to which judgements of effectiveness should be defined to the extent to which there is congruence between its seminal and cultural purposes and its achievements (Madaus, Airasian & Kellaghan, 1980).

This study aligns to Levin and Lockheed's (1993) notion of the main components needed for creating effective schools for children of poverty, such as the flexibility to adapt to local circumstances and the provision of the minimum material inputs necessary for them to function as schools (Levin & Lockheed, 1993). According to CONAFE's mission statement, community-based schools aim 'to provide pupils and their families living in marginalised rural populations initial and basic education tailored to their needs and characteristics by the means of using a pedagogical approach to develop their skills for learning to learn and learning to get along' (Moreno-Botello & Pansters, 2006).

Furthermore, this study is concerned with the school effects in relationship to the context in which schools are nested in order to obtain an account of their improvement trajectories in recent years. It is therefore expected to observe the effect of schools in relation to the presence of school effectiveness factors that have probably helped CONAFE schools to reach their current state of effectiveness (Stoll & Wikeley, 1998). Finally, we have placed this research under the term 'school effectiveness and improvement' as it is related not only to the effects and factors influencing pupil achievement, but also to generating knowledge based on complex community school configurations so that CONAFE schools can improve and accomplish what they are set to do, in such populations.

1.6 Significance of the study

The significance of this study lies not only in the fact that there are no studies that have focused on CONAFE schools under the scope of SER. Also, it lies in the fact that the classroom level – the most important in the nested nature of schools – is understudied in Mexico as it is rarely to measure teacher effective behaviour using reliable classroom observation instruments.

This study responds to the need to redefine the concept of effectiveness to consider contextual issues that occur at various levels of education, which can lead to more contextual models in SER. Accordingly, more contextual models are needed to find out more about the internal processes within schools and their relations with the context in which they operate (Townsend, 2007; Reynolds et al., 2015).

As noted by Reynolds and Teddlie (2000), the introduction of context variables into SER has had an impact on three main strands within the field: school effects, effective schools and school improvement. First, this study contributes to effective schools in disadvantaged areas as it explores differences in pupil achievement trajectories of two groups of community-based schools by looking at the existence of 'generic' school-level factors that influence pupil achievement.

Furthermore, contextual effect evidence in this study is specifically sensitive to the interaction of context variables (i.e. governance structure, SES and SCC) which directly and indirectly influence pupil achievement in this specific type of rural school. It has been noted that reproduction theories (e.g. Bourdieu & Passeron) that have been used to explain educational inequalities in low-income settings seem to be limited to explaining contemporary school phenomena, particularly those relating to the relationships between the schools and their context which have proved to explain a great deal of the variance in pupil achievement (Blanco, 2009). Thus, the impact that different levels of a context variable can have on school effects and processes associated with them contributes to contextually 'sensitive' theories of school effectiveness, as is the case of contingency theory which provides a framework to interpret the results from SER (Reynolds & Teddlie, 2000).

1.7. Overview of the study

This thesis is divided into seven chapters, with the first chapter being this introduction. In Chapter 2, I discuss the theoretical underpinnings of school effectiveness research and school improvement to guide the enquiry. This includes an overview of the relevant historical context of the fields with special focus on the Latin American region. Chapter 2 also reviews main School Based Management approaches, especially those developed within the region as it argues the effect of SBM on indicators related to pupil achievement.

In Chapter 3, I present a brief overview of the current provision of basic education in Mexico and its most important challenges facing nowadays. I also briefly explain the main school types catering rural settings including a description of the schools included in this study.

Chapter 4 deals with the methodological issues and research design providing the place of the researcher as a pragmatist, the fit of mixed method research in this study, and the procedural description of instruments used in the study to sample, collect, present, and analyse data.

In Chapter 5, the results of the QUANT & QUAL data analyses are presented. Within the QUAL analysis, I evaluate the presence of the themes across schools and present group and individual comparisons using analytical tables. In the last section of Chapter 5, I present five profile descriptions as an overall interpretation of the main agents involved in the sample of schools who are highly important for CONAFE operational framework.

In the last part (Chapters 6 & 7) both qualitative and quantitative data are integrated and discussed by engaging with the relevant literature. Finally, a summary of the study is provided along with the discussion of implications and recommendations for further studies.

Chapter 2 Literature review

In this chapter, I present a review of the literature concerning three main areas underpinning this research: School Effectiveness Research (SER), School Improvement (SI) and School-Based Management (SBM). Due to the nature of this study, special emphasis is placed in the literature concerning the Latin American region well as the research conducted in relation to disadvantaged school settings.

First, I briefly introduce School Effectiveness Research (SER) to gain an understanding of the evolution of this field regarding school effects and factors influencing educational attainment and achievement that are relevant for this research. I next review the main stages and approaches of SI, focusing on its close relationship with SER in relation to disadvantaged populations. Thirdly, I introduce the notion of SBM reforms and programmes as formal approaches to alter school governance structures.

2.1 School effectiveness research: Main stages of development

The emergence of the field is widely known by most scholars as a reaction to the crucial studies of Coleman et al. (1966) and Jencks et al. (1972) in the USA, which claimed that schools had little effect upon the outcomes of their students in comparison to the effect of their social backgrounds (i.e. race, ethnic group). In order to question such assumptions, the first stage of SER was marked by attempts to demonstrate that schools and teachers could explain varying effects on student outcomes, especially when account is taken of other influencing factors such as prior ability and students' socioeconomic background (Reynolds et al., 2000; Reynolds et al., 2015). Thus, whereas some SER studies focused on notion of equity in education as an attempt to create effective schools for the economically disadvantaged (e.g. Lezotte & Bancroft, 1985; Weber, 1971; Edmonds, 1979), other studies were characterised by looking at explanatory factors behind schools that were doing an exceptional job in serving pupils, in spite of their intake characteristics (Reynolds et al., 2000). In the UK, the variation between schools – and their outcomes – was looked at by the relationships between academic achievement, student behaviour, delinquency and attendance rates (e.g. Reynolds, 1982). Rutter et al.'s (1979) study called *Fifteen Thousand Hours* constituted a clear counterclaim to Coleman's (1966) and Jencks'

(1972) results, as differences between schools were mainly explained by the characteristics of the schools themselves rather than by individual differences amongst children or the social status of their parents (Rutter et al., 1979).The second phase of SER continued to build upon the knowledge of the prior stage, identifying the processes associated with effective schools (Reynolds et al., 2000). This led to a more methodologically and sophisticated stage of SER (i.e. multilevel mathematical models) aiming to show the scientific properties of school effects and the influence of contextual variables in student outcomes in relation to the effectiveness of schools (Reynolds & Teddlie, 2000). SER studies included the consistency of school effects upon different outcome domains, the differential effects of school upon students of different background characteristics, the size of school effects and the long-term effects of schools (Reynolds, 1996; Reynolds et al., 2011; Reynolds et al., 2015). The following stage of SER development was characterised by the numerous analyses of the reasons behind the variation of school effects amongst different school levels (Reynolds et al, 2011; Sammons et al., 2015). Moreover, cross-sectional and longitudinal studies that had developed in the former stage remained prevalent, especially in this stage, allowing studies based on multi-sample comparisons (Creemers et al., 2010). Some of the most relevant influential studies of this stage were the *Louisiana School Effectiveness Studies* (Teddlie & Stringfield, 1993) in the United States, and the work of Sammons et al. (1997) about subject department effects on the progress of secondary school pupils in the United Kingdom. It should be noted that progress in the field during this stage was reflected in the amount of influential reviews of the field, lists of effective school-level processes and a number of different theoretical models that were developed based on the main levels of interaction in the school system (e.g. Scheerens, 1990; Stringfield & Slavin, 1992; Creemers, 1994).

In this regard, Creemers (1994) developed the so-called 'comprehensive model of educational effectiveness' which is considered one of the most influential models in the field. Creemers' model (Figure 1) highlights four levels in the school system and places high importance on the classroom-level factors as the ultimate factors influencing learning (Creemers, 1994). Creemers incorporates Carroll's model of time spent on learning by adding to the general concept of *opportunity* the more specific

'opportunity to learn' (OTL) which has served as a measure for instructional effectiveness and learning in diverse studies (e.g. Stallings, 1985; Reynolds et al., 2002, Burns & Luque, 2014; Santibáñez & Fagioli, 2016). Furthermore, in Creemers' model both *time* and *opportunity* are noted at both classroom and school level, making a distinction between available and actually used, time and opportunity.

According to Creemers (1994), time on task and opportunity used – at the pupil level – is directly related to pupil achievement. However, teaching quality, time and opportunity at the classroom level (e.g. use of curriculum materials, grouping procedures) are also influenced by factors at the school level that may or may not enable the presence of certain classroom factors. Creemers (1994) argued that higher levels are conditional for the lower levels, thus student achievement should be considered the result of both school and classroom levels, which are influenced by context and pupil level factors (Campbell et al., 2004).

Creemers' model has proven its validity in various studies (e.g. Jong et al., 2004; Driessen & Sleegers, 2000; Kyriakides, 2005), confirming that the influences on student achievement are multilevel and that the relationships between factors at different levels might be more complex than assumed in the integrated models (Kyriakides, 2008; Creemers & Kyriakides, 2015). Finally, the evidence obtained from applying Creemers' model has led to the development of a dynamic model of educational effectiveness (Creemers & Kyriakides, 2008) as part of the current stage of SER development.

According to Reynolds et al. (2015), this current phase of SER is developing rapidly as part of a broader field called 'educational effectiveness research' (EER). The locus of EER is a dynamic, not static, set of interacting relationships amongst the various levels of processes in educational systems, providing measured differences and variations in the outcomes of students (Creemers & Kyriakides, 2008; Creemers, 2010). Accordingly, EER aims to address former criticism to SER by generating theoretical knowledge explaining the complex phenomena and contributing to theory-driven and evidence-based approaches towards school improvement (Creemers & Kyriakides, 2008; Teddlie, 2010; Creemers & Kyriakides, 2015).

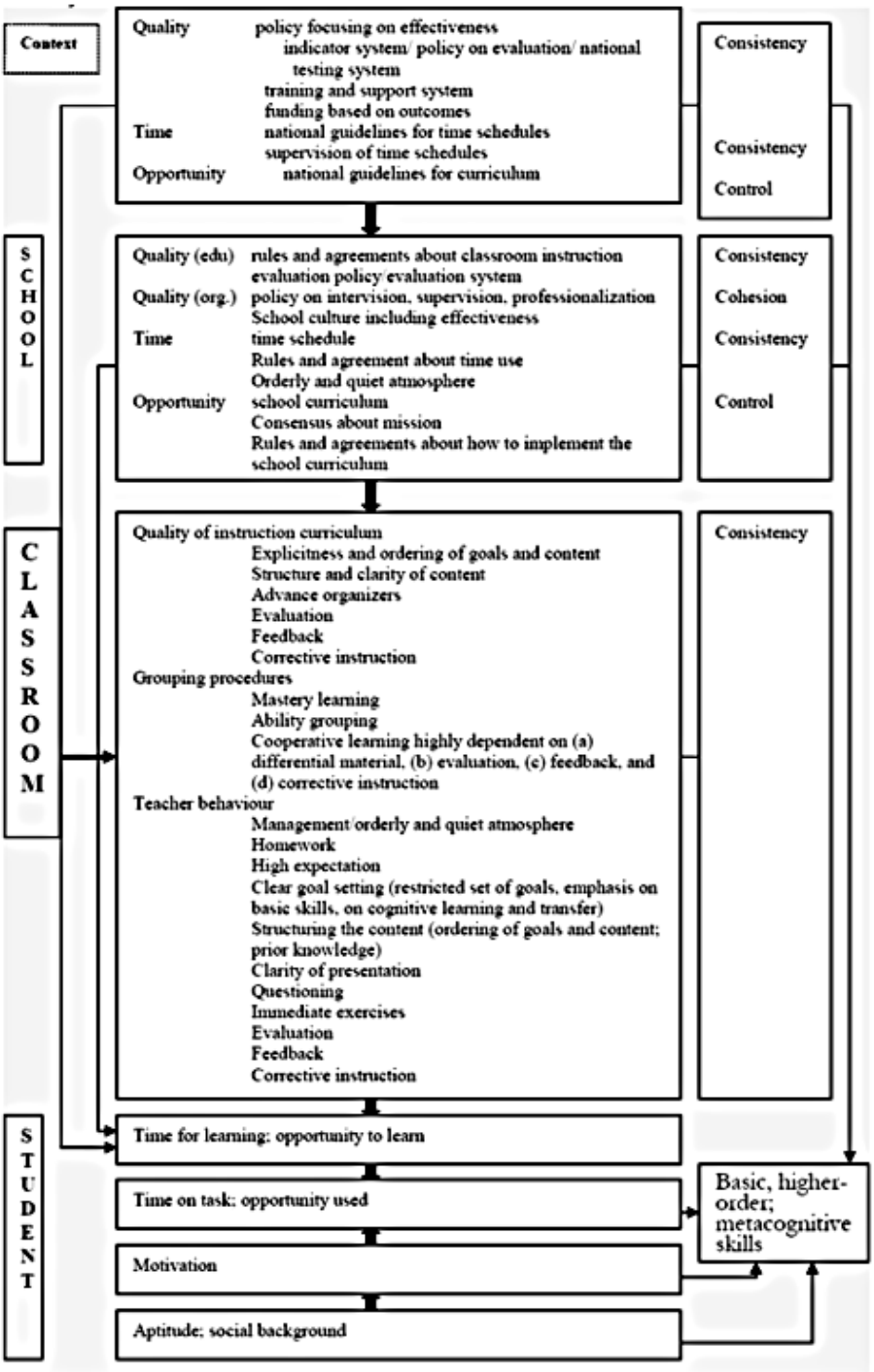


Figure 1 Creemers' comprehensive model (Creemers, 1994)

Similarly, a series of methodological advances have met the aims of the current stage of SER including new forms of statistical methods such as structural equation modelling, multivariate multilevel modelling, regression discontinuity designs, growth curve analyses and non-linear relationships between factors and student achievement

(Sammons et al., 2015). Furthermore, a focus on conducting longitudinal studies have enabled researchers apply the theoretical developments of EER (Creemers et al., 2010).

2.1.1 Effective school processes

It is relevant for the purposes of this research to look at the school processes that have been found to make schools effective regarding pupil achievement across time and settings. As noted earlier in this chapter, during the initial stages of SER development, there were attempts to investigate the 'added value' of schools in order to improve the life chances for children. The result of such efforts resulted in the identification of school-level factors (e.g. Weber, 1971; Edmonds, 1979) that constituted the bases for further studies listing school effective factors (see Scheerens, 1990; Scheerens & Bosker, 1997). One of the most notable and widely recognised lists of factors correspond to Edmonds' (1979) *five correlates* that have, to some extent, transcended as valid explanations of what influences children's achievement at school. (Reynolds et al., 2015). Other remarkable lists of effective schools factors include those developed by Levine and Lezotte (1990) as a result of their study on comparing effective and ineffective schools. Similarly, Sammons et al. (1995) reviewed the studies conducted by Mortimore et al. (1988), Levine and Lezotte (1990) and Scheerens (1992) and produced an 11 school factor list (Table 1). Finally, some of the most recent reviews on school-level processes and their components are those developed by Teddlie and Reynolds (2000) – showed in Table 2 – and Marzano (2003, 2007). Marzano's school-level factors are summarised as: (1) professional behaviours involving *leadership and cooperation*; (2) guaranteed curriculum offerings involving *high time available for learning* and *opportunity to learn* within that time; (3) a safe and orderly *classroom climate*; (4) challenge, involving *pressure to achieve and frequent monitoring*; (5) *parental and community involvement*; and (6) an *effective classroom* or instructional level.

Table 1 School factors (Edmonds, 1979; Levine & Lezotte, 1990; Sammons et al., 1995)

Edmonds (1979)	*Levine & Lezotte (1990)*	*Sammons et al. (1995)*
Strong instructional leadership	Productive climate and culture	Shared vision and goals
Instructional focus	Focus on central learning skills	A learning environment
Safe and orderly school learning environment	Appropriate monitoring	Positive reinforcement
High expectations from all pupils	Practice-oriented staff development	Concentration on teaching and learning
Use of student achievement data	Outstanding leadership	Monitoring progress
	Salient parent involvement	A learning organisation
	Effective instructional arrangements	Professional leadership
	High expectations	Home-school partnership
		Purposeful teaching
		High expectations
		Pupil rights and responsibilities

Table 2 School processes and their components (Teddlie & Reynolds, 2000)

School process	*Components of the process*
Effective leadership.	(1) Being firm and purposeful. (2) Involving others in the process. (3) Exhibiting instructional leadership. (4) Frequent, personal monitoring. (5) Selecting and replacing staff.
Effective teaching	(1) Maximising class time. (2) Successful grouping and organisation. (3) Exhibiting best teaching practices. (4) Adapting practice to particulars of classroom.
Pervasive focus on learning	(1) Focusing on academics. (2) Maximising school learning time.
Producing a positive school culture.	(1) Creating a shared vision. (2) Creating an orderly environment. (3) Emphasising positive reinforcement.
Creating high and appropriate expectations for all	(1) For students. (2) For staff.
Emphasising students' responsibilities and rights	(1) Responsibilities. (2) Rights.
Monitoring progress at all levels.	(1) At the school level. (2) At the classroom level. (3) At the student level.
Developing staff skills at the school site.	(1) Site based. (2) Integrated with on-going professional development.
Involving parents in productive and appropriate ways	(1) Buffering negative influences. (2) Encouraging productive interactions with parents.

2.1.2 Effective classroom processes and teacher effectiveness

As mentioned above, as SER evolved methodologically into multilevel modelling techniques in which it was revealed that school-level factors were significant and important but classroom-level factors were found to explain a greater proportion of variance in pupils' achievement (Reynolds, et. al, 2000; Reynolds et al., 2015).

Furthermore, the evidence found suggests that depending of the study and context, classroom-level variance could account up to twice as much as for school variance. This is especially noted when looking at achievement of pupils with low SES backgrounds and low levels of prior attainment (Muijs & Reynolds, 2003; 2010). Finally, it has been suggested that teacher effects not only account for a greater proportion of variance in student achievement but also appear to endure and be cumulative across primary school grades, showing stronger impact on learning outcomes (Konstantopoulos & Chung, 2011; Sammons & Bakkum, 2011).

The work of Mortimore et al. (1988) contributed to the integration of classroom-level factors into the research designs drawing on an older tradition of teacher effectiveness research (1960s) that used similar models (i.e. input-output processes) to those employed by SER. Moreover, the evidence generated by the study of classroom processes (e.g. Brophy & Good, 1986) highlighted teacher behaviours, rather than other school factors, as predominant in classroom-level correlates of student outcomes. Brophy & Good (1986) generated a list of behaviours that were positively – and consistently – related over time with student achievement: (1) *the quantity and pacing of instruction*, (2) *whole-class/small group instruction*, (3) *the structuring of information*, (4) *questioning of students*, (5) *reacting to students' responses*, and (6) handling *seat work* and *homework assignments.*

Thus, the identification of a range of teacher behaviours related to student outcomes has provided researchers with a framework for developing classroom-level studies that have constituted the knowledge base of effective teaching (e.g. Brophy, 1988; Brophy & Good, 1986; Creemers, 1994; Doyle, 1986; Galton, 1987; Galton & Croll, 1980; Good et al., 1983; Mortimore et al., 1988; Muijs & Reynolds, 2000; Reynolds & Muijs, 1999; Reynolds et al., 1996). Relevant classroom correlates of student outcomes can be categorised in three main subsets: *classroom environment, whole-class teaching* and *variety of teaching strategies* and materials (Table 3).

Table 3 Classroom correlates (Creemers & Kyriakides, 2015)

Classroom correlates	*Components*
Classroom environment: orderly, business like	(1) Brief transitions. (2) Lessons start on time. (3) Rules are set and clearly understood. (4) Student misbehaviour is corrected immediately,accurately, and constructively. (5) Warm and supportive environment, teacher's high expectations and enthusiasm.
Whole-class teaching: direct instruction, maximisation of pupil learning	(1) Highly structured, aims and key aspects of the lesson stressed and clear, explanations and summary of lesson provided. (2) Interactive, involving pupils with high number of questions including high and low cognitive mixture according to the topic and and appropriate wait time. (3) Business-like, positive, and immediate feedback according to student answers. (4) Seat or group work sessions for pupils to practice with support and help from teacher.
Variety of teaching strategies: consideration of students with different needs	Use of manipulative materials to engage students and to address different learning styles allowing easier transferability of knowledge

As noted in Table 3, teacher behaviour is positively related to student achievement as the amount and pacing of instruction are closely related to the opportunity to learn (i.e. coverage of curriculum content) provided to pupils (Muijs et al., 2014). Thus, amount learnt is related to opportunity to learn and achievement is maximised when teachers prioritise academic instruction and allocate available time to curriculum-related activities (Stallings, 1985). Furthermore, it is worth mentioning that research has suggested that teacher behaviours, predominant amongst classroom factors, have been found associated with teacher beliefs (e.g. self-concept, self-efficacy), the context of schools – and classrooms – as well as student characteristics and reactions (e.g. Muijs & Reynolds, 2001; Rubie-Davies, Flint & McDonald, 2012; Grossman et al., 2012). Thus, due to the nature and aims posed this study, we consider salient evidence in relation to teacher self-efficacy beliefs as potential moderators of professional development, teacher behaviour and instruction, and student opportunity to learn.

Teachers' sense of efficacy is considered a judgement of their capabilities to organise courses of action in order to bring about desired outcomes (e.g. student engagement) or to execute a specific teaching task (e.g. manage pupil behaviour) in a particular context (Armor et al., 1976; Bandura, 1977; Tschannen-Moran et al., 1998). Self-efficacy beliefs have been found as predictive of teachers' persistence, resilience, enthusiasm and commitment to teaching (e.g. Ashton & Webb, 1986; Caprara et al., 2006; Coladarci, 1992). Furthermore, teacher self-efficacy beliefs have been found positively associated with teachers' capabilities and beliefs on how to teach and the use of new, innovative instructional practices, including those needed to work with

struggling students (e.g. Gibson & Dembo, 1984, Cantrell & Callaway, 2008; Chacon, 2005; Deemer, 2004). Finally, teacher self-efficacy beliefs have been found as mediated by age, prior work experience, and supportive school climate and culture (e.g. Coladarci, 1992; Deemer, 2004; Knoblauch & Hoy, 2008; Hoy & Woolfolk, 1993).

2.2 School effectiveness research in Latin America

The concerns for SER and SI arose between the mid-70s towards and the beginning of the 80s in Latin America. It can be noted that the development of the field has been largely dependent on the growth of educational provision and the prioritisation of education – and its outcomes – in the region, and these are also closely tied to the economic development of each country (Reynolds et al., 2015). Contrary to the developed countries in which SER originated, Latin American countries possess specific geographical, socioeconomic and political conditions that have inevitably shaped the features and aims of SER studies produced in the region so far. Four main characteristics have been found in SER studies carried out in Latin America (Reynolds et al., 2015):

(1) *An applied character* consisting in the application of research outcomes towards educational transformation and change as one of the researchers' main endeavours in the region (Murillo, 2005a, 2007b, 2013).

(2) An *emphasis on equity* reflected in studies focusing on disadvantaged schools and contexts using SER scope. Thus, analyses on factors explaining ineffectiveness (e.g. Hernández-Castilla et al., 2014) and educational issues such as student dropping out or repetition are also some of the phenomena studied in order to assist and to improve schools in difficulties (Murillo, 2007b, 2008, 2013).

(3) A *multiple theoretical influence* from the United States of America and Europe reflected in studies using both effectiveness and productivity perspectives (e.g. Mizala & Romaguera, 2000) combined with European sociological theories (e.g. Bourdieu & Passeron, 1970).

(4) A strong *relationship between the development of education and research production* in each country. The countries in which more SER studies have been conducted are: Chile, Mexico, Colombia, Argentina and Brazil (Murillo, 2007a, 2013).

However, it is noticeable that the notions of school *added value*, *educational equity* and the importance of *academic outcomes* that prevailed in the early stages of SER in the developed world have served as the bases for SER studies conducted in the region.

As noted by Scheerens (2004) most SER studies in the developing world are based on 'education production function type'. This is partly reflected in the early SER conducted in the region seeking estimates of school effects and other factors influencing achievement in pupils. However, four main research lines have been identified in SER conducted in the region:

2.2.1 Complete studies on SER (school factors)

(a) Studies specifically designed to identify school/classroom factors associated with academic achievement. These studies are considered the most orthodox type of SER in which the research procedures and methods are varied. The work with prototypical schools is the more common type also, the use of specific data collection instruments makes the results more suitable for the research aims. These studies have the theoretical foundation about school effectiveness pointing out the relationship of school and/or classroom factors and pupil academic achievement (e.g. Bellei et al. 2004; Schmelkes, 1997).

(b) SER studies based on National and International evaluations. The inclusion of several Latin American countries in national and international studies (e.g. PISA, TIMSS, SERCE) have allowed researchers and evaluation centres across the region to update their knowledge with advanced and methodological developments to analyse pupil performance in relation to the estimate effects of schools and other possible explanatory factors for school outcomes (e.g. Cervini, Román & Murillo, 2009, 2011). Thus, primary and secondary analyses of assessment data have enabled more accurate diagnostics of the current state of educational systems and the differences between countries within the region in relation to school effects (see Reynolds et al., 2015).

2.2.2 Studies that analyse and assess programs for school improvement

It has been noted that SER outcomes and methods of the developed world have served as a framework to analyse the extent of school improvement derived from reforms, policies and local programmes launched in Latin American countries. In this way, SER and SI have developed a two-way oriented relationship highly important for the region (Reynolds et al., 2015). Some of the main findings concerning SER evaluation on school interventions are discussed in 2.4.1 in this chapter.

2.2.3 Studies searching for the relationship between school factors and students' achievement

These types of research studies analyse the relationship between one or more factors, or the achievement in its various expressions (Murillo, 2007a, 2008, 2013; Reynolds et al., 2015). Factors influencing school outcomes (e.g. teacher effectiveness, school and classroom climate, financial resources, school administration, nutrition, bilingual education) are the central focus of some studies which have led to interesting data for policy making decision processes and future studies (Murillo, 2007a, 2013). Therefore, due to the research questions posed for this research, we will expand on this type of studies and their relevant findings.

Contrary to the developed countries where studies on the influence of school's resources on academic performance have shown a weak relationship, studies in low-income countries point to a stronger relationship (Glewwe, 2002). A multilevel analysis on the SERCE data conducted by Murillo and Román (2011b) revealed that the availability of certain basic services and the access, appropriateness and adequacy of specific didactic resources and school facilities can make a difference in the academic performance of Latin American students (Murillo & Román, 2011b). The countries where the availability of basic services does not make a significant difference in students' performance are Argentina, Chile, Paraguay and Uruguay. The majority of the countries showed a positive relation between low performing students and deficiencies in basic services, except for Cuba which is the country with lowest percentage of schools with basic service problems in the region (Murillo & Román, 2011b). Similarly, differences in the measurement and effects of contextual variables

(e.g. socioeconomic status, sociocultural capital) are observed in Latin American studies (Murillo & Román, 2011a). In Argentina, Cervini (2002, 2005) found *school composition* effects highly important for explaining between-school variation in secondary schools in Argentina. Cervini's (2002, 2005) results also revealed that at a student level, *sociocultural* factors (parents' education) are related to some school process variables (e.g. future academic success, academic effort). The latter suggested that at a pupil level, classroom climate is not totally related to school context but neither is completely autonomous (Cervini 2002, 2005). Regarding *school leadership*, Horn´s research (2013) explored the relation between leadership efficacy, job satisfaction and school improvement perceptions in head teachers. Similarly, a qualitative approach by Rodríguez (2001) noted the interrelationship between school-level processes (e.g. autonomy, management and leadership) and classroom-level factors highlighting the importance of *parental and community involvement* in Venezuelan schools.. In Cueto et al.'s studies (2000) conducted in Peru, learning opportunities (i.e. curriculum coverage based on teachers' reports and student workbooks and notebooks) were found to have a positive significant relationship with sixth graders' mathematics achievement. Cervini (2002) found similar results when analysing opportunity to learn data (i.e. teacher self-reports of their instructional practices) of sixth and seventh grade pupils of urban areas of Argentina. Carnoy et al. (2007) pointed out social capital (measured by family interactions), teacher effectiveness and school supervision are important factors related to the high effectiveness of Cuban schools and pupil outcomes compared with Chile and Brazil. Carnoy et al.'s (2007) study is highly important due to the fact that it analyses classroom observation data in relation to time allocated by teachers to diverse activities, teacher instructional behaviour and pupil engagement.

With regard to the impact of direct instruction on student achievement, a recent study conducted by Bruns and Luque (2014) involved the observation of teachers' practice in 15,000 different classrooms (3000 schools) across Brazil, Colombia, Honduras, Jamaica, Peru, the Dominican Republic and Mexico City. The *'Stallings classroom snapshot*' instrument (Stallings et al., 2003) was used to measure four areas of teacher performance: (1) use of instructional time, (2) use of materials including ICT, (3)

pedagogical practices, and (4) ability to engage students. Bruns and Luque (2014) found that instructional time was low in all countries and teaching methods were found as 'traditional' on average as teachers heavily rely on the use of the board by nearly one third of the class time. Whereas a quarter to over a third of teachers' time was spent on classroom management, at least 9% of the time was noted as lost to off-time activities (Bruns & Luque, 2014). Across the classrooms observed, most teachers were unable to keep the class engaged in learning for more than 25% of the class, leaving high achievers bored and slow learners lost (Bruns & Luque, 2014). Finally, statistical differences in instructional time between top- and low-performing schools were found in most countries, reaching 20 percentage points difference between groups. Similarly, differences of up to 50% in instructional time were found when comparing regions within countries. It was noted that time on teacher instruction in schools was significantly less than in usual schools within the same country (i.e. Honduras, Peru). More importantly, rural schools that work under *Escuela Nueva* model averaged more instructional time than regular schools in Colombia (Bruns & Luque, 2014).

Studies that analyse the school culture as their main focus using an ethnographic approach

Ethnographic approaches have been mostly used to understand the cultures and contexts in which schools are nested in, as well as the reasons beyond underachieving and issues regarding inequality and social justice. However, only a few SER qualitative studies in the region have been published and even fewer have been translated to English. Thus, most ethnographic SER research exists in the form of research monographs, master's theses and unpublished documents in Spanish (Murillo, 2007a; Anderson and Montero-Sieburth, 1998).

When looking at SER produced in the Latin American region compared to the research in developed countries, we can note a number of similarities in the reviews of school factors influencing pupils' achievement (Reynolds et al., 2015). However, due to contextual and historical characteristics of the region factors such as school infrastructure, financial resources and working conditions for teachers have been

found significant when explaining school outcomes in the region. Moreover, SER conducted in Latin American countries has highlighted issues facing schools and societies with regard to the current state of educational provision being educational equity one most important concerns in the region.

Table 4 Effective school processes in Latin American countries (based on Murillo, 2007a)

School process	*Components*
School leadership	Strong commitment to both teachers and students, shared decisions and responsibilities, pedagogically centred, involving all stakeholders
High quality curriculum	Proper class preparation; structured and clear lessons; variety of interactive activities; attention to students' diversity and individual needs; use of diverse didactic material; frequent assessment and feedback.
Time management	Through optimization of time involving: creating policies for maximising school time and punctuality; reduction of teachers' absenteeism, tardiness; in-class time focused on learning
School and classroom climate	Creating an environment of cordial and positive relationships among stakeholders; avoiding violence or major disagreements among staff and pupils; promoting and reinforcing a positive self-concept in stakeholders
High expectations	Product of appropriate assessment and feedback; positive and sensitive teacher-student interaction; high expectations for all stakeholders
Teacher Professional Development	Teachers are aware of their own learning as a way to improve their instructional practice
Community participation	Parents, teachers, pupils, and local community are actively involved in school organisation and processes; school promotes and values community and parental involvement; close involvement leads to effective schools
Sense of community	The school is perceived as a community having shared aims and vision; strong teacher commitment to the school, students and the society; constant teamwork leading to improvement
School infrastructure and resources	Classrooms with proper light and temperature; frequent maintenance and cleaning provided; variety of pedagogical resources available for teachers and pupils

Finally, it noted that the areas of SER conducted in the region do not appear to significantly differ from those found in the developed world: (1) research on equality of opportunities in education and the significance of education in this regard; (2) economics studies on education production functions; (3) the evaluation of compensatory programmes; (4) studies of unusually effective schools; and (5) studies on the effectiveness of teachers, classes and instructional procedures. However, more studies need to be conducted – and published – in order to create more research solid bases to tackle issues in the region by the means of tailored improvement approaches and contextualised policy making.

2.3 School Improvement development

Whereas SER which has mainly focused on 'what works' in effective schools and educational systems, SI is a field that originated on the need to change schools (i.e. educational change). Although the beginning of SI studies and interventions is usually traced back to the early 1980s, the pioneering work of Aikin (1942) entitled 'Eight Year Study' is considered as the starting point of SI (Hopkins et al., 2014, Hopkins 2015). Early and recent definitions of SI include aspects such as 'sustained effort', 'managing change', 'school development', 'school capacity' and 'student outcomes' which comprise the main characteristics and aims of SI throughout its history (Van Velzen et al., 1985; Hopkins et al., 1994).

Similarly to SER, the field of SI has also gone through a number of developmental stages (Table 5) implementing approaches to impact upon school development and ultimately, student achievement (Reynolds et al., 2000). Phases three and four are especially relevant for this study as school improvement development in these stages include the implementation of SBM approaches and reforms, and the emphasis on leadership at school level in relation to school culture, teacher and pupil outcomes.

Table 5 Five phases of research on school and system improvement (Hopkins, 2015)

Phase of school and system improvement	*Key features of each phase*
Phase one	• The legacy of organisational development research
Understanding the organisational culture of the school	• 'The cultures of the school and the challenges inherent in change'
Phase two	• Teacher research and school review
Action research and individual research intiatives (at the school level)	• Research programmes such as the RAND study, Dissemination Efforts Supporting School Improvement(DESSI)the 'special strategies', and the OECD International School Improvement Project
Phase three	• Managing centralised policy change
Managing change and comprehensive approaches to school reform	• 'Comprehensive' approaches to school reform, such as: Success for All, new American schools, high reliability schools, and Improving the Quality of Education for All (IQEA)
Phase four	• Professional learning communities and networks
Building the capacity for student learning at the local level and the continuing emphasis on leadership	• Recognising the continuing importance and impact of leadership
	• The influence of the knowledge base, and the impact of national and international benchmarking studies
Phase five	
Towards systemic improvement	• Differentiated approaches to school and system reform

Phase 1 – Understanding the organisational culture of the school. Due to the empirical knowledge produced by Miles (1967, 1975) and Schmuck & Miles (1971), this stage noted the importance of organisational development approaches to evaluate

organisational health within schools in relation to their effectiveness. Moreover, the attempts to humanise the organisational context (i.e. school culture) were a crucial part for understanding the process of change and for developing improvement interventions in consequence (Hopkins et al., 2014; Hopkins, 2015).

Phase 2 – Action research and research initiatives at the school level. In this phase, SI continued with an emphasis upon organisational change that was initially practitioner-oriented (e.g. 'teacher as researcher' movement). Despite this second phase was characterised by school self-evaluation and 'the ownership of change' led by individual schools and teachers, change practices failed to impact significantly upon classroom practice and student achievement as they were variable and fragmented in both conception and application (Hopkins et al., 2014, Hopkins, 2015). Furthermore, the concern of school improvement resulted in a series of holistic approaches that – despite the efforts – were not firmly conceptualised or sufficiently theory based (Hopkins & Reynolds, 2001; Hopkins et al., 2014, Hopkins, 2015).

Phase 3 – Managing change and comprehensive approaches to school reform. During this stage, SI tradition was able to provide schools with guidelines and strategies for the management and the implementation of change at the school level which were highly expected. Furthermore, the concepts of 'site-based management' and 'school-based management' – especially important for this study – were adapted and emulated in several countries. In some countries (e.g. Australia, Israel) the power of intermediate and local authorities was diminished in order to empower individual schools and their communities towards a full scale model of SBM in the 1990s (Hopkins et al., 2014; Hopkins, 2015).

In addition to the expansion of site-based management within schools, another trend in this phase was the growth of comprehensive models of school reform that combined elements and research bases from the SE and SI that were adopted by individual schools in the USA, the UK, Canada and the Netherlands (e.g. *Success for All, Schools that work, Improving the Quality of Education for All, High Reliability Schools*). However, the limitations of the 'top down' and 'off the shelf' programme designs were particularly noted in schools serving disadvantaged areas that could not achieve

success or secure long-term and widespread school and system improvement (Hopkins et al., 2014, 2015).

Thus, it should be noted that this phase of SI moved towards a more specified approach to educational reform by transforming the organisation of the school through managing change while seeking enhanced student achievement (Hopkins et al., 2014; Hopkins, 2015). Such emphases have prevailed as the basis for extending these approaches at scale which –along with the development of research on specific school improvement approaches – have produced a large amount of research on the efficacy of several specific components that should be enough to engage into organisational development change (Hopkins et al., 2014; Hopkins, 2015).

Phase 4-Building capacity for student learning at the local level and the continuing emphasis on leadership. This phase is largely related to system-level changes through collaboration and networking across schools and districts (Harris & Chrispeels, 2008; Harris, 2010a). Evidence of this stage include: supportive school networking, networked learning communities leading to gains in student achievement (e.g. Earl & Katz, 2005; Muijs, 2010, Borman et al., 2003); professional learning communities and capacity building for improvement (e.g. Stoll, 2009, 2010; Stoll & Louis, 2007; Vescio et al., 2008); regional leadership arrangements and achievement gains for lower attaining schools (e.g. Chapman and Hadfield, 2010). Hopkins et al. (2014) have summarised the evidence of this stage in five key points in order to approach school improvement that directly relates to an increase in student achievement: (1) a clear and comprehensive model of reform, (2) strong leadership at a regional level, (3) substantive training related to the goals of the programme, (4) implementation and support at the school level and (5) an increasingly differentiated approach to school improvement.

Furthermore, the desire to link SI and student learning outcomes as one of the main goals in this stage highlighted the importance of 'learning about learning' and the differences that this emphasis can make in SI (Stoll et al., 2003; Watkins, 2010; Hopkins, 2015). Moreover, the reviews on pedagogical approaches associated with school improvement efforts have provided with models associated with effective teaching

(e.g. Rosenshine & Stevens, 1986; Good & Brophy, 2008; Hopkins, 2001, Hopkins et al., 2000).

The focus on *leadership* is back in this phase since the study of leadership was strongly associated with student learning (see Edmonds, 1979) but more importantly, because the notion of *transformational leadership* was seen as having the potential to modify the school culture in order for school leaders to 'drive' increases in student achievements (Hopkins et al., 2014). However, the construct of *transformational leadership* lacked a specific orientation towards student learning and measurable school improvement. Thus, the concept of *instructional leadership* defined as the behaviours of teachers engaging activities directly related to student growth or performance became more attractive (Dwyer, 1984; Hallinger & Murphy, 1985; Harris, 2010; Hopkins et al., 2014). Most large scale international studies on leadership have deepened into the link between leadership and student outcomes involving teacher's professional development proving the significance of the leadership effect (e.g. Leithwood et al., 2006; Hallinger, 2010; Day et al., 2010). It has also been noted that the leadership effect might be entirely absent in those cases in which the leadership role is either not clearly defined or negatively perceived (e.g. Scheerens, 2012; Reynolds et al., 2002).

Similarly, the concept of *distributed leadership* in this stage also consolidated the links between leadership and student outcomes. *Distributed leadership* is defined as a form of collective agency incorporating the activities of many individuals towards a common task or goal, thus the role of formal leadership positions is to create a common culture of expectations around the use of individuals' skills and abilities (Elmore, 2000; Spillane et al., 2001). Evidence of distributed leadership in improving student outcomes involves teacher empowerment via sharing of leadership roles (e.g. Slins & Mulford, 2002; Louis & Marks, 1996), the perception of the school as a learning community away from structures of command and control (e.g. Gronn, 2000) and high levels of teacher self-efficacy and morale as a result of the interaction for sharing good practice (e.g. Mitchell & Sackney, 2000; Lieberman, Saxl & Miles, 2000; Little, 2000).

Finally, it should be noted that the emergence of *system leadership* in the last decade has become a second trend in leadership research which highlights innovative practices (e.g. leading successful educational partnerships, leading and improving low achieving schools, acting as community leaders) for head teachers to embrace (Fullan, 2004; Higham et al., 2009).

Similarly, the recognition of the nested multilevel nature of schools has served to conceptualise improvement by the transferring success stories of individual school reform at every level aiming to impact upon local school systems (e.g. Chapman et al., 2010).

Phase 5-Towards systemic improvement. This phase – still ongoing – explores two main points: (1) the move from individual schools to local and nation-level systemic approaches to school improvement, and (2) the need to study systems through their components and interactions to understand their process of change prior to working on their improvement (Hopkins et al., 2014; Hopkins, 2015).

2.4 School Improvement in Latin America

The concern for improving educational systems in Latin America started as individual efforts in each country to achieve quality, access and autonomy of schools during the 1970s (UNESCO-OREALC, 2001). However, by the end of 1970s, the UNESCO regional office for Latin America and the Caribbean convened a meeting with the ministers of education of the countries in the region to direct a set of policies and reforms aiming to improve coverage, literacy levels, efficiency, teachers' instructional practice and school outcomes (Avalos, 2007). Within this context, *The Major Project of Education* (MPE) was developed as a tool to collectively resolve not only the educational problems facing the region but also to seek social equity, consolidate democracy and establish the bases of sustainable development (UNESCO-OREALC, 2001). The main aims of the MPE were: (a) the provision of eight to ten year basic schooling for all children; (b) the eradication of illiteracy and the expansion of educational availability for adults; and (c) the improvement on the quality and efficiency of educational systems and education in general through the implementation of reforms and effective accountability and assessment systems (UNESCO-OREALC, 2001).

The outlining of MPE's reforms was also coincident with the World Conference on Education for All (1990) –amongst other international forums – that highlighted education as a social investment that would provide all children and young people with 'universal access to the codes of modern society' (UNESCO-OREALC, 2001). The support of the World Bank and the Inter-American Development Bank as main founding bodies played a pivotal role in the development of educational policies and compensatory programmes in low and medium income countries (Gajardo & Puryear, 2003). Similarly, the participation of society (i.e. family, community, teachers, private sector, NGOs) in education was placed as highly important during this decade (UNESCO-OREALC, 2001).

Table 6 Educational changes and reforms in Latin America in the 1990s (Gajardo & Garchet, 1999; Avalos, 2007)

Educational changes	*Countries*
Institutional reform and decentralisation	Argentina, Colombia, Chile, Bazil, Mexico, Dominican Republic, El Salvador
Curriculum reform and improvement	Argentina, Aruba, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guyana, Haiti, Mexico, Nicaragua, Panama, Peru, Uruguay, Venezuela
Teacher education and professional development	Argentina, Belize, Bolivia, Brazil, Colombia, Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Guyana, Jamaica, Nicaragua, Peru, Suriname, Uruguay
Increase in education expenditure	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Guatemala, Mexico, Panama, Paraguay, Uruguay
School quality via resourcing for excluded populations: indigenous rural, poor	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay
Free textbooks and teaching resources	Barbados, Bolivia, Brazil, Costa Rica, El Salvador, Guyana, Jamaica, Mexico, Panama, Dominican Republic, Suriname
School management: greater autonomy for schools	Aruba, Bolivia, Brazil, Chile, Cuba, El Salvador, Guatemala, Nicaragua
Incentives for school improvement and innovation projects	Chile, Colombia, Paraguay, Uruguay
Lengthening of school day	Colombia, Chile, Dominican Republic, Uruguay
ICT in schools	Brazil, Chile, Costa Rica, Jamaica
Evaluation of learning systems	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, venezuela

Therefore, some of the areas (Table 6) that most reforms focused their efforts during this decade included: curriculum, teacher education and professional development, education expenditure, school quality and provision for excluded populations, school

management for greater school autonomy, innovation projects (UNESCO-OREALC, 2001; Gajardo & Garchet, 1999; Avalos, 2007).

Accordingly, a wide range of compensatory education programmes and policies were developed to address factors outside the physical environment of schools as a way to boost educational access and development of children in poverty (Anderson, 2000; Avalos, 2007; Reimers, 2000). Two main types of compensatory programmes have been noted in Latin American countries: *supply-side* and *demand-side* (Winkler, 2000). *Supply-side* interventions aimed to increase the number of schools – and student places – including the inputs required for learning (e.g. nutrition programmes, free distribution of text books, in-service teacher training, extra classes, tutoring and mentoring programmes). *Demand-driven* interventions have targeted groups of individuals in need for increased access to education and provide them with the means to obtain it such as cash transfers, scholarships, vouchers and loans (Winkler, 2000). Both supply-side and demand-side interventions have been implemented using geographic, group and self-targeting criteria as shown in Table (7).

Table 7 Compensatory Education programmes by targeting mechanism and intervention type (Winkler, 2000)

	Geographic setting	*Group targeting*	*Self-targeting*
Supply-side	• Telesecundaria (Mexico) • MECE-RURAL (Chile) • PARE (Mexico)	• P-900 (Chile) • ROSE (Jamaica)	• Fe y Alegria (Bolivia) • Hogares de Bienestar infantil (Colombia)
Demand-side	• Bolsa Escola (Brazil) • PROGRESA (Mexico)	• Eduque a la Nina (Guatemala) • Voucher programme (Colombia)	

An example of a supply-side intervention initially directed towards low achievers (i.e. group targeted) on SIMCE test in Chile was the so-called P900 in Chile. P900 programme involved the provision of educational resources such as school supplies, libraries, teacher guides, teacher training and the repair and upgrade of school facilities (Winkler, 2000; Avalos, 2007).

Thus, following the line of compensatory interventions –influenced by Colombia's *Escuela Nueva* pioneering rural school reform in the 1970s, some countries in Latin

America opted for an increase of small multi-grade schools as a trade-off to access to education (McEwan, 2008). Examples of multi-grade rural school reforms included the development of instructional approaches and materials, student and community involvement and teacher professional development are found in Colombian, Chilean and Guatemalan reforms described further below (2.4.1) (McEwan, 2008). Similarly, some countries opted for school-based management reforms that would make schools more autonomous (see 2. in this chapter). Thus, as noted in Table 7, in some countries, compensatory programmes ran alongside other approaches such as decentralisation reforms and multi-grade rural school interventions aiming to increase net enrolment rates and quality of schools in disadvantaged settings.

As seen so far, most of the attempts to improve education in the region originated from top-down approaches urged by the need to tackle educational lag in order to keep up with the advances of the developing world. One of the main issues still unresolved in the region is social inequity that needs to be effectively addressed inside and outside the classrooms. Whereas most of the programmes targeted to low-income children are likely to have increased their educational opportunities compared to previous eras, the proper allocation of school resources, including teacher education and professional development, remains an unresolved issue within the region that heavily influences educational outcomes in low-income countries and populations within the region (Murillo & Román, 2011a; Anderson, 2002; Reimers, 2000).

2.4.1 The effectiveness of School Improvement initiatives and programmes targeted to low-income populations in Latin America

As mentioned earlier in this review, one of the main links between SER and SI in Latin America relies on the evaluation of school interventions using SER methods. There have been numerous attempts to calculate the effects of SI programmes and interventions seeking a positive relationship to student achievement and/or other indicators of educational improvement in the region. Due to the nature of this study, we highlight the outcomes of main evaluations on school interventions and reforms targeted to low-income populations.

Anderson's analyses (2002) on the effects of compensatory educational policies and interventions in four countries (Argentina, Brazil, Chile and Mexico) indicated that the most effective programmes – in both poor and non-poor settings – are those strongly related to pupil achievement such as: (1) classroom-corner libraries, (2) distribution of cost-free text books, and (3) the establishment of nutrition programmes. Furthermore, Anderson's results revealed that the interventions that are more significant for low-income settings include the provision of in-service training for teachers leading to an enhancement of teachers' skills to teach lower performing students (Anderson, 2002). Finally, the allocation of tutors also showed a significant positive effect on language test scores of low-income pupils which also noted a significant decrease in gender achievement gap in such settings (Anderson, 2002). Similarly, Winkler (2000) concluded that indirect interventions such as school health and nutrition programmes seem to be positively associated to academic performance of disadvantaged children.

Carlson's study (2000) noted that schools in disadvantaged areas had improved after joining the P-900 programme however, –due to the lack of pupils' prior achievement data – it was not possible to determine the extent of improvement attributable to the characteristics of the programme (see Carlson, 2000). Nonetheless, a micro-qualitative follow-up study conducted on low achieving P900 schools indicated that student-teacher ratios, differences in classroom material provision and quality, teacher's characteristics (age, resistance to change, turnover), as well as low parental involvement and commitment were notable barriers for improving academic outcomes (Carlson, 2000). Nonetheless, a P900 joint school programme named TAP (i.e. learning workshops) that had secondary school graduates as tutors for after school workshops was correlated to improved achievement of children who were having great difficulties in the educational system. (Anderson, 2002; García-Huidoboro, 2000). Finally, little evidence in relation to programmes such as *Eduque a la Nina* has revealed an apparent improvement on student performance and student retention in El Salvador (Winkler, 2000; Reimers, 2000; Jimenez & Sawada, 1999).

With regard to multi-grade school reforms, few impact evaluations have been conducted on Guatemalan and Chilean multi-grade school reforms. Using Guatemala's official education assessment (PRONERE) comparing traditional and *Nueva Escuela*

Unitaria schools revealed gains for sixth graders across three years (Juarez and Associates, 2003). A similar study aimed to compare in MECE-rural schools against urban schools which complicated the interpretations of gains – independently of programme effects – due to sample composition (McEwan, 2008). Furthermore, both studies do not acknowledge or probe the considerable threats to internal validity of their conclusions, including student and school selection bias (McEwan, 2008).

Escuela Nueva multi-grade intervention in Colombia constitutes one of the interventions that have proven more credible evaluations (McEwan, 2008). The studies conducted by Psacharopoulos et al. (1993), Rojas and Castillo (1988) and McEwan (1998) are the most comprehensive evaluations of *Escuela Nueva* prior to 2001 (Forero-Pineda et al., 2006). Rojas and Castillo (1988) found that *Escuela Nueva* showed significantly higher scores on civic behaviour, social self-concept, mathematics scores (third graders) and language scores (third and fifth graders). Similar conclusions were reached by Psacharopoulos et al. (1993) who estimated effects of 0.31 to 0.37 standard deviations in third grade Spanish and Mathematics tests which were higher than the estimates of other successful interventions such as P900 programme. However, some caveats were suggested due to the use of cross-sectional data and the lack of control for prior student attainment (McEwan, 1998). A second evaluation on the effects of *Escuela Nueva on* pupil achievement conducted by McEwan (1998) confirmed that school effect is larger for third graders' achievement than for fifth graders, especially in relation to Language pupil results. McEwan's study also pointed out that despite nearly half of *Escuela Nueva* schools lacked basic inputs required by the system to work, the impact of the programme on the community – measured by the number of activities – was consistently larger compared to other traditional systems. Despite some internal reliability caveats involving the school sample selection, the sample was still representative of both *Escuela Nueva* and traditional schools. Finally, Forero-Pineda et al.'s study (2006) revealed that the use of *Escuela Nueva* methodologies had a significant impact on the peaceful social interaction of children. Other positive significant effects of *Escuela Nueva* programme were found in relation to home educational practices and the influence of the school on parent participation in community life (Forero-Pineda et al., 2006).

Thus, it can be noted that the evaluation of compensatory programmes targeted to low-income populations appear to be fairly successful in expanding access to the poor from both the supply and demand sides (Winkler, 2000). However, the evaluation of such programmes in relation to pupil achievement and quality have provided ambiguous evidence mostly due to the fact that most countries in the region have experimented with poor assessment systems.

2.5 SER and SI findings and approaches regarding disadvantaged and challenging settings

As noted earlier in this review, the early equity orientation of SER had a particular emphasis on the school effects for improving the achievement of pupils from disadvantaged and poor settings (e.g. Coleman et al., 1966; Jencks et al., 1972; Edmonds, 1979; Rutter et al., 1979). However, in former stages of SER development the emphasis on 'what works' in effective schools got the attention of researchers overshadowing the initial interest in underperforming and failing schools (Van de Grift & Houtveen, 2006). Nonetheless, the evidence on school effects related to student achievement has proven that schools seem to matter more to disadvantaged groups (i.e. low SES, low prior attainment, minority ethnic groups) than to those pupils in more advantageous circumstances (Muijs & Reynolds, 2000; Muijs, 2009; Sammons et al., 2015).

The evidence regarding effective and improving schools in disadvantaged settings is limited as schools facing difficult and challenging circumstances are assumed to reproduce the inequity of their context even when some of those schools may be adding significant value to levels of student performance and achievement (Muijs et al., 2004). Furthermore, the outcomes from national and international test performance have strengthened the link between disadvantage and educational performance as most failing schools tend to be located in high poverty areas (Gray, 2001; Murillo & Roman, 2009; Chapman & Harris, 2010b).

The paucity of evidence base regarding schools in challenging circumstances has also been attributed to the inherent difficulties when researching such schools due to the number of complexities that their societal and organisational structures possess;

however, these complexities seem to offer a more accurate picture of the degree of challenge faced by those schools (Chapman & Harris, 2010). Thus, the studies conducted by Barber & Dann (1996); Mortimore et al. (2000); Hallinger and Murphy (1986), Louis and Miles (1990), Teddlie and Springfield (1993) Maden and Hillman (1993), Maden (2001), Henchey (2001), Lupton (2004), Harris et al. (2006) and Houtveen et al. (2007) have reflected the concern for effective, ineffective and improving schools in challenging and disadvantaged contexts in the UK, the USA, the Netherlands and Canada (Chapman & Harris, 2010).

This research base serves this study as it offers a theoretical framework and a number of factors and strategies that have proven importance to help schools improve and to explain the state of 'effectiveness' of schools in challenging circumstances. Due to the large number of SER studies conducted in different regions, there is no longer doubt about the significant the effect of SES on educational achievement as a powerful predictor of subsequent educational achievement (Murillo & Roman, 2009; Harris, 2010b).

Nonetheless, as noted by Reynolds et al. (2015) contextual effects can go beyond socioeconomic backgrounds including: (1) urban/rural differences, (2) differences in school improvement trajectories, (3) differences in school initial effectiveness level, and/or (4) differences in school types (e.g. catholic, single gender).

2.5.1 Theoretical framework for disadvantaged schools studies

A number of theoretical perspectives have helped in order to make sense of school improvement and school effectiveness in disadvantaged areas. Four main theories and hypotheses have been employed so far: (1) theory on opportunity to learn, (2) contingency theory, (3) compensation hypothesis, and (4) additivity hypothesis. All four theories predict their own factors to be at least partly responsible for explaining pupil performance (Muijs et al., 2004; Van de Grift & Houtveen 2006).

Van de Grift (2001) notes that the *theory on opportunity to learn* predicts that pupils in underperforming schools are not given sufficient opportunity and/or effective instructional practice to reach the minimum objectives of the curriculum (Van de Grift,

2001). Furthermore, the content of school textbooks may not be suitable for attaining the basic objectives of the national curriculum as they do not always match pupils' context leading to failure in delivering the full curriculum content. Finally, Van de Grift (2001) also suggests that some schools may have weak leadership or rifts in the team which also lead to unsatisfactory teaching and low levels of attainment.

Scheerens (1997) and Scheerens et al. (2000) focused on *contingency theory,* based on the premise that situational factors which can be internal (e.g. school policy, school organisation) and external (e.g. socioeconomic environment, surroundings, school board) to the organisation. For schools in disadvantaged areas it has been hypothesised that their configuration, organisation and even policies, would vary from those improving to those underachieving settings. Creemers et al. (2000) and Scheerens (1997) argue that contingency theory can predict the mediation of the activities of school staff (i.e. principals, teachers, school board), between educational processes and situational factors (Muijs et al., 2004; Van de Grift & Houtveen, 2006).

The *compensation hypothesis* states that schools in disadvantaged areas must provide their pupils with basic needs (i.e. orderly environment and expectations) in order to make up for their lag behind before working on educational processes towards structural improvement (Chrispeels, 1992; Teddlie et al., 2000; Janssens, 2001). It has also been suggested that staff in low SES schools will have to work harder to achieve their aims (Van de Grift & Houtveen, 2006).

Finally, the *additivity hypothesis* predicts that schools in disadvantaged areas will still underperform compared to their counterparts in higher-income areas even after correcting for social and economic background (Baumert et al., 2005; Janssens, 2001; Opdenakker & Van Damme, 2006; Reynolds & Teddlie, 2000). Furthermore, according to the additivity hypothesis schools facing challenging circumstances are more likely to be ineffective – possibly due to teacher recruitment conditions – and contribute to the reinforcement of their social disadvantage (Reynolds & Teddlie, 2000; Janssens, 2001). Similarly, Janssens (2001) noted that several contextual circumstances (e.g. teacher mobility, pupil mobility, number of pupils from deprived families) were more often found in underperforming schools.

As noted by Muijs et al. (2004), theses four theories and hypotheses are not mutually exclusive but complementary as they throw different light on the issues and factors behind the effectiveness and improvement in schools in challenging circumstances.

2.5.2 School Improvement strategies (based on SER knowledge) and approaches in low-income areas

As noted by Stoll (2010), the pressure in low-income or developing countries is most acutely felt in areas that face a wide range of challenges as a result of high levels of poverty and disadvantage. Moreover, schools serving low-income children face the daily task of educating pupils that are disadvantaged in diverse ways so that their accessing the world of opportunity and advantage represents a huge effort that their high income counterparts may take for granted (Harris, 2010b). Finally, schools in challenging circumstances are far from homogeneous due to a series of external challenges that impact upon low SES schools (e.g. low levels of literacy on entry, ethnicity or migrant condition, incidents of violence, crime and drugs) (Thrupp, 1999; Harris et al., 2006). Reviews concerning the literature regarding effective and improving schools in low SES areas have generated a list of key characteristics and school processes which have proven change in schools in socioeconomically deprived areas (Harris et al., 2006; Muijs et al., 2004). These processes and key factors are listed below.

(1) *A focus on teaching and learning.* As noted in 2.1.2 an academic orientation has long been identified as a core component of effective schools (Reynolds et al., 2015). In fact, there is plenty of evidence that academic focus is more prevalent in effective low SES than in effective high SES and more generally, that effective low SES schools have more limited and short-term goals than their high SES counterparts (Muijs et al., 2004). Furthermore, a persistent focus on both improving the quality of teaching and assessing individual child's needs has proven to raise achievement and learning in such contexts (Barr & Parlett, 2007). In relation to what effective teaching involves in disadvantaged schools, research evidence has suggested that highly structured lessons, a focus on basic skills and the delivery of the curriculum in smaller packages can have a

positive impact on student achievement in low SES schools (Ledoux & Overmaat, 2001; Reynolds et al., 2006).

A more integrated curriculum across grades and subjects but also making it relevant to their daily lives have proven to benefit low SES pupils due to the reinforcement of affection towards learning (Connell, 1996). Finally, effective teaching in disadvantaged schools should involve teacher-led consistent and demanding instruction, as well as programmes stressing an advanced skills curriculum which have been found to improve the achievement of low SES and poor background pupils (Mortimore, 1991; Borman, Stringfield & Rachuba, 1998).

(2) *Resources.* Schools in disadvantaged circumstances often reflect the extent of poverty facing their contexts. Thus, it has been argued that improving the school environment, in conjunction with infrastructure, reinforces the aim that the school is serious about learning and pupil achievement so it is one of the first signs that change is taking place (Chapman & Harris, 2004; Harris, 2010b). Furthermore, the allocation of monetary resources to these type of schools is likely to turn schools around automatically, therefore proper and effective allocation of resources are suggested as important for improving schools effectively (Reynolds et al., 2002; Muijs et al., 2004).

(3) *Effective Leadership.* Most successful stories of school improvement in challenging contexts have highlighted the role and centrality of effective leadership (e.g. instructional and transformational) as a critical and common component of success (Harris, 2010b). Research evidence has shown how highly effective leaders in low SES schools adapt core practices to their context, have a strong moral purpose in most cases and maintain high expectations for student achievement (Harris, 2010b). Such leaders develop and support teacher leaders and invest in distributed democratic leadership practices and collegiality (Harris & Chapman, 2002). *Collaborative leadership* in this sense also implies clear, open communication and trust amongst the head and the teachers to share the school's expectations and to deal with the emotional disruption that change can cause when aiming to improve (Lein et al., 1996; Stoll, 1999; Muijs et al., 2004). Moreover, effective leaders translate their vision and moral purpose into operational principles, and shape school culture with the local

community. Additionally, at a district level, effective leadership (e.g. superintendents, school boards, central office staff) focuses on making sure that academic proficiency is achieved by all the subgroups is also important for raising achievement in high poverty schools (Harris, 2010a). Not only transformational but also instructional leadership can take place in such contexts to help and encourage staff to continually develop the skills/knowledge in current teaching and learning theories and engage into a professional learning community (Muijs et al., 2004; Harris, 2010a).

(4) *Data and Assessment (information-rich environment).* Data richness has been found to be an important component of effective and improving schools in studies conducted in the UK, Canada and the US (Muijs et al., 2004). Almost all studies on high-performing disadvantaged schools have identified the capacity such schools have for collecting, analysing and monitoring data to build up success (Reynolds et al., 2006). Barr & Parlett (2007) have also stated how creating an assessment environment, beyond standardised tests, is crucial when helping all pupils learn to succeed by building confidence, especially those in high-poverty contexts. Other sources of data can consist on views of pupils and teachers (i.e. questionnaires) on student and staff satisfaction, school conditions and even teaching methods (Etheridge, Butler, & Scipio, 1994).

(5) *Building learning communities.* The emphasis on creating learning communities is based on the need to guarantee continuous and sustainable improvement rather than developing strategies for improving at a short term (see Hopkins, 2001). However, it has been suggested that in order to construct a learning community several factors should be put in place first such as supportive and distributed leadership, teamwork and strong teacher accountability (Louise & Kruse, 1995; Piontek et al., 1998). For school in disadvantaged areas, creating a learning community also implies creating a professional learning community in which considerable time and effort are placed on the teacher as the centre of change and therefore supported by continuous professional development (Harris, 2010b).Thus the key to improve for those schools relies on building the internal capacity by securing greater coherence and agreement amongst teachers about expectations and effective instructional practices (Harris, 2010b). But beyond the presence of continuous professional development in schools,

more importantly is the effectiveness of such by including both the elements that are relevant to staff (e.g. classrooms concerns, theory, demonstration, coaching and feedback, etc.) and the time to attain mastery in the area of study (Muijs et al., 2004).

(6) *Engaging parents to work as partners.* It has been suggested that children from disadvantaged areas benefit the most when partnerships between the home, the community and the school are developed and sustained (Muijs et al., 2004; Borman et al., 2000; Harris & Goodall, 2008). However, involving parents in schooling in disadvantaged areas is not easy especially since communication and collaboration skills need to be built up and enriched (Harris, 2010b). Thus, family education programmes as well as integrated school and social services have been suggested as an approach to effective parental involvement (Leithwood & Steinbach, 2003). Other strategies such as language courses and incentives to come to school (e.g. transport, childcare) have been successfully implemented involve parents effectively (Muijs et al., 2004).

(7) *School culture.* As noted by Muijs et al. (2004) school culture is a core element of effective and improving schools that is highly problematic due to all the aspects it involves. However, some of those can be amenable to improve. In this regard, a blame-free culture encouraged by open communication and supportive leadership is essential to sort out school and academic issues. Furthermore, coherence is a key element to improving schools in disadvantaged areas so that pupils need to know what to expect and have the right to receive high quality teaching in all lessons across all grades (Muijs et al., 2004). Accordingly, continuity in this approach should be extended to coherent assessment across subjects within the school curriculum (Hopkins & Reynolds, 2002; Leithwood & Steinbach, 2003). Lastly, it has been argued the importance of high expectations in schools serving low SES populations that can take the form of frequent monitoring, positive feedback and the setting of demanding – realistic – targets (Lein et al., 1996; Montgomery et al., 1993). Similarly, producing success stories can help teachers remove negative beliefs towards pupils and the effectiveness of interventions influencing their work rate and enthusiasm (Maden & Hillman, 1993; Borman et al., 2000)

(8) *Networking and collaboration and external support.* Networks are an alternative way to establish collaborations between schools aiming to support each other at the local level (Harris, 2010b). As suggested by Hopkins (2007) failing and underperforming schools can be guided by a school that works with them in either a formal group federation (overall control by leading school principal) or informal partnerships. One way to generate external support is to create a larger professional learning community by creating school networks which can provide leadership, social, technical support, sharing of good practice and creation of new ideas (Muijs et al., 2004)

Research has also suggested that all schools have the potential to improve and there are certain conditions that make success more likely, regardless of their degrees of challenge facing (Harris & Chapman, 2002; Hopkins, 2001a, 2001b). However, evidence shows that such conditions are not a recipe for change since the compound of improvement strategies will depend on both the context and the particular 'growth state' of the school (Hopkins, 2007). Hence, standardised models of school intervention and improvement implemented, and even imposed, by governments have failed to acknowledge the full extent of the socioeconomic challenges, supported by evidence, facing low-income pupils (Stoll, 2010). Furthermore, Harris (2010b) has suggested that improving schools in challenging circumstances is likely to succeed if an integrated model of improvement is designed by combining differentiated and contextualised improvement approaches with networked school support and economic investment and community regeneration (Harris, 2010b).

Educational inequality in many countries is set to remain. However, schools in challenging circumstances must seek approaches and strategies that may assist their school, in their own context and with their own students (Muijs et al., 2004). As noted by Gray (2001) not much is known about the extent of difficulty schools face when serving disadvantaged communities because much of the improvement research has ignored this dimension. Moreover, there is much to be known about improving schools in difficult circumstances and particularly, how sustainable improvement can be achieved in such schools (Muijs et al., 2004).

Consequently, differentiated approaches for improvement according to the growth state of the schools have been suggested (yet hard to diagnose). Most approaches to improve such schools have resulted in a series of initiatives (e.g. leadership practices, additional resources, targeted developmental programmes, professional development opportunities) in countries such as the United Kingdom or the USA (Harris, 2010b).

2.6 School-based management (SBM)

The principles underlying SBM reforms and policies have their roots in the third phase of school improvement (Hopkins et al., 2014; Hopkins, 2015). As noted earlier in this review, during this phase (mid-1980s-early 1990s) schools were highly expected to change in order to produce fully functioning citizens in an increasing complex, integrated knowledge-based world economy. The anxiety derived from such increase in expectations was also accompanied by primal changes regarding the management and the governance of schools (Hopkins, 2015).

Amongst the most notable holistic approaches of early SBM, the 'school development plans' project (i.e. England and Wales) provided an illustration of an authentic school development strategy which combined school curriculum innovation with modifications to the school's management arrangements (Hargreaves & Hopkins, 1991). Similarly, a blend of school development planning with findings of SER was observed at the local level in Ontario, Canada (Stoll & Fink, 1996) whereas a wide range of similar efforts took place in the United States and elsewhere (Hopkins, 2015).

Regardless of the names SBM went by in different countries (e.g. self-managing schools, site-based management, development planning, local management of schools) the pivotal idea of providing schools with more responsibility for their own management and student outcomes remained similar (Hopkins, 2015). Furthermore, the common aspiration of these initiatives was the promise that schools would be liberated from presumably prejudicial central control and substantial student achievement would be gained as a result (Hopkins, 2015).

Caldwell (2005) has defined SBM as ‘the devolution of authority from the central government to the school level’. SBM can be viewed as a formal alteration of

governance structures (i.e redistribution of decision-making authority) in which the school is identified as the primary unit of improvement (Malen et al., 1990). However, SBM is not an end in itself but a way to gain school autonomy leading to alter the capacity of the school and the community to make improvements (Fullan & Watson, 2000). Thus, it is argued that school decentralisation offers opportunities for a new type of school governance in which local decision makers are better able to adapt the appropriate mix of inputs and education policies to local preferences, needs and realities (Malen et al., 1990; Gay & Place, 1999; Caldwell, 2003; Barrera-Osorio et al., 2009).

SBM has been introduced in countries whose educational systems are quite dissimilar: El Salvador, Guatemala, Hong Kong, China, Indonesia, Israel, Kenya, the Netherlands, New Zealand, Nicaragua, Niger, Qatar, Thailand, the United Kingdom, the United States and many others (Barrera-Osorio, 2009). As noted by Barrera-Osorio et al. (2009) SBM approaches take on many forms especially in terms of the degree of autonomy being devolved and the people to whom the decision-making authority is devolved. With regard to the autonomy dimension, SBM programmes devolve the authority over one or more activities including the following: allocating budget, hiring and firing of teachers and other school staff, developing the school curriculum, procuring textbooks and other educational materials, improving school infrastructure and monitoring and/or evaluating teacher performance and student learning outcomes.

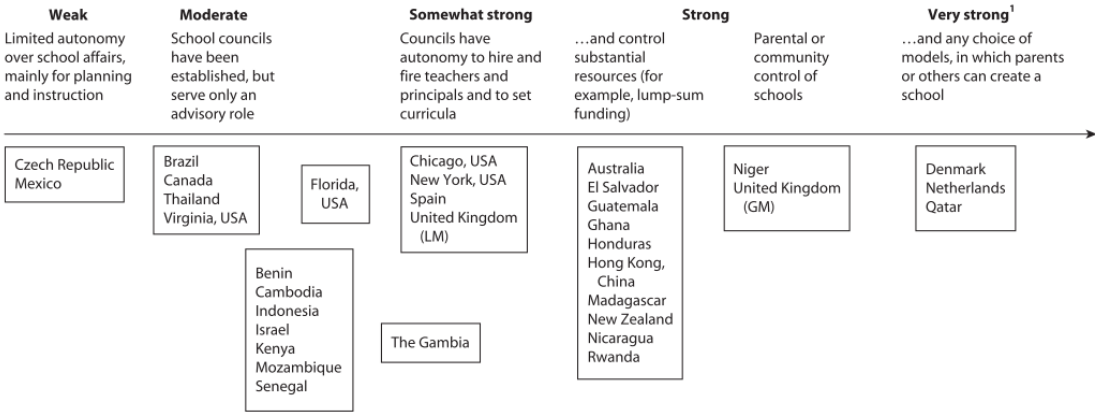


Figure 2 Degree of autonomy devolved to schools (Barrera-Osorio et al., 2009)

Thus, the extent of autonomy devolved in SBM programmes lies along a strength continuum based on the degree to which decision making is devolved to the school (Figure 2). Thus, weak SBM reforms can be defined as those in which schools have limited autonomy (e.g. planning for school improvement) whereas 'strong' forms of SBM would allow school councils to receive funds directly from the central or relevant level of government granting the responsibility for hiring staff and for setting the curricula (Santibáñez, 2007; Barrera-Osorio et al., 2009).

The second dimension underlying SBM programmes refers to who is given responsibility for the devolved functions. SBM projects try to empower principals and teachers and strengthen their professional motivation by enhancing their sense of ownership of the school (Caldwell, 1998). Furthermore, nearly all versions of SBM seek to involve the local community in a meaningful way usually by working through some sort of school committee that will work as the legal entity whom the power will be devolved to (Barrera-Osorio et al., 2009). As noted by Caldwell (2003) and Gay & Place (1999), school decentralisation framework offers opportunities for a new type of school governance. Thus, different models have been noted by scholars regarding who is involved and who gets the decision-making power for school governance within SBM and approaches.

Wohlstetter and Odden (1992) identify three basic forms of site-based management based on who gains control over decision making: (1) principal control model in which the principal is the primary decision maker, (2) administrative decentralisation which uses schools councils – mostly integrated by teachers – as the main decision-making units, and (3) community control model in which school councils comprise mainly pupil parents, and secondly, teachers, head teachers and community members.

Leithwood and Menzies (1998) outline four SBM models based on who is given responsibility for the devolved functions: (1) administrative control in which the decision-making authority is given to school principals; (2) professional control in which teachers hold the main decision-making authority; (3) community control in which parents have the major decision-making authority; and (4) balanced control in which decision-making authority is shared by parents and teachers. Similarly, Bauch

and Goldring (1998) classify school governance based on the power of teachers and parents at school: (1) Traditional or bureaucratic mode in which hierarchical roles are maintained, teacher and parent participation is low due to respect to administrator in power; teachers maintain classroom autonomy aligned to administrator's decisions. (2) Teacher's professionalism in which the power is placed on teachers based on their expertise to know what is best for children and parents. However, this mode can lead to conflict as parents may delegate the whole responsibility for educating their children to teachers (i.e. customer role) and teachers would not attempt to involve parents much in decision making as a way to protect their professional status. (3) Parent empowerment mode in which parents are actively involved in their children's school whereas teacher empowerment is low. Under this mode parents as individuals or collectives often exercise political influence or make demands on the school for change; parents may also engage in oversight activities making sure children's needs are met. (4) Partnership or communal mode: both teachers and parents are highly empowered in order to meet children's needs and to develop schools towards learning communities. This mode is assumed to contribute to school effectiveness and student attainment since it is based on collaboration with parents, teachers and students. The autonomy-participation nexus in SBM reforms across several countries can be illustrated in Figure 3.

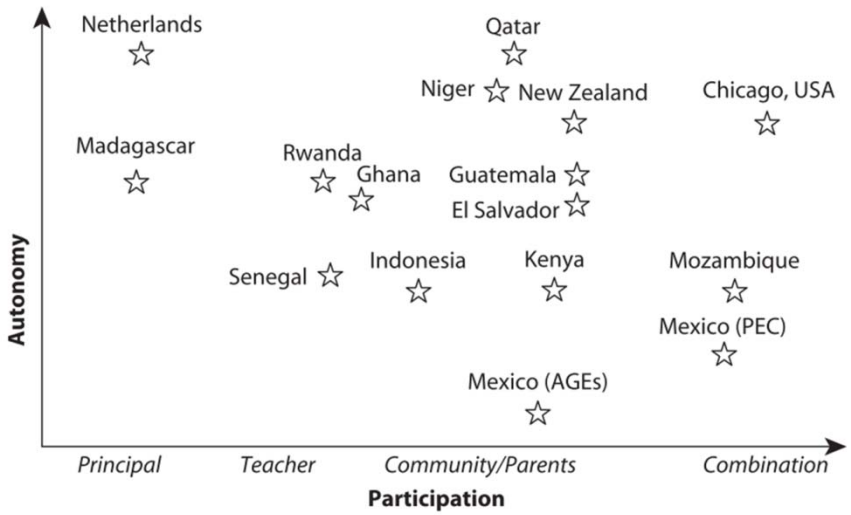


Figure 3 Autonomy-participation nexus in SBM reforms (Barrera-Osorio et al., 2009)

Thus, as noted by Cook (2007) framing SBM in terms of power suggests difficult implementation processes of SBM as power dynamics might change as some people (government) will lose power and others people will gain power and responsibility for decision making.

Furthermore, it has been observed that in developed countries SBM approaches aim to have greater management control of what goes in the school whereas in developing countries decision-making processes are the main focus (De Grauwe, 2007; Barrera-Osorio et al., 2009). Thus, each programme/policy is shaped by the objectives of the reformers and by the broader national policy and social context in which the reforms come to be which make the debate about SBM implementation and quality a very complex one (Malen et al., 1990; De Grauwe, 2007; Barrera-Osorio et al., 2009).

2.6.1 Autonomy, participation and accountability

SBM in its nature has the potential to hold school-level decision makes accountable for their actions. Those who run the school must be accountable for adhering to the rules and standards, accountable to the education authorities and their peers and accountable to the general public and pupils (Anderson, 2005). In some countries, SBM is aimed to strengthen the accountability and transparency in the management of the schools leading to a more efficient use of both human and material resources impacting student achievement whereas in other countries accountability in SBM aims to effectively manage the provision of educational services, especially those to the poor (Barrera-Osorio et al., 2009). It is hoped that local community leaders will be encouraged by parents to put schools higher on their political agendas and therefore provide them with more material resources. Thus, greater parental involvement schools is expected to be translated into more responsive to local demands and decisions made in the interest of children rather than of adults. However, achieving the balance between accountability, participation and autonomy will vary especially in contexts where there is an absence of an efficient supportive state framework (De Grauwe, 2007).

An implication regarding SBM autonomy-participation-accountability link is that in more traditional and rural settings sometimes the poor minorities may feel the need to

have a central strong – educated – authority (e.g. teachers, principals or parents) in order to access services the way more advantaged populations do. However, if there is no accountability culture within these types of communities nobody would question the actions taken by the group running the school (De Grauwe, 2005). It is also suggested that in populations that lack the stature to make their voices heard and where the democracy and political accountability are weak, the power devolved by the reform can be captured by the elites leading to greater inequities (Galiani et al., 2008; Gertler et al., 2011). Finally, another concern is that the interests of stakeholders at school level will not always concur, leading to conflict and adverse impact on collaborative relationships necessary for a quality school (Leithwood & Menzies, 1998).

Thus, while it is possible to expect better school outcomes when the nexus of autonomy-participation-accountability has been defined and set via a realistic plan supported by all stakeholders, there is little evidence that this really happens in practice. However, the capacity to hold school-level decision makers accountable for their actions can be strengthened or built in order to create a culture of accountability. Strong reforms have been successfully implemented in countries where communities have already the capacity to come together as group thus, SBM reforms must be supported by local and national governments in order to build up the capacity for those people who are given the responsibility for managing the school but lack the capacity to do so (Barrera-Osorio et al., 2009).

2.6.2 Research evidence on SBM reforms and approaches

Leithwood and Menzies' comprehensive review (1998) revealed that administrative control seems likely to result in the least change of the schools whereas community control appears likely to result in most change of the schools. Moreover, Leithwood & Menzies (1998) noted that professional control appears to have more positive effects on teachers. However, there was no firm, research-based knowledge about the about the direct or indirect effects of SBM on students; and only little evidence indicated that the effects on students are just as likely to be negative as positive (Leithwood & Menzies, 1998). Similar conclusions were reached by Fullan (1993) and Caldwell (1998). Moreover, Caldwell argued that the minimal evidence of the effect of SBM on

improved school outcomes is attributable to the very SBM few initiatives that have been systematically linked to what happens within the classrooms (Caldwell, 1998). Thus, as noted by Leithwood and Menzies (1998), SBM has yet to demonstrate its value in improving educational experiences however, its potential is quite significant when implementation issues are identified and tackled.

In this regard, Leithwood and Menzies' review (1998) on SBM studies provided evidence on the types of obstacles encountered in efforts to implement SBM as well as the strategies that seemed to be useful when addressing those obstacles. Some of the main findings suggest that the single biggest barrier to develop an effective school council is interpersonal conflict which makes conflict resolution skills critical to a smooth running of school councils (Leithwood & Menzies, 1998). Moreover, most roles and groups of stakeholders were found to lack the specific training and experience to make SBM work which highlighted the importance of training provision. The second largest category of obstacles found by Leithwood & Menzies (1998) corresponds to the lack of opportunities (e.g. funds, time, etc.) that reflects the sense of practitioners being overwhelmed at having to maintain and change the organisations at the same time. Attitudes and beliefs was the largest set of barriers that were found and included concerns about the viability of SBM, the commitment of stakeholders, worries about funding, and the consequences for one's work (Leithwood & Menzies, 1998). Thus, as noted by De Grauwe (2005) autonomous schools need more support which in turn places more demands on local education authorities who would need to access quality information on schools to know who to help and what type of support to offer.

Interestingly, research conducted in the United States has suggested that an SBM reform must have been in operation for about five years before any primal changes can be seen at the school level; and up to more than eight years of implementation in order to observe any possible modification on indicators such as test scores. Similarly, Leithwood & Menzies (1998) suggested that the type of obstacles to SBM found in their review on SBM studies across different countries (i.e. United States, Canada, Australia, New Zealand and the UK) varied depending on where SBM had been implemented for more than ten years. Nonetheless, a few recent studies have found positive effects on intermediate indicators (e.g. repetition and failure rates) after two

and three years of SBM implementation (see Rubio-Codina & Patrinos, 2006, Skoufias & Shapiro, 2006).

More recent reviews conducted by Santibáñez (2007) and Barrera-Osorio et al. (2009) revealed empirical evidence on SBM effects found in studies conducted since 1995 (Table 8). Thus, four types of SBM effects were documented based on the evidence found in Latin American countries: (1) effects on education access or coverage; (2) effects on students test scores (King & Özler, 1998; Jimenez & Sawada, 2003; Sawada & Ragatz, 2005; Lopez-Calva & Espinosa, 2006); (3) effects on internal efficiency indicators such as drop out, failure and repetition rates (Paes de Barros & Mendonça 1998; Jimenez & Sawada 2003; Di Gropello & Marshall 2005; Gertler, Rubio-Codina & Patrinos 2006; Skoufias & Shapiro 2006); (4) and effects on other indicators such as parental and community involvement (King & Özler 1998; Jimenez & Sawada 1999; Gunnarsson et al. 2004; Duflo et al., 2007).

Di Gropello's comparative study (2006) on SBM effects in four Central American countries highlighted that community schools are likely to have smaller monograde class sizes than non-autonomous schools except for the case of Nicaragua. Di Gropello (2006) suggested that community-based schooling environment tends to maximise teacher effort to a greater degree in terms of teaching hours. Moreover, the evidence suggests that community-based schools are a more efficient model since they get more out of teachers in spite of their lack of high qualifications. Di Gropello (2006) concludes that, with the right type of assistance, even very poor and undereducated parents are able to properly run SBM schools in Central America.

According to Di Gropello (2006), a significant proportion of teachers lack teaching certificate in Honduras whereas in El Salvador the opposite holds in EDUCO schools. Moreover, little professional teaching experience (2-5 years) was found in most autonomous school except for Nicaraguan autonomous schools (average of seven years of experience). As noted by Di Gropello (2006) despite the unclear relationships between teachers' assets and teaching methods, having a high proportion of teachers with no teaching certificate and little professional experience –as the case of Honduras

– is likely to help explain the degree of SBM implementation in the classrooms just as community assets affect the overall implementation.

EDUCO program was found to increase access to children of rural areas and to diminish absenteeism, repetition, and drop-out levels, moreover greater parental involvement was positively associated to student language test scores and the improvement of the educational level of the communities in El Salvador (Cuéllar-Marchelli, 2003; de Andraca, 2003; Umansky & Vegas, 2007). However, EDUCO schools difficulties were noted to be due to teacher turnover and other effects on the managing councils whose members lack enough preparation for performing their roles. Moreover, teachers reported feeling deprived of power as they depend on councils' decisions (Avalos, 2007). Umansky & Vegas (2007) noted that PROHECO students in Honduras scored better than students in traditional schools (especially in language). Nonetheless, in Nicaragua, the decentralised schools reported lower average test scores than traditional schools (Umansky & Vegas, 2007).

A cross-analysis study of ten Latin American countries conducted by Gunnarsson et al. (2004) revealed that more autonomous schools in the region appear to perform better. However, it was noted that school autonomy and parental participation vary more within countries than between countries. This study also suggested that the practice of autonomy appears to be loosely related to national policies regarding the locus of control over schools. Thus, the actual practice of autonomy is most likely reflected in schools that can profit from that autonomy. Thus, Gunnarsson et al. (2004) suggest that power devolution to local schools must take into account local incentives and local capacity to manage schools before implementing SBM by decree, otherwise it would have adverse effects on school outcomes. Lastly, impact of parental participation on student test scores was found as strong and positive suggesting that incentives provided to parents to participate in schools can have a positive effect on their children's achievement (Gunnarsson et al., 2004).

Table 8 SBM effects in Latin America (based on Santibáñez, 2007; Barrera-Osorio et al., 2009)

Problem	*Country*	*SBM Impact*	*Strength of evidence*
Access (Increased enrolments)	***Overall finding: Positive Impact***		
	El Salvador	*Positive: Increased enrolments in rural areas and poor communities*	*Strong*
	Honduras	*Positive: Increased enrolments in rural areas*	*Strong*
	Guatemala	*Positive: Increased enrolments in rural areas, increased attendance of Mayan girls*	*Strong*
Dropout and repetition rates	***Overall finding: Positive Impact***		
	El Salvador	*Positive: Increased continuation rates (reduced droput) in elementary schools (attributed to more communityparticipation)*	*Strong*
	Mexico	*Positive: Participation in PEC reduced droput rates and repetition rates; School participation in parental association programme reduced repetition and grade-failure rate. AGEs had a significant effect in reducing grade failure and repetition, but not significant effects on intrayear dropout rates in rural non-indigenous schools*	*Strong*
	Honduras	*Positive: Modest effects in reducing droput rates*	*Somewhat strong*
	Nicaragua	*Positive: Increased promotion from having more de facto autonomy in schools*	*Somewhat strong*
	Brazil	*Positive: More autonomy led to power to lower repetition rates; Participation in PDE improved grade-passing rates, but no effects were found on dropout and attendance rates*	*Somewhat strong*
Student achievement	***Overall finding: Mixed***		
	El Salvador	*None: No differences between EDUCO and comparison schools (however EDUCO students come from more disadvantaged backgrounds)*	*Strong*
	Honduras	*None to positive: Modest positive effects on science test scores, no effect on Math or Language*	*Somewhat strong*
	Mexico	*Positive: Participation in AGEs had a positive effects on student test scores in grdes 4 thorugh 6 (primary school) for both Spanish and Mathematics*	*Strong*
	Nicaragua	*None to positive: More autonomy over teacher-related issues is associated with higher student achievement in primary (Math and Language) and secondary (Language only, another study found that it increased Math achievement in thrid graders but not in sixth graders. Teacher decision-making appears to have the largest effect on student achievement*	*Somewhat strong*
	Brazil	*None: No statistical differences in Portuguese and Math scores for PDE and non PDE schools*	*Somewhat strong*
	Guatemala	*None to positive: One study found decreased achievement for girls, but another found improved Spanish achievement and no difference in Mathematics between PRONADE and traditional schools*	*Weak*
Other indicators			
	Guatemala	*None to positive: Some evidence that pronade increased community participation and parental involvfement (measured by parent meetings) was higher in PRONADE schools than traditional schools*	*Strong*
	Honduras	*None: Teacher effort was not higher in PROHECO schools than in traditional schools*	*Strong*
	El Salvador	*Positive: Teachers spent more time meeting with parents and more time teaching, and they were absent fewer days than teachers in traditional schools*	*Somewhat strong*

Finally, studies suggest that SBM is a very inexpensive initiative based on decision making and not necessarily in the amount of resources invested nonetheless, there is a research gap concerning cost-benefit analyses of SBM (Barrera-Osorio et al., 2009).

2.7 Summary

As noted in this chapter both SER and SI are fields with long traditions that have aimed to tackle low pupil achievement using different methods and finding explanations from different theoretical perspectives. The issue of context has been highlighted in several studies as highly important for conducting studies especially in developing countries aiming to explain school processes and to develop pertinent school improvement strategies that go beyond the import of SER knowledge from the developed world. Furthermore, it has been noted the need to analyse data that provides better knowledge of contexts of the schools and bridge the gap between the 'school effects' and the 'home effects' (Reynolds et al., 2015).

The research evidence existing in the region suggests that some of the reforms and approaches that took place in the 1990's have showed positive effects, especially in the cases where SBM programmes have been ongoing for more than ten years. However, SER and SI in Latin America are still young fields that require more studies that not only provide evidence on the characteristics of school processes within the region, but also help understand the school-level factors responsible for the differential school effects by ethnicity, SES and gender, characteristic of the region.

Due to the fact that CONAFE is not product of a decentralisation reform *per se* and its participation in national achievement tests has been recent, very little is known about this subsystem catering low-income rural populations in Mexico. Thus, the importance of this study relies on the fact that there is no current evidence on the state of CONAFE schools in Mexico or the school processes surrounding rural settings. Furthermore, it is critical for this study to provide account on how students are being catered by this subsystem as well as extent of involvement of stakeholders.

Chapter 3 Basic education in Mexico

The first section in this chapter explains the current provision education in Mexico, followed by the schooling services that rural populations have access to. This includes a brief description of community schooling services as the locus of this study. The second section highlights some of the main challenges facing basic education regarding student achievement and progression. Finally, a description of Oaxaca State is provided in order to portray the context in which this study took place.

3.1 Overview of the Mexican education system

The Mexican education system (SEM, by its acronym in Spanish) is one of the largest systems in Latin America (Guichard, 2005; Hopkins et al., 2007; SEP, 2013). SEM is regulated by the SEP (Ministry of Education) that administers all the public and private schools in Mexico. SEM comprises schools that are administered at three levels: basic education, upper secondary education and tertiary education (Hopkins et al., 2007; OECD, 2014). The diversity in school types administered by SEP at a national and state levels including the policies – and politics – behind SEM make it a very complex system to understand, to run and, therefore, to improve.

As in most OECD countries, basic education in Mexico is mainly provided by the public sector, whereas the share of private schooling tends to be higher in upper secondary and tertiary education (Table 9). Moreover, the private education sector in Mexico receives little public funding, hence most private expenditure on education at all levels comes from individual households in the form of tuition fees (Guichard, 2005; OECD, 2014).

Table 9 Student enrolment figures (2014-2015)

Level	*Total enrolment*	*Public Provision*	*%*	*Private Provision*	*%*
Basic Education	25,980,148	23,468,536	90%	2,511,612	10%
Pre-primary	4,804,065	4,126,386	86%	677,679	14%
Primary	14,351,037	13,086,773	91%	1,264,264	9%
Lower secondary	6,825,046	6,255,377	92%	569,669	8%
Upper Secondary school	4,813,165	3,906,800	81%	906,365	19%
Tertiary Education	3,515,404	2,474,541	70%	1,040,863	30%
Total SEM	**36,060,653**	**31,284,256**	**87%**	**4,776,397**	**13%**

Basic education (ages 3 to 14) is organised in three stages: pre-primary education (3 grades); primary education (Grades 1–6); and lower secondary education (Grades 7–9). Pre-primary education's aim is to prepare young children for primary school life. Across the six grades of primary education, pupils are mainly taught by a generalist teacher for Spanish and mathematics, along with other subjects such as natural sciences, history, civics and geography (OECD, 2012; INEE, 2014a). Lower secondary education consists of Grades 7–9 and caters for 12–14-year-old students. The range of lower secondary schools (Figure 3) comprises schools for workers, technical schools (technical subjects added to the curriculum) and *telesecundaria* schools. *Telesecundarias* are lower secondary schools in which instruction via television broadcasts (satellite-based) is provided and complemented by teachers' instruction; such schools were initially created in the 1960s to serve remote rural communities with low population density. However, many *telesecundarias* can currently be found in urban areas (Hopkins et al., 2007; OECD, 2012).

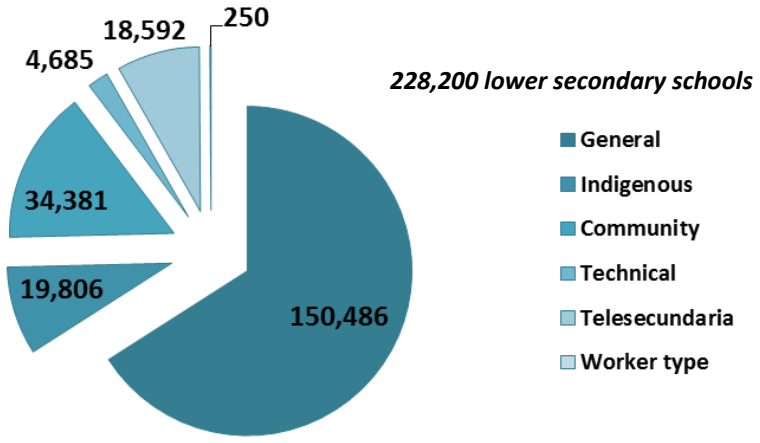


Figure 3 School type figures in Mexico for pre-primary, primary, and lower secondary education

Upper secondary education consists of three-year average programmes offering two main pathways to prepare students either to move on to higher education (general programmes) or to obtain vocational education and training (VET) through technical professional programmes (Kis et al., 2009; OECD, 2012). Furthermore, upper secondary schools differ in nature, provision and quality, as they comprise over a dozen sub-

systems (especially for VET programmes) which have resulted in a large number of school types administered by different units within the SEP (Kis et al., 2009).

3.2 Schooling services in rural settings

As the definition of rural and urban settings varies considerably across countries, in Mexico a rural setting is defined as that comprising <2,500 inhabitants. While most urban settings have >15000 inhabitants, municipalities with 2500–14999 inhabitants are named semi-urban (INEGI, 2010a). Rural populations tend to comprise indigenous populations (i.e. speakers of languages different from Spanish) and low-density populations (<250 inhabitants) that are usually isolated and difficult to access, due to geographical conditions. General and indigenous schools in rural settings are run by SEP in each state, whereas community-based services are mainly administered by the National Council for Promoting Education (CONAFE). The proportion of pupils enrolled in rural basic education schools represents 27% of the population receiving basic educational services in Mexico (INEE, 2015).

Table 10 Pupil enrolment figures for basic education in rural settings (2014-2015)

		Rural population	
	School type	***1-249 inhab.***	***250-2,499 inhab.***
Pre-primary	General	83,904	717,837
	Indigenous	45,893	260,247
	Community-based	111,145	46,624
Primary	General	436,195	2,436,808
	Indigenous	167,498	492,073
	Community-based	98,496	10,392
Lower secondary	General	23,418	166,736
	Technical	29,705	186,582
	Telesecundaria	89,181	935,624
	Community-based	31,032	8,932
	Total	**1,116,467**	**5,261,855**

CONAFE community-based schools mostly serve rural settings that have low-density populations located in mountainous or jungle areas that are not eligible for the installation of a conventional school, based on class size per grade criteria (Schmelkes, 2000; INEE, 2007). Community-based education started to operate in 1973 using young lower secondary school graduates to deliver instruction. The system has created a structure in which, for every year of instruction, the teachers (called community

education leaders) receive a scholarship for funding their future studies (i.e. upper secondary and higher education). In 1975, the Department of Research in Education (DIE) of CINVESTAV (Research Centre for Advanced Studies) was hired by CONAFE to design a pedagogical model for community-based instruction that would be manageable for young teachers to deliver curriculum content in primary schools. The main innovations initially achieved by DIE consisted in the design of guide notes based on former rural teachers' workshops, and the implementation of three main levels (each containing two grades) to facilitate graded instruction in the classroom. By the end of 1980s, the development of the whole series of teacher handbooks and student books for primary school was achieved; these series of books and teacher guides are currently used in all CONAFE primary schools in Mexico (Schmelkes, 2000).

Table 11 CONAFE schooling services in Mexico (INEE, 2015)

	Students	***Teachers***	***Schools***
Early education	164,809	19,324	20,114
Primary education	114,029	12,770	11,091
Lower-secondary education	41,361	3,924	3,176
TOTAL	**320,199**	**36,018**	**34,381**

3.3 Challenges in basic education: student achievement and progression

Undoubtedly, a major achievement for the SEM in 2012/13 has been the claim of universal coverage for primary education (98.8 %), regardless of pupils' geographical context (INEE, 2014a). The figures of the 2012/13 academic year confirmed that 92% of primary school students were between 6 and 11 years old (within the ideal age range). However, small percentages of both 12- and 13-year-old children (19% and 6% accordingly) attend primary schools (INEE, 2014a, b). The latter can be explained by the fact that some students may late enrol primary school (i.e. age 6.5+) due to school policies or parents' decisions. Other reasons for staying longer in primary school may have to do with grade repetition, suspension due to grade failure and/or engagement into labour activities (INEE, 2014a, b).

It has been also suggested that 88.4% of lower secondary school students were between 12- and 14-years-old and nearly 10% of 15-year-old pupils are enrolled at this

level (INEE, 2014a; SEP, 2013). In this respect, it should be noted that almost 97% of students who complete primary education move on to lower secondary education. However, the lower secondary school drop-out rate has reached 5.5% in recent years (INEE, 2014a).

One factor that influences student enrolment, attendance and grade progression has to do with children starting work at a very young age. Despite the Mexican Labour Law forbids any type of employment for young children, it was recently estimated that around 1.2 million children (aged 5–14) are performing labour activities (INEGI, 2015). It has also been noted that the percentage of working children located in rural settings tends to be more than double compared with their counterparts living in cities or urban contexts (Hindman, 2009). Other differences between rural and urban children are the working conditions that they face, as indigenous children are more likely to work at a younger age, for longer hours, for much lower pay or no pay at all, and in even more difficult situations than urban working children (Hindman, 2009).

Furthermore, whereas Mexico has largely achieved the United Nations Millennium Development Goals in education by getting most children into school, low student achievement noted in national and international test outcomes has disclosed the poor quality of educational services in the country as well as the high disparities amongst schools serving different student populations (Guichard, 2005; INEE, 2014a; OECD, 2013a).

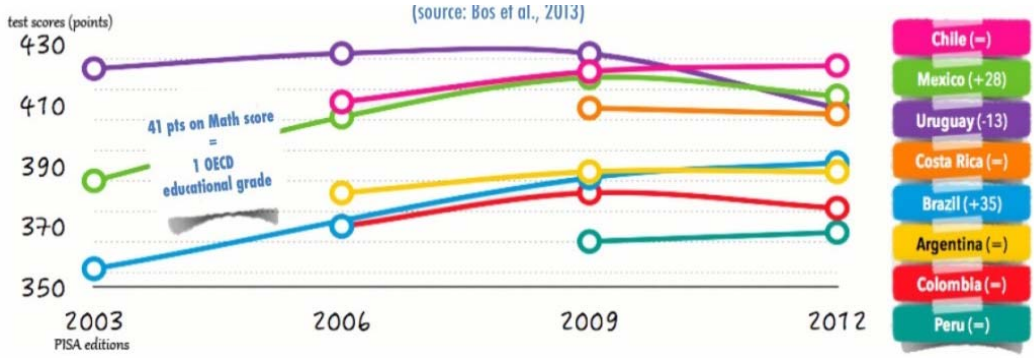


Figure 4 PISA Mathematics scores for Latin American countries (2003-2012)

Basic education students have been assessed in their skills and knowledge by way of three main standardised tests, so far: EXCALE, ENLACE and PISA. EXCALE is a national test designed and conducted by the National Institute for Educational Assessment (INEE). It is applied to a selected sample of students enrolled in basic education with the aim to portray the skills of student population with regard to mathematics and language at different grades of basic education. The sample of students tested in EXCALE is considered representative of the student population and has allowed inferences about the student population in Mexico since 2005 (OECD, 2012).

Regarding primary school pupils, EXCALE test scores (2010) have showed that nearly 60% of third graders possess basic skill levels in Spanish language, whereas 20% of primary third graders possess 'appropriate' language skills. Yet only 2% of such a student population possess 'advanced' skills in language. Furthermore, when observing the results by school type, the proportion of students lacking language basic skills is higher in rural-general schools (27%), community-based schools (26%) and is more acute (50%) for indigenous school students (INEE, 2014b). EXCALE test scores (2010) have also revealed that similar proportions of third graders' populations across the country lack 'basic' mathematics skills (32%) and possess 'adequate' mathematics skill levels (34%). The proportions of pupils possessing 'basic' and 'advanced' mathematics skills by the end of third grade are 18% and 16%, accordingly. By looking at school type, the proportion of students lacking basic mathematics skills becomes significantly higher for indigenous schools (66%), while the proportions of third graders – with same level of skills – attending community-based and general-rural primary schools are similar (38% and 41% respectively). Finally, it has been noted that nearly a third of pupils attending public general schools lack basic mathematics skills, while 43% of third graders attending private schools achieve high scores on mathematics performance (INEE, 2014b).

Similarly, PISA test scores (2012) have revealed that more than 40% of students in 21 countries – including Mexico – fail to reach a baseline level of proficiency (i.e. Level 2) in mathematics, which not only reflects poor academic performance but also the lack of basic skills to participate fully in society (Bos et al., 2014). In the last edition of PISA (2012), 55% of Mexican students could not achieve basic mathematics skill and less

than 5% reached the highest levels (Levels 4–6) of competency in mathematics (OECD, 2013c). Similarly, students' reading test scores on PISA (2012) revealed that 41% of Mexican students cannot reach a basic level of competency and less than 0.5% achieve high levels of skills in reading (OECD, 2013c). Finally, an overview of science test scores revealed that only 2% of Mexican students are located in the highest levels, whereas nearly 51% are located in the intermediate levels (Levels 2 and 3). Still, 47% pupils are located in the bottom levels (Level 1 or below) of performance in science (INEE, 2014a). Despite the fact that significant proportions of Mexican students tested on PISA are located at the bottom percentile for both reading and mathematics skills, it has been argued that there has been an improvement that is suggested by the slight increase in the test scores across PISA editions (Table 12).

Table 12 PISA results for Mexico (2003-2012

	2003		2006		2009		2012	
	Math	*Reading*	*Math*	*Reading*	*Math*	*Reading*	*Math*	*Reading*
OECD	499	494	498	492	496	493	494	496
Latin America	NA	NA	NA	NA	393	408	397	414
Mexico	382	400	406	410	419	425	413	424

In this regard, OECD (2013c) noted the increase on test scores (PISA 2003/2012 editions) for mathematics performance as relevant compared to other OECD countries. Moreover, when comparing the PISA trajectories of other Latin American countries it was revealed that Mexico was the only country in the region that registered a noteworthy reduction (1.1%) in the number of students – male and female – located below Level 2 (mathematics test scores), compared to countries such as Brazil (.8%) (Bos et al., 2014a). It was also noted that Mexico was the only country within the region that showed a slight increase in the proportion of male students reaching the highest levels (5 and 6) in mathematics (Bos et al., 2014b).

However, as highlighted by Bos et al. (2014) and OECD (2013c), the improvement observed in Mexico's trajectory across PISA editions is not yet reflected in the disparities between low-SES and high-SES students' test scores from 2003 to 2012. More importantly, the improvement shown by disadvantaged students (i.e. rural settings, mostly) is not yet significant, as most student populations remain at the lowest percentiles of performance (OECD, 2013c). Finally, according to Bos et al. (2014),

the slow improvement that Mexico has shown is equivalent to nearly two thirds of a school year amongst OECD countries, which represents more than two decades for Mexico to reach OECD average scores (Bos et al., 2014; OECD, 2013c).

Thus, as noted by Guichard (2005), Hopkins et al. (2007) and Puryear et al. (2012), the Mexican education system does not yet provide students with the skills that they need to face international competition. The quality of education, defined as 'the impact of the education system on the academic, economic and social capabilities of students', is low, since most Mexican students fail to acquire the skills necessary to raise their productivity, improve their earnings and help the economy to grow. Furthermore, Mexico has failed to boost the human capital of the poor and reduce inequality, which is reflected in the low performance of low-income pupils in science, mathematics and language skills in primary education and more acutely at lower secondary level (Guichard, 2005; Murillo & Román, 2008; Puryear et al., 2012).

3.4 Oaxaca: A state with highly disadvantaged population, and low school attainment and achievement

According to the Oaxaca State Constitution, the state is divided into 30 districts comprising 554 municipalities (INEGI, 2016b). Accordingly, municipalities comprise cities, villages, towns, ranches and/or communities based on economic importance, number of inhabitants and public services available. Moreover, rural areas in Oaxaca tend to have high concentrations of indigenous people (nearly 45% of the state population) who are considered a vulnerable group due to the extreme poverty and marginalisation facing those groups (INEGI, 2016a). Oaxaca's marginalisation index (measurement of the impact of shortage of school services, adequate housing, size of population and low income) is classified as very high (CONAPO, 2010).

According to National Census data (INEGI, 2016b) Oaxaca is one of the three states with the highest levels of illiteracy in Mexico, reflected in 16% of its population aged 15+ who lack reading and/or writing skills (INEGI, 2016b). The average of schooling years attained by Oaxaca's population is seven years while the a third of the population aged 15+ has not attained full primary education (INEGI, 2016b).

Table 13 Primary education provision in Oaxaca State (INEE, 2014a; 2015

Type of provision	*Type of classroom*	*Schools*	*Students*	*Teachers*
Public				
General	One grade per classroom	1,780	368,117	18,178
	Multi-grade classrooms	1,134		
Indigenous	One grade per classroom	654	138,150	6,765
	Multi-grade	1,078		
Community-based	Multi-grade	742	7,769	800
Private				
General	One grade per classroom	136	18,599	954
	TOTAL	**5,524**	**532,635**	**26,697**

According to INEE (2015), 42% of the whole population of primary schools in Oaxaca are catering for rural municipalities. It has also been noted that 38% of the primary schools of the State are located in localities comprising $\leq$250 inhabitants and more than 80% of all public schools are set in high marginalisation localities (INEE, 2015). It is worth mentioning that Oaxaca's regional educational system faces significant political challenges derived from a section of the teachers' union (22 of SNTE) that have impeded the collection of data from schools (e.g. teacher census, pupil assessment) leading to major gaps in relation to the state of education in Oaxaca. Furthermore, section 22 of SNTE closes schools as teachers go on strike to express their demands causing long disruptions in the school calendar (Lopez, 2010). Thus, as community-based schools are administered by the National Council for Promoting Education (CONAFE), CONAFE schools represent a more 'stable' environment to look at rural schools in Oaxaca which is also representative of the whole multi-grade school population existing in that state (Table 3.7).

3.5 Summary

CONAFE schooling services have catered for rural low density populations for nearly fifty years in Mexico, the growth of the services reflects the importance of community-based schools as the only choice to receive basic education for those living in low density population communities. The States located in the South of Mexico (e.g. Chiapas, Oaxaca, Yucatan) comprise most of the rural –indigenous- populations in the country which historically have been at the low end in social, economic, and educational development. In such states the presence of CONAFE schools is highly important as the only educational services low density populations are likely to access.

Chapter 4 Research methodology

This chapter concerns the process by which the research methodology was chosen for this study and that enabled the research aims and questions to be addressed.

The present methodology sets out a discussion of the aims of the study, the reflection and justification for undertaking a mixed methods approach, the sampling strategy, the data collection methods, and the analytical and ethical considerations for this research.

First, I present the purpose of my study and my research questions (4.1). Then I provide a reflection about the links to the main field guiding this research and their methods, including my views as a researcher, in order to find answers to my research questions (4.2). In section 4.3, I introduce the research methodology adopted for this thesis, which is a mixed-methods approach. I address the research design selected (i.e. triangulated parallel design), highlighting the advantages that it has provided for this study. In section 4.4, I expand on the sampling design variation selected (i.e. multilevel design) by presenting detailed information about the sampling process. After that, I present a detailed description of the instruments used for data collection (4.5), including the relevant aspects of the data collection process such as: access to schools (4.6), ethical considerations and the piloting stage (4.7). Finally, I address the validity issues (4.8) concerning this research and briefly describe the analytical processes (4.9) that I engaged in to produce the findings presented in Chapter 5 of this study.

4.1 Purpose of the study and research questions

As indicated in Chapter 2, this research study aims to contribute to the limited body of knowledge and to fill an empirical gap in the field of SER and SI in Mexico regarding rural and disadvantaged school settings. This study aims to generate a greater understanding of the existing relationships between the schools and their context. Furthermore, this study focuses on finding out the extent of school effectiveness factors that could be influencing school and classroom processes in rural primary schools, and therefore, pupil achievement.

Hence, four research questions have been developed to guide this research:

1. How are CONAFE schooling services run in order to cater for rural low-density populations in Oaxaca, Mexico?
2. What are the main differences in relation to instructional practice in improving schools as opposed to non-improving CONAFE primary schools?
3. What other key differences exist between improving schools and non-improving CONAFE primary schools?
4. To what extent can the presence or absence of SER/SI factors provide account of improvement trajectories for both school groups?

4.2 Research methodology

In order to start thinking of the methods that would suit my research aims described above, it was first necessary to understand how research needs to be conducted systematically (Mertens, 2014). This means that the procedures under which data are collected, analysed and interpreted follow a plan under a framework seeking to understand, describe or even predict a social phenomenon (Burns, 1997).

In order to initiate the design of the plan, it is suggested that researchers are aware of the great influence that their philosophical beliefs and worldview have on the particular approaches that they choose for conducting research (Cohen & Manion, 1994; Mertens, 2014). The fact that researchers are able to proceed without much reflection or understanding of their paradigm does not necessarily imply that their philosophical assumptions are entirely absent (Mertens, 2014). In fact, social inquiry methodology involves not only philosophical assumptions and stances, but also methodologies, methods and socio-political commitments (Greene, 2006). Thus, rather than reflecting much on my ontological and philosophical beliefs, I decided to seek the main approaches for finding answers to my research questions, taking into consideration the three methodological communities in the social and behavioural world: the quantitative tradition, the qualitative tradition and mixed methods (Teddlie & Tashakkori, 2009).

The quantitative research tradition is mostly associated with several features including confirmatory research, a deductive reasoning model (i.e. theory driven), and numerical data and analyses (Teddlie & Tashakkori, 2009). Confirmatory research involves testing propositions based on a specific theory or theoretical framework that is a priori in nature. Moreover, a deductive logic is used to argue from the general (i.e. theory) to the particular (i.e. data points), often using a hypothetic-deductive model. Finally, theory-based hypotheses are usually tested using statistical approaches and designs leading to statistically valid inferences regarding causality and generalisation (Teddlie & Tashakkori, 2009). Contrary to the quantitative tradition features, qualitative research has features that characterise it as mostly exploratory in nature, involving the use of inductive reasoning approaches such as grounded theory, critical theory, phenomenology, biography and case study (Teddlie & Tashakkori, 2009). Almost all qualitative data analysis can be divided into categorical strategies and contextualising strategies (Teddlie & Tashakkori, 2009). Categorical strategies involve breaking down the data into smaller units, which are rearranged to produce categories for a better understanding of research questions (Teddlie & Tashakkori, 2009). Contextualising strategies interpret narrative data as a whole text, including the interconnections amongst the narrative elements (Teddlie & Tashakkori, 2009). Finally, the validity issues are addressed by the extent of persuasion used to convince audiences that the findings – and the researcher – are credible and trustworthy enough so that results can be transferable to other similar settings (Teddlie & Tashakkori, 2009). Finally, as implied by its name, the mixed-method approach combines techniques and approaches found in the qualitative and quantitative traditions.

As my research study involved both aspects of SER and SI, I needed to revise the methods under which both fields could possibly work together not only to provide answers to my research questions but also to strengthen my research findings to influence educational research, practice and policy in Mexico in the future.

In this regard, SER has shown a strong commitment to quantitative methods as its apparatus demonstrates that schools vary in their effects upon student outcomes (Reynolds et al., 2014). Consequently, there has been a tendency to associate SER with the positivist paradigm (see Thrupp, 2001), merely due to the methodological

sophistication that SER has reached in order to identify and measure factors associated with school effectiveness using statistical prediction and explanation of variance in student outcomes (Sammons, 1996; Scheerens & Bosker, 1997). In fact, much criticism towards SER in the past responded to an apparent political positivistic stance (i.e. the need to generalise rather than to understand) taken by SER researchers aiming to test what worked in schools.

On the other hand, SI has followed a qualitative tradition by making the processes of change, rather than student outcomes, their primary focus, along with the exploration of the experiences and perceptions of the participants involved in such processes (Reynolds & Teddlie, 2000; Sammons, 2010). SI has also opted for the construction of case studies of improving or turning around schools that can be seen as more effective, despite the challenging circumstances that they face. Hence, it has been pointed out that the large narrative focus has characterised SI tradition for the past three decades (Sammons, 2010).

Thus, as noted by Sammons (2010) the study of educational institutions is a dynamic cyclical process that can be approached by mixed-method researchers to generate a wider understanding of educational topics and, consequently, strengthen the collaboration of both SER and SI fields (Sammons, 2010). Similarly, in response to the criticism received, SER scholars have claimed their position as pragmatists who work with mixed-methods approaches that are mostly reflected in the production of case studies (e.g. Teddlie & Stringfield, 1993; Gray et al., 1999, Reynolds et al., 2000; Jang et al., 2008) in which the results of statistical analyses of quantitative data have been integrated with thick descriptions – qualitatively produced – of schools and classroom processes (Teddlie & Reynolds, 2001; Sammons, 2010).

Thus, the use of mixed-methods in this research enabled me to address both confirmatory and exploratory questions guiding this research using a deductive and inductive logic within the same cycle. (Teddlie & Tashakkori, 2009). A quantitative approach will permit the testing and the measuring of factors adding more statistical reliability, validity and objectivity to this study, whereas qualitative data and methods

will enrich quantitative findings with comprehensive descriptions of specific cases (Teddlie & Sammons, 2010; Sammons, 2010).

Finally, the combination of different research methodologies also seeks to impact the levels within the system by constructing more compelling stories about how to lever performance effectively and sustainably (Harris et al., 2013). Providing empirical evidence on what school processes in disadvantaged setting aims to construct knowledge base that will benefit stakeholders by promoting more practitioner led research which has proven to be effective in other low-income countries such as Cuba.

Moreover, rather than using complex ways to disseminate findings, research findings should be presented into more digestible accessible forms that can effectively reach and engage practitioners and policy makers (Harris et al., 2013)

As different paradigms work with mixed-method approaches, some reflection on the purposes and aims of this research needed to be done to make sure the paradigm underpinning our mixed-method choice would be the most eligible for guiding the process of answering the research questions as intended.

Pragmatism has been cited by several scholars (e.g. Creswell, Collins, Greene, Johnson, Onwuegbuzie, Mertens, Morse, Tashakkori, Teddlie) as the dominant paradigm in mixed methods challenging the dichotomous way of thinking led by positivism and constructivism and their methods. Other paradigms that work with mixed methods approaches are critical realism and the transformative paradigm (Christ, 2013; Mertens, 2010). Christ (2013) argues that both critical realism and pragmatism are complementary and similar when considering causality and levels of truth that help determine how knowledge is created and judged (Christ, 2010). However, pragmatism endorses seeking ‘what works’ best for answering research questions given the context, resources and aims of research (Teddlie & Tashakkori, 1998; Johnson & Onwuegbuzie, 2004; Jang et al., 2008; Christ, 2010).

On the other hand, the transformative paradigm is a framework that directly engages members of diverse groups (e.g. cultural, social) with a strong focus on social justice that is clearly reflected in its axiological, ontological and epistemological assumptions

(Mertens, 2010). The ways to approach and involve participants in such studies are critical since the principle of justice and human rights is meant to ensure participants bring their voices to research and benefit from it (Mertens, 2010).

Therefore, my reasons for conducting a mixed-method design under the pragmatic paradigm are as follows:

1) Although educational inequity is a major issue in disadvantaged contexts such as those in Mexico, this study aims to provide an in-depth understanding of school processes in rural schools that are administered and run by CONAFE in the state of Oaxaca. Thus, contextual factors will be addressed to enrich the findings but not to strongly focus on educational inequity or social justice. Moreover, by exploring the factors behind achievement improvement trajectories in disadvantaged settings, we aim to portray a few 'against the odds' cases that provide evidence of how and to what extent schools work in adverse settings in countries like Mexico.

2) Using a pragmatic lens I acknowledge the existence of multiple forms of reality and therefore, a pluralistic approach to research by regarding reality as both objective and socially constructed interpreting my participants' views of their reality. However, participants will not be considered as co-researchers or evaluators in this study. Furthermore, ethical considerations – detailed further below – will include respect for their ways and norms of interaction so that interpretation of results will be as objective as possible.

3) As a pragmatist, I can make use of a mixed-method design that suits not only my research questions and aims, but also suits my skills as a novice researcher and the time allocated for conducting this research and the stages involved. Thus, I can use mixed methods for collecting and analysing data from qualitative and quantitative strands so that results from both analyses can be methodologically triangulated and lead to valid and reliable inferences and a more complete picture of an educational phenomenon (Denscombe, 2014; Bryman, 2006; Teddlie & Tashakkori, 2009).

5) Finally, using the standards of rigour of pragmatism will enable the discovery of patterns, the testing of theories and hypotheses, as well as the uncovering and relying

on the best of a set of explanations to understand and portray the results of this study (Johnson & Onwuegbuzie, 2004). Furthermore, the pragmatic stance would allow researchers and practitioners to endorse the follow-up approaches or interventions resulting from this study seeking for larger truths and practical theory applicable in similar contexts (Johnson & Onwuegbuzie, 2004).

4.3 Research design

Mixed-method research has numerous definitions being the most pertinent for this study and its aims the summary by Johnson et al. (2007):

> Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (p.123)

One of the most important advantages of mixed-methods research is the combination of different values and interests from different methodological traditions and paradigms seeking reconciliation of philosophical differences and more insightful evaluative understandings (Jang et al., 2008). Mixed-methods research not only acknowledges a mixed world that allows more than one way of knowing, but also enables the researcher to decide whether the research has a predominant disposition or needs more quantitative or qualitative data (Greene, 2006; Johnson et al., 2007; Cohen et al., 2011). A series of design typologies for mixed-methods research have emerged, based on the number of strands or phases of the study, the type and stage of the implementation process, as well as the priority of methodological approach and functions underlying the study (Teddlie & Tashakkori, 2006). Thus, in order to select a mixed-methods design (out of the nearly 35 mixed-methods designs in existence), the researcher should make a sensible decision of the design based on the time dimension, the purpose for mixing qualitative and quantitative data, the weight importance of each strand and the level of interaction between both strands (Onwuegbuzie & Collins, 2007; Creswell & Plano Clark, 2011). Time orientation is one of the main aspects to consider, as it refers to whether qualitative and quantitative phases of the study occur at the same point in time, independent from one another (i.e. concurrent designs) or

whether these phases occur one after the other, dependent one on the other (i.e. sequential designs) (Onwuegbuzie & Collins, 2007).

One of the main reasons for mixing methods in this study was the need to provide a more comprehensive and integral account of school processes and contextual factors for interactions in rural schools by exploring each of the school levels in a small sample of schools, categorised as improvers and non-improvers. Therefore, a triangulation design was the most appropriate choice as this type of design enables the collection of different but complementary data on the same topic to understand a research problem or phenomena best, as in this study (Morse, 1991). Furthermore, triangulation designs offer the possibility to compare directly and contrast quantitative statistical results with qualitative findings or to validate or expand quantitative results with qualitative data (Creswell & Plano Clark, 2011). Once the triangulated design was chosen, it was necessary to select the combination of timing, weighting and mixing appropriate for this study and the researcher.

It has been argued that educational issues are better approached using different – nested – that which are analysed separately and finally merged into an overall interpretation (Teddlie & Yu, 2007). For the purposes of this research, we intended to obtain data from mainly school and classroom levels, as those have been noted in the literature as the most important levels affecting pupil learning and achievement. The collection of demographic and background information of pupils and their families was also important to feed in the pupil individual level. Hence, a multilevel sampling variant (3.4 in this chapter) aligned with the study aims and the triangulation design (Teddlie & Yu, 2007; Teddlie & Tashakkori, 2009; Creswell & Plano Clark, 2011).

As noted by Teddlie and Yu (2007), multilevel mixed-methods sampling is based on multilevel analysis rather than strands. However, this type of complex sampling also enables combinations of multiple strands of a research study with multiple levels of sampling within strands. Thus, as the questions guiding this research are tightly linked, two concurrent strands (one qualitative, one quantitative) were included within a single multilevel sampling strategy. Furthermore, concurrent designs intend to bring together the differing strengths and non-overlapping weaknesses of quantitative

methods with those of qualitative methods aiming for methodological triangulation (Patton, 1990; Creswell & Plano Clark, 2011). Lastly, a concurrent design matched the amount of time allocated for conducting and finishing this study; thus, both qualitative and quantitative strands were implemented in a single phase during data collection.

As the importance and priority of each strand within a mixed-methods design is reflected in the weight placed to each type of data, concurrent designs offer the possibility for both quantitative and qualitative data to play an equally important role (Creswell & Plano Clark, 2011).

Figure 5 Equal weight of data placed for this study

The use of capital letters (Figure 5) indicates the high importance given to each strand, and + indicates that the two phases work in parallel (Teddlie & Tashakkori, 2009). For this study, equal data weight in which both quantitative and qualitative data were analysed using typical methodological approaches for each strand (Figure 6). Within this concurrent design it was also decided that the level of interaction for both strands (quantitative and qualitative) would be kept independent as part of a parallel tracks analysis as each strand would be generating an understanding of the phenomenon under investigation (Greene, 2007; Teddlie & Tashakkori, 2009).

Finally, as a researcher, one needs to be aware of the advantages that a convergent design offers such as possibility of to verify and generate theories by using both quantitative and qualitative strands leading to inferences about the phenomenon or problem under research. However, this advantage can also represent a challenge, not only during the mixing of data strands but also when obtaining contradictory and inconsistent results (Jang et al., 2008; Creswell & Plano Clark, 2011). Thus, meta-inferences drawn for this study were developed in two stages: at the stage comprising the final group and individual comparisons using data transformation techniques, and the final overall interpretation of results using a narrative approach (Teddlie & Tashakkori, 2009).

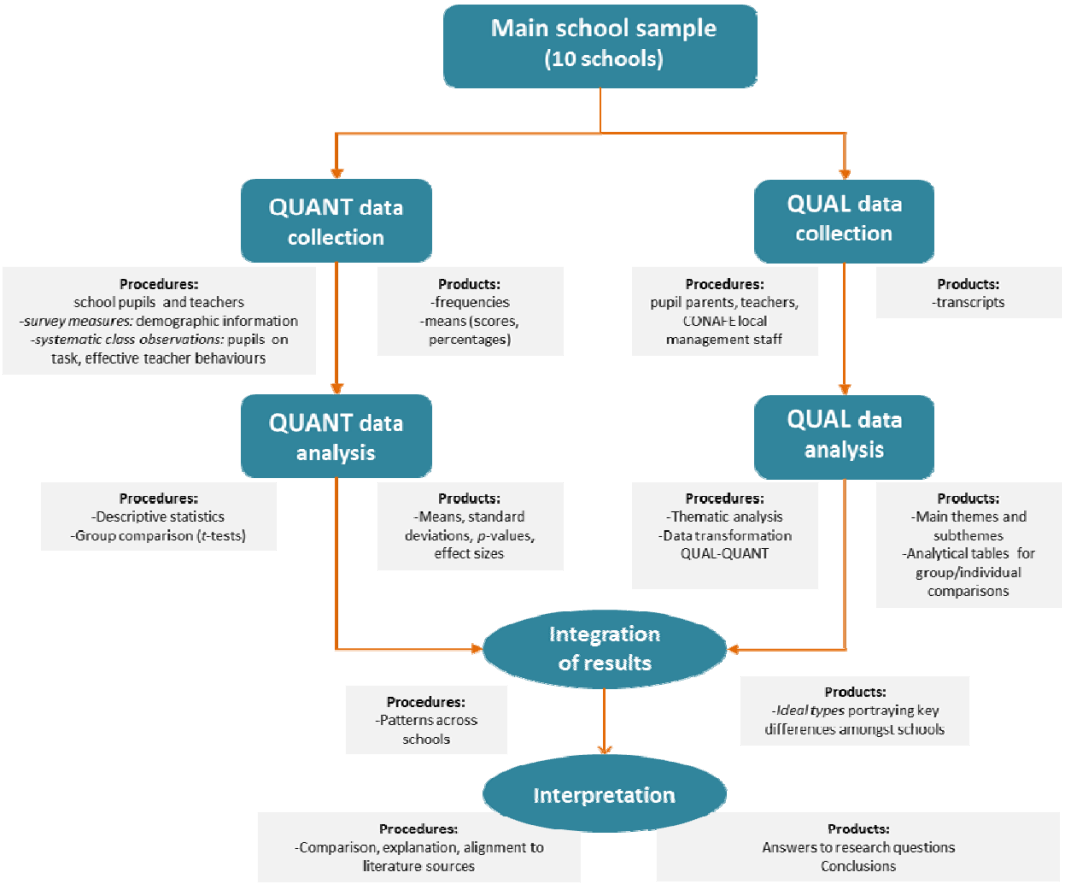


Figure 6 Parallel mixed-method approach used in this study

4.4 Research sampling strategies

Mixed-method sampling decisions are more complicated, since sampling schemes must be designed for both the qualitative and quantitative components of these studies (Onwuegbuzie & Collins, 2007). As noted earlier, the mixed-methods sampling technique selected for this study is multilevel, obeying the literature of SER in which individual, classroom and school levels are the levels that most directly affect student learning and achievement (see Chapter 2). Similarly, as the mixed-method design selected for this study is a convergent – parallel – design, data collection involved important decisions involving who would be selected for the main sample, the size of the sample, the design of the data collection questions, as well as the format and order of the different forms (i.e. quantitative, qualitative) of data collection (Creswell & Plano Clark, 2011).

4.4.1 School main sample

As noted by Teddlie and Tashakkori (2009), purposive samples are often selected using the expert judgement of researchers. One of the main reasons for selecting Oaxaca State to conduct this study was its high number of rural localities as well as the fact that it is one of the states located at the lowest end in relation to educational attainment and achievement (Chapter 4). The exploration of schools in such disadvantaged conditions would enable fair school comparisons using an outlier approach leading to fine-grained descriptions of school operations (Creemers, 1994). Given that the researcher is a native of the region, this could be used as an advantage to ease mobility within the region and to sort out the possible inconveniences during data collection stage.

Thus, we needed to sample schools in Oaxaca that could fit into an outlier method showing opposite school trajectories (i.e. test scores) across time (Creemers, 1994). These two comparison groups in a main school sample would feed in both qualitative and quantitative strands concurrently. The main advantage of using CONAFE schools as the main sample for this study rested in the fact that pupils of almost half of CONAFE primary schools of the state of Oaxaca had been yearly tested on their maths and Spanish skills, which provided us with their state of effectiveness; this was not the case when looking at other rural schools run by the local Ministry of Education (IEEPO).

Therefore, it was necessary to sample two subsets of schools within CONAFE schools of Oaxaca that showed opposite improvement trajectories. An extreme case – outlier – sampling technique was essential for this study, as both comparison groups would yield valuable information to find key differences between them, resulting in answers for our research questions (Teddlie & Yu, 2007; Teddlie & Tashakkori, 2009). The dimension of interest for this type of strategy was student achievement, reflected in pupils' ENLACE national test scores for Spanish and maths in recent years (Teddlie & Tashakkori, 2009). Accordingly, a framework for judging school improvement in CONAFE primary schools was established, using as a reference pupils' performance on the test. ENLACE tests have been applied in virtually all primary schools (third to sixth grades) in Mexico as a way to conduct a census and to obtain an insight into students'

skills, aligned with the curriculum content, in relation to mathematics, Spanish language, and the development of civic and ethical skills.

We established that Year 1 (i.e. ENLACE 2009 outcomes) would be taken as the initial state of effectiveness of schools, which would ideally change over time (Years 2, 3, 4 and 5) and therefore suggest a trend in the schools' improvement trajectories (Gray et al., 1999). Using as a reference Gray et al.'s improvement typology (1999), we determined that schools whose ENLACE test outcomes across five years reflected a downward or a level trend would be classified as 'non-improvers', whereas schools with upward trends in their estimates of effectiveness would qualify as 'improvers' (Figure 7).

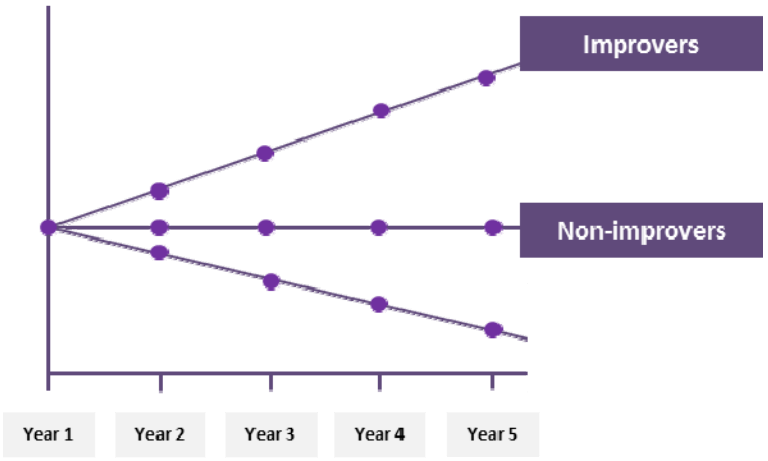


Figure 7 Framework for judging improvement (adapted from Gray et al., 1999)

In this regard, a continuum of yearly ENLACE test results (2009/10-2012/13) was available to the researcher in the form of Excel spreadsheets in order to locate different improvement trajectories for CONAFE primary school pupils and therefore, determine the schools that could fit into the extreme-case sampling criteria.

As test scores on ENLACE are not standardised, it was necessary to look at the distribution of pupils' skill levels (i.e. under-skills, basic skills, medium skills and higher skills) for both Spanish and mathematics that could provide us with a more reliable measurement of pupil achievement. We therefore inferred the extent of effectiveness over time in pupils' skills for Spanish and mathematics by observing the percentages of under-skilled and/or basic skilled students that moved onto higher level skills (i.e. good and excellent) within a period of five years (2009-2013). As trajectories were difficult

to project per school due to small class sizes, schools were finally selected based on the mathematics skills levels observed in Level 2 students comprising third and fourth graders (Appendix 1a) based on the literature (1.2) suggesting that CONAFE third graders score higher than their counterparts served by other sub-systems in Mexico (indigenous, general schools). Finally, choosing pupils' progression of mathematics skills on ENLACE test as a main parameter was a sensible choice, as virtually all class observations conducted for this study involved the delivery of mathematics curriculum content.

Table 14 HDI of municipalities containing school sample (source: PNUD, 2014)

Number of schools	*Municipality*	*Human Development Index*	*CONAFE local management*
1	Pluma Hidalgo	Low	HUAT
1	Santa Maria Huatulco	Very High	
3	San Miguel del Puerto	Low	
2	San Pedro Pochutla	High	POCH
1	San Pedro Mixtepec (Dto 22)	High	PTOE
1	Ocotlan de Morelos	High	CENTR
1	Asuncion Nochixtlan	Very high	

Finally, a purposive cluster sampling strategy was used to generate a more efficient sample in terms of geographical spread of the schools and the time allocated for collecting data (Teddlie & Yu, 2007; Teddlie & Tashakkori, 2009). Thus, the final main sample consisted of ten schools (four non-improvers and six improvers) located in six municipalities of Oaxaca (Figure 8): San Miguel del Puerto, Santa Maria Huatulco, San Pedro Pochutla, Pluma Hidalgo, San Pedro Mixtepec, Ocotlan de Morelos and Asuncion Nochixtlan.

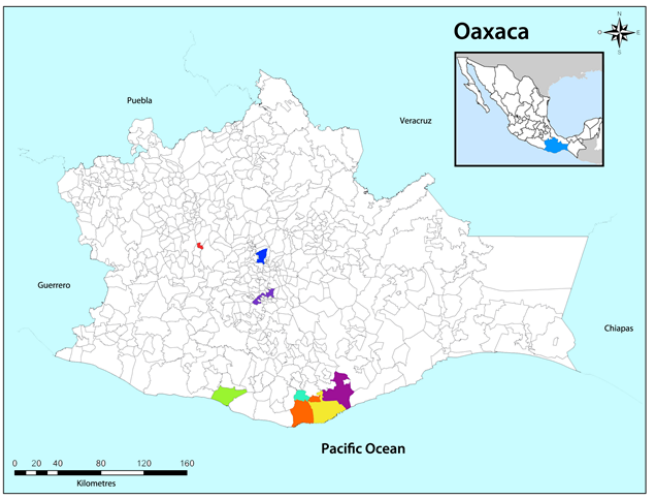


Figure 8 Location of municipalities of Oaxaca containing main school sample (adapted from INEGI, 2010a)

4.4.2 Participant sample

The next stage consisted of selecting the participants from the main sample of schools, considering the extent of quantitative and qualitative data that would appropriately fill each strand for the further integration phase of the mixed-method design selected for this research. The options that convergent designs outline for selecting participants are samples that include different participants or the same individuals (Creswell & Plano Clark, 2011). As schools were rather small in size, it was decided that virtually all individuals of the main school sample would participate in qualitative and quantitative data collection procedures (Creswell & Plano Clark, 2011). A complete collection involving pupils and teachers in each school took place at the classroom level by video recording lessons. Similarly, using a purposive technique (i.e. literacy skills), fourth, fifth and sixth graders were asked to fill in a survey questionnaire to get information about their family background. All teachers (n=16) were asked to complete a survey questionnaire that would be later complemented with a semi-structured interview. Pupils' parents had to be sampled during fieldwork, based on availability and proximity to school. Thus, we conducted semi-structured interviews on pupils' parents – mostly mothers – who would be available and willing to talk about their experiences regarding their children's education and school. The semi-structured interviews addressed some of the concepts that were included in pupil survey questionnaires (e.g. parent expectations) and teacher survey questionnaires and interviews (i.e. parental

involvement) for further comparison and integration. Finally, in order to conduct semi-structured interviews at a district level, we purposively sampled the local management CONAFE staff (i.e. coordinators, teacher trainers and assistants) who closely work, manage and support the teachers and schools of the main sample. However, due to the fact that teacher trainers and assistants are normally on the road visiting schools across the sub-regions, it was necessary to approach them at the first opportunity we had, which was straight after training session days.

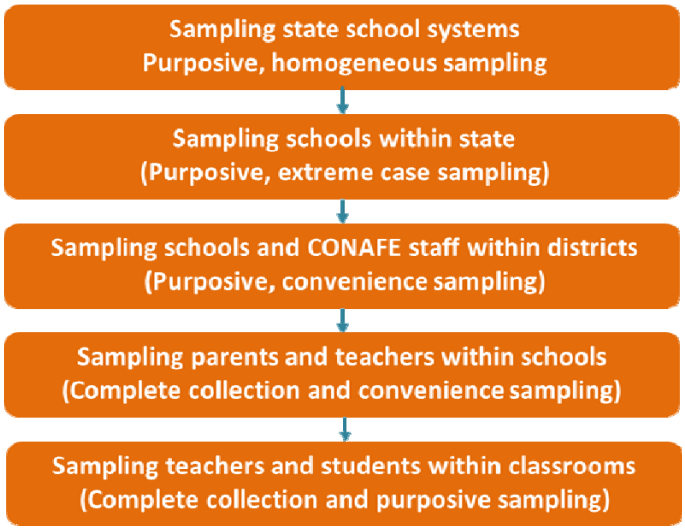


Figure 9 Multilevel mixed-method sampling technique used in this study

4.5 Instruments and methods for data collection

According to Denscombe (2014) there are four main methods of data collection that social researchers can use: questionnaires, interviews, observation and documents. As noted earlier, one of the main reasons for selecting a mixed-method approach responded to triangulation purposes. Methodological triangulation mostly refers to the use of multiple methods to collect data (quantitatively and qualitatively) that will provide the researcher with the confidence that the data generated will yield substantially the same results (Cohen et al., 2011). Thus, the specific instruments and techniques used for collecting data in this study were: questionnaire-surveys, video recorded lessons measured against structured observation scales and semi-structured interviews. Both quantitative and qualitative instruments had parallel themes that would feed in to the two strands of data at different levels for further comparison and overall interpretation (Creswell & Plano Clark, 2011). It should be noted that all

instruments (Appendix 2a) – except for observational scales – were translated into Spanish, since the data collection was conducted in a Spanish-speaking country. It also should be noted that, due to reasons of time and money, the piloting of instruments (4.7 in this chapter) took place just prior to the data collection stage. In this regard, the piloting phase had a main purpose of checking the applicability and appropriateness of instruments in the context of rural Mexico, especially in the state of Oaxaca.

4.5.1 Questionnaire-surveys

Surveys in social research aim to ask people questions by using different distribution means (e.g. telephone, internet, post) and collection methods including questionnaires, interviews, documents and observations. Questionnaires and interviews are the most usual forms of survey and share similar methods (Denscombe, 2014; Bryman, 2012). Moreover, the questionnaire is not only a very useful instrument for collecting survey information but also allows the production of numerical data that can be comparatively straightforward to analyse (Bryman, 2012).

However, some of the disadvantages of using questionnaires include the impossibility of either prompting or probing participants when facing difficulties in answering a question (Bryman, 2012). Other disadvantages associated with questionnaires are the reliance on participants' limited literacy that can potentially lead to missing data (Cohen et al., 2011). Furthermore, participants are likely to become bored while answering a lengthy questionnaire or questions that are not salient to them, which may affect the reliability of their answers (Bryman, 2012)

The aim of applying a self-completion questionnaire was to test and corroborate a number of elements regarding pupil background (e.g. socioeconomic status) and their expectations about school. Two versions (pupil and teacher) of self-completion questionnaires were applied to pupils (i.e. fourth to sixth graders) and all teachers of the main sample of schools. Self-completion questionnaires were ideal for having a wide and inclusive coverage of pupils' and teachers' background characteristics and general perceptions about school. Self-completion questionnaires were administered using both group and individual face-to face contact.

Most of the questions used in pupil questionnaires (see Appendix 2a) were based on the *pupil background questionnaires* that the National Institute for Educational Assessment (INEE) administers when applying EXCALE test to third and sixth graders in Mexico. Similarly, a shorter version of EXCALE teacher questionnaire items (e.g. background, school characteristics, parental involvement) was completed by all teachers of the sample. As noted by Bryman (2012), the use of questions that have been employed by other researchers allows the researcher to use a reliable and valid instrument (piloted and applied beforehand) that otherwise would have taken more time for me to design and test. The items employed in the survey questionnaires had been previously used during as part of EXCALE test (Appendix 2a). Thus, the items used for the survey questionnaires applied in this study have been used validated in their constructs as part of the SER studies conducted in Mexico (e.g. INEE, 2007, Backhoff et al., 2007; Blanco, 2007). In this respect, it should be noted that EXCALE questionnaires have been validated using Rasch models to prove the consistency of the items comprising the scales for school cultural capital, parental support, SES, family conflict and homework assignments, amongst others (Backhoff et al., 2007). Finally, these scales have proven significance and consistency using EXCALE questionnaire Appendix 2b) and are correlated – to some extent – to both maths and Spanish pupil performance (Backhoff et al., 2007).

Closed-ended questions in each questionnaire version are presented with multiple choice answers for each item. Despite the background of pupils, sections of questionnaire could have also been answered by parents to avoid giving pupils a lengthy questionnaire, yet I was not sure whether all pupils' parents would be able to complete questionnaires by themselves due to literacy issues and parent availability.

4.5.2 Semi-structured interviews

Interviews –and questionnaires – rely as their main source of data on participants' answers in which people provide account (self-reports) of what they believe, what they do and what they experience (Denscombe, 2012). Interviewing is the most widely employed method and is mostly associated with qualitative research, with the exception of structured and standardised interview approaches (Bryman, 2012). As

noted by Cohen et al. (2011), the interview is a flexible tool for collecting data, enabling participants to share and discuss interpretations of their world. The interview differs from an everyday conversation in the sense that it has a specific purpose, being question-based and a planned event (Cohen et al., 2011). However, there are factors during this type of 'social encounter' such as mutual trust, social distance and the interviewer's control, which vary from one interview to another (Cohen et al., 2011). Furthermore, interviews rely on verbal interaction between the interviewer and the interviewee that could result in inaccurate data, nonetheless some matters may not be as fully revealed as when utilising other type of instruments such as observations (Cohen et al., 2011; Bryman, 2012).

We used semi-structured interviews for collecting qualitative data from pupils' parents, teachers and CONAFE trainers coordinators in order to know their perceptions and experiences regarding the effectiveness of the schools and teachers, as well as the external factors that influence school and classroom processes. Moreover, the questions used in the interview schedules corresponded to some of the themes comprising the questionnaire-surveys applied to students and teachers.

The reason I decided to use this method for collecting participants' views is the flexibility of semi-structured interviews for approaching participants and following the interview schedule at a sequence that the researcher decides is best, known as the interview guide approach (Cohen et al., 2011). One of the main advantages of this approach is that the researcher can adapt questions depending on the flow of the conversation or even ask further questions in response to what they consider to be significant replies (Bryman, 2012). Nonetheless, this flexibility in sequencing and wording the questions could lead to omission of salient topics and substantially different responses (Cohen et al., 2011).

I had anticipated that some of the main issues while approaching and interviewing participants would involve trusting the researcher and feelings of shyness or reservation at the beginning of the interviews. Thus, I intended to achieve rapport with my participants by creating a positive – receptive – environment (especially for parents and pupils) in which they would feel comfortable to speak to me. I also addressed the

questions of my interview schedule (see Appendix 3) in the most natural way possible, following the flow of a conversation and keeping my participants as motivated as possible (Cohen et al., 2011; Bryman, 2012).

Semi-structured interviews were conducted using two main forms: group and individual interviews.

4.5.3 Individual interviews

The aim of interviewing pupils' parents was to get their insights regarding the school administration, their perceptions of teachers and the extent of involvement they possessed regarding school matters. Prior to data collection, we were aiming to approach a 'typical' parent sample for conducting individual interviews. However, during fieldwork it was noticeable that parents would be especially busy during the day. Thus, it was necessary to approach parents who would be willing to spend at least 30 minutes of their time to be interviewed by the researcher. Pupils' mothers would be especially more reachable within the school area and, therefore, more available and willing to speak about their children and the school. Three grandmothers were interviewed as they performed the parental role for their grandchildren and, therefore, they are directly involved with their education and school. Similarly, two joint interviews took place as both parents were willing to take part in the interview.

The CONAFE coordinators whom we selected for conducting semi-structured interviews correspond to each of the main areas where the main sample of schools was located. Interviewing CONAFE coordinators provided us with data at school district level which would unfold the presence of factors strongly correlated with school- and classroom-level processes, especially those involving instructional practice.

Finally, we had originally planned to conduct individual interviews with CONAFE teacher trainers and assistants to establish their views and experiences regarding the factors influencing teacher motivation and teaching in CONAFE schools. However, I took the opportunity to conduct a group interview as these participants happened to be available at the same time after a training session day (Bryman, 2012).

4.5.4 Systematic observations (structured observations)

Classroom observation was decided as the instrument that would provide us with data involving teacher-pupil interaction and effective teaching within CONAFE primary school classrooms. It was also noted the need for a technique that would ease the analysis of classroom observations and that could be corroborated using other instruments applied at the same level, such as pupil and teacher questionnaires and semi-structured interviews.

Observation as a research instrument offer the potential to yield more valid or authentic data as it provides a reality check, gathering data from naturally occurring social situations (Cohen et al., 2011). According to Morrison (1993), observations enable the researcher to collect data on settings such as the physical, the human, the interactional and the programme settings (Morrison, 1993). Moreover, observational data should enable the researcher to enter and understand the situation that is being described (Patton, 1990). Observations available for researchers can go from unstructured, which are not clear on what they are looking for, to highly structured observations where categories and objectives are set in advance (Cohen et al., 2011). It is also noted that the role of researcher follows a continuum from the complete observer (i.e. completely detached participation) to the complete participant, who can be considered as part of the group as an insider (Cohen et al., 2011). However, the use of observation as a data collection method suggests that data could vary depending on the observer and their role during observation, as well as the way that behaviour is recorded in the event being researched (Denscombe, 2014; Bryman, 2012). Therefore, I decided to assume a complete observer role by recording videos (3 hours per teacher) of early morning lessons in each of the schools of the sample (Cohen et al., 2011).

As noted in Chapter 2, the vast majority of the evidence on SER suggests that schools can make a difference to student achievement and most of that difference is attributed to classroom-level factors (e.g. Scheerens et al., 1989; Creemers, 1994; Sammons et al., 1997; Creemers & Kyriakides, 2008). Thus, classroom observation has been one of the main methods of enquiry in teacher effectiveness research. However, the development of valid and reliable instruments for class observation has proved a

challenge for covering a range of concepts and variables (i.e. behaviours) that can facilitate comparison across contexts (Kington et al., 2014).

It should be noted that previous international studies involving classroom observation suggest that some concepts and variables related to teaching and learning travel better than others (e.g. Rutter et al., 1979; Creemers et al., 2003). Thus, the observation protocol used for gathering classroom data for this study comprises measures based upon other instruments such as the QUAIT instrument (Quality of instruction, Appropriate level of interaction, Incentive and Time) and the Virgilio Teacher Behaviour Inventory (VTIB) (Reynolds et al., 2002; Kington et al., 2014).

By using QUAIT measures (based upon the Special Strategies Observation Systems and the Classroom Activity Record) as pupil on-task code scheme, we intended to measure the frequency of off-task student behaviour using the 'snapshot' approach (Schaffer et al., 1994; Evertson & Burry, 1989). A 'snapshot' of the classroom represents a moment within the course of a lesson, observed to see the number of students that are on task and off task, including waiting and out-of-class pupils (see Stringfield & Teddlie, 1991). By completing a series of snapshots using set intervals (e.g. five minutes) during the class, the overall percentage of students' on- and off-task behaviour for that class period can be estimated. Finally, the overall engagement rate of the students during the observation period can be measured via calculating the means for each behaviour (Schaffer et al., 1994).

The second part of the observation coding scheme used for this study consists of a series of teaching behavioural indicators using the VTIB measures (Teddlie et al., 1990; Virgilio et al., 1991). By observing the frequency of teacher behaviour on the schedule, the observer/researcher generates numeric data (using pre-coded responses) that can enable further analysis of the most significant variables related to effective teaching.

Thus, using structured observation approaches eases the search for specific aspects of behaviour in pupils and teachers that can be systematically collected and transformed into numeric data and, therefore, be quantitatively analysed (i.e. variables), facilitating the comparison between settings and situations (Cohen et al., 2011; Bryman, 2012; Denscombe, 2014).

Finally, it should be noted that this study uses a blended instrument that has proven applicability and appropriateness in a variety of settings as revealed in the International School Effectiveness Research Project (ISERP). ISERP's evidence suggests that factors measuring classroom management, quality of instruction and classroom climate not only reveal significant effects on student outcomes over time but, also, a tendency for such factors to operate similarly and be associated with gain in different contexts (Reynolds et al., 2002). Generic variables such as *time on task* are yet significant, regardless of the settings, providing a strong basis for classroom observation in international settings (Schaffer et al.,, 1994; Reynolds et al., 2002; Kington et al., 2014).

As noted by Cohen et al. (2011), more reliability could be achieved once the observer has practised enough to handle the categories and time intervals that comprised the observation schedule. Therefore, one of the main advantages of using lesson video recordings was the amount of practice that I was able to obtain in managing both video footage and the class observation schedule, which also served as a pilot stage. To determine reliability, one thirty minute segment of a lesson video was measured against the ISERP instrument by two observers separately and simultaneously. The degree of agreement between the observers was 94% across the fifty items of ISERP being the lowest agreement (60%) for the *Classroom Management Techniques* subset and the highest (93%) for the *Demonstrating skills in questioning* subset. Therefore, the observed Cohen's *kappa* obtained (0.91) suggested no indications of systematic observer differences.

Table 15 Participant distribution based on instrument type

Participant type	*Survey-questionnaires (QUANT)*	*Structured classroom observations (QUANT)*	*Semi-structured interviews (QUAL)*
Teachers	16	3 per teacher	16
Pupils	98		
Parents	0	0	30
Local managers	0	0	3
Teacher trainers/assistants	0	0	3 (group)
TOTAL	**114**	**48**	**49**

4.6 Access to schools

An important stage in defining and approaching the sample was to secure access and cooperation from schools. When it was decided that CONAFE schools of Oaxaca State would constitute the main sample for this research, I contacted CONAFE regional authorities via email, describing the value and aims of this study. I also included a brief description of the nature and the value of participants' involvement.

CONAFE state management replied to my email, showing great interest and willingness to cooperate during the data collection phase. Once the sample of ten schools was decided, I requested their opinion to make sure that those schools would not represent too great a challenge in terms of travelling and accessing communities as a solo researcher. They confirmed that the schools were at a reasonable distance from main townships or municipalities, thus commuting to schools would likely be possible, as anticipated.

I requested a meeting with one of the main coordinators as soon as I reached the city of Oaxaca. During that meeting I was asked for a visit schedule, including the dates in which data would be collected at each school so that CONAFE local managers would be informed via email of my presence in their schools. During a second visit to the regional offices of CONAFE in the city of Oaxaca, I was provided with ten letters addressed to the APEC (Parental Association for Communal Education, in Spanish) presidents of each community requesting their cooperation during data collection. I handed over the letters as soon as I arrived at the communities and, in response, the presidents of the APEC called a meeting to inform people officially the presence of a researcher in the community.

Each of those letters – signed and stamped by one of CONAFE's main coordinators at a state level – not only enabled data collection in each of the schools and the communities, but also provided the researcher with the same benefits that teacher trainers and itinerant pedagogical assistants have (i.e. shelter and meals) when they visit schools.

4.6.1 Ethical considerations

As noted by Cohen et al. (2011), ethical issues are closely related to the methods that social scientists use to obtain valid and reliable data when researching social – educational – phenomena. In consequence, social researchers are expected to approach their task following an ethic of respect for all the people who directly or indirectly participate in investigations (Denscombe, 2014). Ethical standards for research are well documented by many professional organisations such as the *British Educational Research Association* (BERA) in the UK (Teddlie & Tashakkori, 2009). I opted to operate under the BERA guidelines (BERA, 2011) that consider that 'all educational research should be conducted within an ethic of respect for the person, knowledge, democratic values, the quality of educational research and academic freedom'.

Moreover, planning for institutional research board approval (IRB) required determining the level of risk that the study might pose on participants' psychological, physical or social wellbeing (Teddlie & Tashakkori, 2009). Thus, before data collection took place, I had to reflect and write about my role as a researcher and the possible ethical implications that my work was to have for both the participants and CONAFE as an institution. Some of the main concerns that were addressed while soliciting ethical approval from the Ethics and Research Governance of the University of Southampton involved possible stress children may suffer while answering some questions regarding their family background. Therefore, it was pointed out that all children participating in this study would be facilitated to either give fully informed consent or state their right to withdraw the study if they felt any sort of distress.

4.6.2 Voluntary informed consent, confidentiality and anonymity

Much social research needs the approval and cooperation of subjects who are to participate either directly or indirectly in investigations (Cohen et al., 2011). Furthermore, informed consent refers to a participant's agreement to participate in a research study with explicit understanding of the risks involved (Teddlie & Tashakkori, 2009).

Following the BERA guidelines, I sought appropriate consent from local authorities before moving on to collective and individual approaches to consent within the rural communities. Thus, I informed CONAFE local managers of the schools and procedures where I intended to collect my data. Once I had my first meeting with them, I made sure that I addressed their concerns and queries regarding my study. I also showed them the consent forms that I had developed to secure ethical approval from ERGO at the University of Southampton and that needed to be signed by participants (Appendix 1f, 1g, 1h). The corresponding consent form (CONAFE authority version) was signed and the letters for each community APEC president were issued. Informing and getting gatekeepers' approval did not represent an issue due to the great interest that they showed in the outcomes of this study.

As noted earlier, CONAFE issued the letters introducing the researcher to APEC's presidents and requesting their support for the researcher during data collection. However, I needed to seek informed consent with regard to young children, which meant consulting and seeking permission from the adults responsible from those children, and then approaching the young children themselves to get their explicit consent (Cohen et al., 2011). During the meetings held by the APEC presidents after my arrival to each community, I introduced myself and explained the aims of the study, making sure that all pupils' parents understood not only the value of their participation but also the extent of participation needed from their children. Consent forms were given to participants during those meetings, highlighting and addressing the issues regarding anonymity, confidentiality and the right to withdraw from the study at any time and for any reason. It was also highlighted that pupils would also be given the choice to withdraw from the study, even if their parents had signed the consent forms.

Issues regarding the safety of the children were addressed by guaranteeing that all the phases of data collection would take place within the school setting so that the teacher(s) would be around to monitor – and even help – during pupils' participation. The meetings held by APEC presidents served as ice-breakers to come to know pupils' parents and to clarify any questions regarding their participation and the study aims.

Obtaining consent from teachers was also crucial, since they were video recorded throughout their lessons, recorded during interviews and asked to fill in questionnaires. After emphasising that measures were being taken to keep participants' answers and identities anonymous and confidential, teachers did not show any resistance or reluctance to participate in the study. Teachers were helpful when explaining to children what type of participation was needed from them and securing their consent, accordingly.

4.7 Piloting of instruments phase

As noted by Cohen et al. (2011) and Bryman (2012), conducting a pilot before administering a self-completion questionnaire or structured interview schedule to the actual sample is always desirable, especially to increase the validity and practicality of the instruments.

The pilot study was conducted in one CONAFE school just before data collection took place. As noted earlier, due to issues of time and money I aimed to conduct all data collection in a single phase. Although the instruments had been used before in other studies and validity issues were addressed before fieldwork, I decided to pilot the instruments in a single CONAFE primary school, mainly to see how the administration would occur in the real setting and, therefore, address any weaknesses prior to the actual data collection stage.

In general, the piloting process gave me valuable information about the quality of my instruments and I managed to make the necessary corrections for the main data collection phase. The school chosen for the pilot study was sampled along with the other ten schools of the main sample. This school belonged to the slow improving schools group, and it is located in Central Oaxaca.

The pilot gave me the experience of getting to know the setting and the basic concepts under which CONAFE schools operate. For instance, the school used for the pilot worked as a 'shared classroom', which means that pupils from two levels (i.e. primary and pre-primary education) receive instruction in the same classroom and from the same teacher. CONAFE shared classrooms are normally found in communities in which the minimum number of pupils is not yet achieved –or constant throughout the years – to install a pre-primary school, in most cases. Therefore, shared classrooms are often primary schools in which pre-primary school pupils ($\leq$4) are allocated so that they receive schooling services.

As my study aims focused on primary schools, I needed to make sure that my sample of schools did not contain any shared classrooms whose features would definitively interfere with the data collection processes and instruments. I spoke to CONAFE local managers in charge of the schools of my main sample about the importance to my study to have only primary schools. CONAFE local managers confirmed that most of the schools of my sample were primary schools at that time, apart from one in Santa Maria Huatulco, so I made the necessary adjustments to replace that with another school fulfilling the criteria and moved on to actual fieldwork.

As noted earlier, the items of both questionnaires had been used in other studies conducted in Spanish speaking countries – including Mexico – in recent years. However, the piloting of such questionnaires revealed that some pupils may struggle to respond to items such as 'What is the highest educational level that your father/mother achieved?' so, I decided to include 'I don't know' as an answer choice for a few of the items in the pupil background section (Cohen et al., 2011). Moreover, a few of the questions had to be rephrased or shortened so that pupils would understand the questions in a more straightforward way.

4.8 Research validity and reliability

Research validity and reliability rely on procedures to ensure the quality of the data generated in a study. In mixed-methods research, data quality is normally determined by the separate standards of quality in the qualitative and quantitative strands. This means that if both data fulfil the standards for assessing validity and reliability for each

type of data, then the mixed study will have high overall quality of data (Teddlie & Tashakkori, 2009).

Quantitative data is often assessed in terms of measurement validity and reliability. Measurement validity refers to whether a particular instrument measures what it intends and, therefore, the data represents the constructs that were assumed to be captured (Cohen et al., 2011; Teddlie & Tashakkori, 2009). Moreover, quantitative researchers evaluate their data quality in terms of measurement reliability, which refers to whether the data consistently and accurately represents the constructs under examination (Teddlie & Tashakkori, 2009). For the research to be reliable, it needs to demonstrate that it could be replicated under similar conditions and group of respondents so that similar results would be produced (Cohen et al., 2011).

On the other hand, qualitative research is based on understanding the social reality experienced by participants in a research study (Teddlie & Tashakkori, 2009). As noted earlier, qualitative data need to be assessed by whether – or not – the researcher's writings are credible for those participating in the study. Moreover, the qualitative data is assessed using the dependability criteria – a substitute for quantitative reliability – which is concerned with the extent to which variation in a phenomenon can be explained consistently using 'the human instrument' across different contexts (Lincoln & Guba, 1985).

As noted earlier, we took some measures to address the validity and the reliability of the instruments to ensure that the data was collected in the most accurate form possible. Furthermore, the integration (i.e. point of inference) of both qualitative and quantitative results also generates validity issues. Thus, I was aware of the validity issues facing during the integration phase such as: representation, legitimation and integration (Onwuegbuzie & Johnson, 2006). Representation is the difficulty of representing lived experiences using text, in general, and numeric and words in particular. Legitimation refers to the difficulty of making inferences that are credible, trustworthy, dependable, transferable and/or confirmable (Onwuegbuzie & Johnson, 2006). Finally, integration issues involve the use and combination of quantitative and

qualitative methods, including their own canons of validity, to address the purposes of mixed-methods research studies (Onwuegbuzie & Johnson, 2006).

4.9 Data analyses

As previously discussed in this chapter, my methodological approach is a mixed-methods parallel design: quantitative + qualitative. Within this design, I have used both methodological and data triangulation, as my data come from more than one source and different data collection methods were employed (see 4.5 in this chapter). The intended parallel mixed data analysis for this study aimed to bring findings from each strand into convergent meta-inferences (Teddlie & Tashakkori, 2009). However, instead of fully aligning to a parallel track analysis (as noted in Chapter 4), I somewhat allowed my two sets of parallel analyses to talk to each other (i.e. cross-talk analysis) as I noted some divergent results were coming from my quantitative analysis and it became noticeable how the some levels of the data (quantitative and qualitative) were greatly influencing school and classroom processes.

4.9.1 Analysis of pupil and teacher survey questionnaires (quantitative strand)

Questionnaire data was entered using SPSS software to produce a descriptive statistical analysis of pupils and teachers of the school sample. The descriptive analysis considered mainly frequencies, portraying participants' demographic and background data (5.1.1, 5.1.2).

3.9.2 Analysis of classroom observation video recordings (quantitative strand)

Forty-six video lessons were transformed into quantitative data (i.e. activity codes, row scores and percentages), as they were measured against two structured observation scales: the teacher professional development scale (also known as ISERP) and OTL. Data was input into SPSS software to conduct a descriptive statistical analysis considering mean scores and standard deviations obtained for each of the variables comprised in each instrument (5.1.3). After the descriptive analysis, I performed a series of independent *t*-tests (5.1.4) as a statistical technique to establish whether two means collected from independent samples (i.e. improving and non-improving schools, novice and returning teachers) differ significantly (Field, 2013). I also calculated

Cohen's size effect (*d*) for each of the mean score differences between the independent samples as a way to measure the magnitude of the effect to evaluate the research findings beyond the *p*-values obtained (Field, 2013).

4.9.3 Analysis of semi-structured interviews (qualitative strand)

Each interview was transcribed and imported into *NVivo* software for qualitative data analysis. A thematic analysis approach was selected as an accessible method for analysing patterns of meaning in a dataset (Braun & Clarke, 2006). Thematic analysis allowed me to identify patterns in the data, based on explicit content and surface meanings of the data. The analytic process involved iterative coding leading to the creation and organisation of a series of themes summarised in categories for further interpretation in relation to previous literature (Braun & Clarke, 2006). *NVivo* software enabled the categorisation of the themes using participant demographic information so that further comparisons (i.e. coding matrices) could be made during the data integration stage.

4.9.4 Integration of qualitative data: cross-case comparison and ideal types

The meta-inference stage was highly important as the quantitative and qualitative data analyses did not fully converge when looking for key differences between school types (i.e. improving and non-improving). The integration of both data strands was conducted in two stages: a data conversion stage and a full integration of patterns found using a narrative approach.

Thus, the main themes and sub-themes that resulted from the thematic analysis were first converted into numerical data enabling further – individual and group – comparisons, based on the inferences of the quantitative analysis stage (see Chapter 5). Finally, the data were integrated, reduced and summarised in *ideal type* descriptions illustrating three main agents: the school community, teacher and local management support levels. The purpose of conducting ideal types was to obtain an adequate reduction of the empirical data as a sort of qualitative taxonomy that could serve for further comparisons for similar concrete phenomena and agents (Gerhard, 1994).

Chapter 5 Findings

This chapter focuses on the presentation of the findings from both quantitative and qualitative data strands, which were analysed according to the methods described in Chapter 4 (4.9) with the aim of establishing key differences between two groups of schools (i.e. improvers and non-improvers) comprising the main sample for this study.

The findings that emerged from the data analyses are presented in two stages separately, each corresponding to a data strand. In the first part, quantitative data findings are presented in form of participants' data overview and classroom observation results of statistical tests. In the second part, the salient themes and sub-themes that emerged from the qualitative data are presented and followed by a series of analytical tables to enable individual and group comparisons across the school sample.

Lastly, qualitative data findings are reduced, integrated and presented by way of five *ideal types* comprising the school main agents involved in CONAFE school processes.

5.1 Quantitative results

The data presented in this section are merely descriptive and rely on the answers of survey questionnaires that were administered to teachers and pupils (fourth to sixth graders) in the school sample. The answers reported in this descriptive section correspond to questionnaire items that have been used and validated as socioeconomic and sociocultural pupil background indices in previous quantitative studies conducted in Mexico (Appendix 2b). The descriptive data on teachers aim to portray the main background characteristics of CONAFE teachers of the school sample and whose class observation results are presented in section 5.2 of this chapter.

5.1.1 Pupil data overview

The survey-questionnaire was applied to 98 pupils of CONAFE primary schools in the main sample: 45 pupils enrolled in the non-improving school category and 53 pupils enrolled in the improving school group. While equal proportions of female (47%) and male (47%) pupils in the whole sample were found, the non-improving group appeared

to have fewer male pupils than the improving school group. A small proportion of pupils in the sample (6 %) who did not state their gender corresponded to the non-improving school group.

Table 16 Distribution of pupils by gender for both school groups

School category	*Gender*	*Frequency*	*%*
Non-improving	Male	15	33.3
	Female	24	53.3
	no answer	6	13.3
	Total	45	100.0
Improving	Male	31	58.5
	Female	22	41.5
	Total	53	100.0

The distribution of pupils according to their grade is similar for both school groups, being fourth grade pupils, the largest proportion of pupils in the sample (40%) for both groups.

Table 17 Distribution of pupils by grade for both school groups

School category	*Grade*	*Frequency*	*%*
Non-improving	4	19	42.2
	5	12	26.7
	6	14	31.1
	Total	45	100.0
Improving	4	20	37.7
	5	19	35.8
	6	14	26.4
	Total	53	100.0

Virtually all pupils in the sample reported Spanish as their mother language and the language that they speak both at home and at school. Interestingly, 22% of pupils in the non-improving school group reported having grandparents who spoke a different language from Spanish. Only 6% of pupils in the improving group reported indigenous languages spoken within their lineage.

Most pupils (75%) in the sample reported being beneficiaries of an aid programme targeted to students (i.e. Prospera); however, a slightly greater proportion of *Prospera* programme beneficiaries (78%) were found in the non-improving school settings. Most

pupils in the sample reported living with both of their parents (82%), while 14% of pupils stated that they live with their mother only. A very small proportion of pupils (4%) reported living with their father or with a close relative (i.e. grandmother). The data suggested that there are more pupils living with both of their parents (87%) in improving-schools than pupils in non-improving schools (76%).

More than half of the pupil sample (56%) reported that their fathers' main occupation was related to farming activities, while 22% of pupils' fathers are employed in basic skills services (e.g. plumber, mechanic, taxi driver, construction worker). A very small proportion of fathers in the pupil sample (4%) were reported as working in more skilled or stable jobs (e.g. police, army). Data suggested that in improving school communities the proportion of fathers working in more basic skilled services is higher (28%) than in non-improving school communities.

Nearly 72% of pupils reported that their mothers worked in the home, performing household tasks exclusively. The remaining percentage correspond to mothers that are housekeepers but are also engaged in community shared activities (6%), farming activities (2%) or managing to sell products within the community (13%). The proportion of pupils' mothers who are more actively involved in commerce activities seems higher (18%) in non-improving school settings, according to pupils' reports.

Regarding household conditions, nearly 90% of the pupils reported having a plain cement floor in at least one of the rooms (i.e. bedrooms, mainly). Most pupils in the sample (95%) of pupils' households have a toilet and/or shower room. Nearly two-thirds of the pupils in the sample reported sleeping in a room with more than two people (i.e. overcrowding), and 98% of pupils in the sample reported having no internet or telephone landline in their homes. Regarding books in pupils' households, 28% of the pupils in the sample reported having none at all and 30% of the pupil sample reported having ten or fewer.

Despite that 22% of pupils in the sample reported owning more than 50 books, the proportion of pupils having this many books in their households appeared higher (26%) amongst those attending improving schools. Moreover, nearly two-thirds of the pupil sample (61%) reported having occasionally been on holiday. Nearly 20% of pupils for

both groups in the sample reported having frequently gone on holidays, and only 13% of pupils in the sample said that they had travelled just once. A small proportion of pupils (5%) reported not having travelled on holiday at all, and this proportion was slightly smaller (4%) for pupils in the non-improving schools.

According to the data reported by pupils in the sample, 55% of their mothers had accessed primary school education and 20% attained lower secondary school education. A minimal proportion of pupils' mothers (3%) were reported as having accessed higher educational levels; 10% of pupils reported not knowing the educational level that their mothers had attained. The data also suggested that the proportion of pupils' mothers that had accessed lower secondary education is higher (25%) in improving-school settings compared to the proportion of mothers (16%) in non-improving schools.

In the sample, it was reported that 54% of pupils' fathers attained primary school education. A small proportion of fathers (13%) had accessed lower secondary and only 6% attained upper secondary education. Moreover, 6% of pupils' fathers were reported as attaining higher levels of education. It was noticeable that more pupils in the improving school group (25%) reported not knowing the educational level attained by their fathers and a slightly higher proportion of pupils' fathers (16%) were reported as attaining lower secondary school education in non-improving schools.

When asked about their school attainment expectations (Table 18), most pupils in the sample reported higher education as the highest educational level that they would like to attain. However, greater proportions of pupils expecting to reach higher and upper secondary school education were found in the improving school group. It was also noted that none of the pupils in the improving school group mentioned primary school education as the only level to which they would like to aspire, whereas 15% of pupils in the non-improving school group said they only expected to complete primary education.

Table 18 Pupils' expectations for educational attainment (both groups

School category	*Educational level*	*Frequency*	*%*
Non-improving	Primary school	7	15.6
	Lower secondary school	3	6.7
	Upper secondary school	5	11.1
	Higher education	29	64.4
	Total	44	97.8
	no answer	1	2.2
	Total	45	100.0
Improving	Lower secondary school	3	5.7
	Upper secondary school	6	11.3
	Higher education	43	81.1
	Total	52	98.1
	no answer	1	1.9
	Total	53	100.0

5.1.2 Teacher data overview

The main school sample comprised ten CONAFE primary schools and 16 teachers: eight teachers were based in non-improving schools and eight were allocated to improving schools. Teachers comprised in the main sample worked under four CONAFE local managements (Figure 10), however nine teachers the sample belonged to one local management (HUAT).

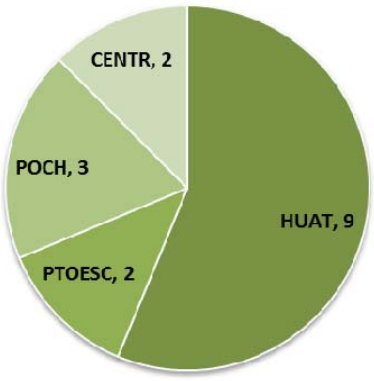


Figure 10 Distribution of teachers by CONAFE local management

All teachers in the school sample reported upper secondary school as their highest qualification achieved. Twelve CONAFE teachers were aged between 18 and 20 years old and had just graduated from upper secondary school. Seven teachers were in their first year of teaching (i.e. novice), six teachers were in their second year of teaching,

and only three teachers reported having worked in CONAFE schools for more than two years (Figure 11).

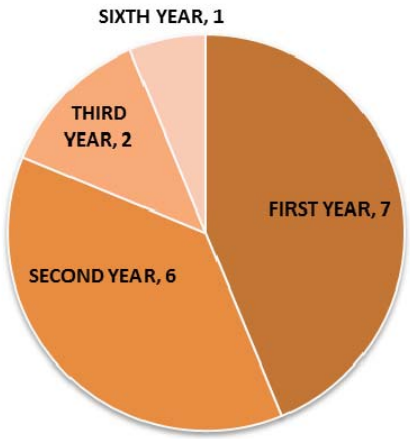


Figure 11 Distribution of teachers by years in service

Regarding the number of pupils allocated per teacher, most teachers (n=12) were noted having 12 or fewer pupils under direct instruction, and four teachers provided direct instruction to more than 12 pupils. Due to the small class size (<16 pupils), three schools of the sample had only one teacher – teaching all grades – and seven schools had two teachers providing primary school instruction. Due to the fact that multi-grade instruction in CONAFE schools takes place by levels instead of grades (i.e. two grades are equivalent to one level), the distribution of teachers according to the number of levels taught can be seen in Figure 12.

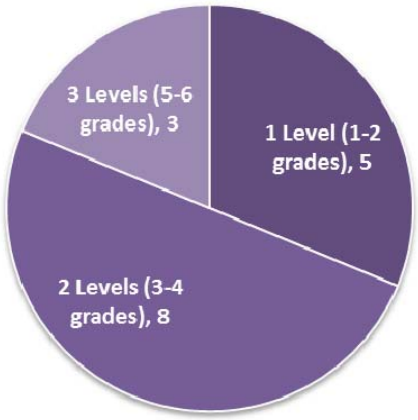


Figure 12 Distribution of teachers by levels taught

Regarding school infrastructure, most teachers found the conditions of their classrooms somewhat inadequate, especially for the number of pupils receiving instruction, and this was especially noted by teachers (*n*=5) allocated to non-improving schools. The adequacy of light in the classroom was positively perceived by most teachers of the sample, but opinions on the adequacy of furniture and blackboard in the classroom were equally divided.

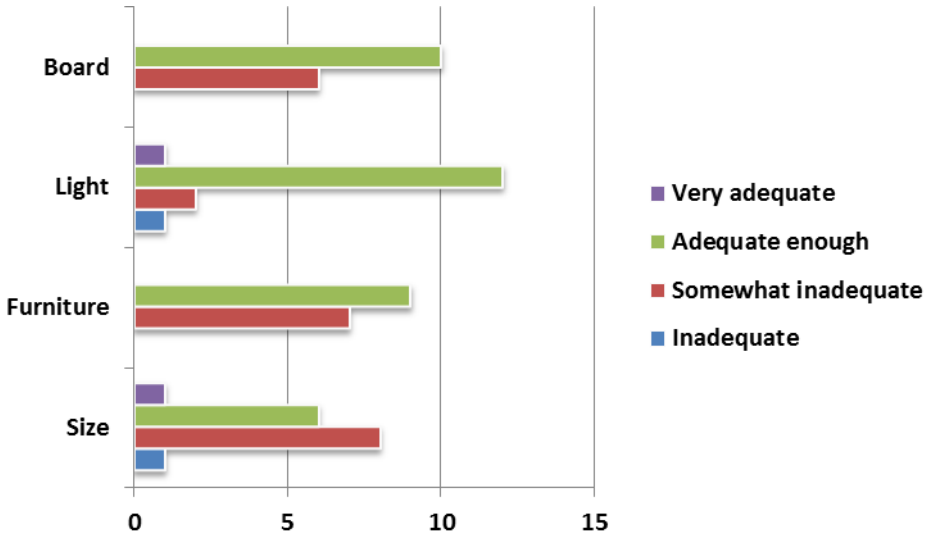


Figure 13 Teachers' views on classroom infrastructure state

5.1.3 Classroom observation descriptive analysis

The dataset contains information about 46 video lessons recorded in ten CONAFE primary schools of Oaxaca, Mexico. Lesson videos were measured against two internationally validated observational instruments: The *Teacher professional development scale* (also known as ISERP) and *Opportunity to learn* (OTL).

OTL has a focus on the percentage of class time spent in several classroom activities with an emphasis on pupil time on task. OTL also describes the quantity of teacher variables focusing on five classroom activities: (1) whole-class interaction, (2) whole-class lecture, (3) individual/group work, (4) classroom management, and (5) testing-assessment.

ISERP scale measures teachers various teacher behaviours against a four-point scale ranging from 1 (rarely), 2 (occasionally), 3 (often), and 4 (consistently). ISERP contains seven domains which focus on 50 teacher behaviours. The six domains are (1)

classroom management techniques, (2) maintaining appropriate classroom behaviour, (3) attention and focus on the lesson, (4) providing students with review and practice, (5) demonstrating skills in questioning, (6) demonstrating a variety of teaching methods, and (7) establishing a positive classroom climate. It should be noted that in this study only one item of the ISERP was abandoned (i.e. teacher or students summarise the lesson) due to the nature of the multi-grade classroom setting.

OTL

As shown in Table 19, on average, teachers allocated nearly half of the lesson time to pupils' individual or group work; the second largest proportion of class time (21%) was spent on management activities. Assessment activities took 12% of the class time, while whole-class lecture and interaction represented by the lowest proportions (5% and 7% respectively) in the distribution of instructional time. Similarly, it was noted that 71% of pupils on average were on task throughout the lesson.

Table 19 Means and standard deviation of teacher scores on OTL (whole sample

Activity	*N*	*Mean (%)*	*SD*
Whole-class interaction	46	7.25	15.58
Whole-class lecture	46	4.89	8.16
Individual/group work	46	54.73	24.46
Management	46	21.26	17.51
Assessment/testing	46	11.87	16.15
Students on task	46	71.41	14.06

ISERP

The frequency of seven main subsets of teacher behaviours (49 items) was measured in each lesson observed. On average, highest scores on ISERP scale suggested that CONAFE teachers are more consistent in the display of behaviours associated with *classroom management techniques* (*M*=2.77, *SD*=0.61) and with *skills in questioning* (*M*=2.5, *SD*=0.34). The lowest scores correspond to teacher's behaviours associated with *attention and focus on lesson* (*M*=1.97, *SD*=0.61), and the *variety of teaching methods* used (*M*=1.93, *SD*=0.65) as illustrated in Table 20.

Table 20 Means and standard deviations of teacher scores on ISERP subsets (whole sample)

Teacher Professional Development (ISERP)	*N*	*Mean*	*SD*
Classroom Management Techniques	46	2.77	0.61
Appropriate Classroom Behaviour	46	2.41	0.46
Attention and focus on lesson	46	1.97	0.61
Review and practice	46	2.11	0.31
Skills in questioning	46	2.50	0.34
Variety of teaching methods	46	1.93	0.65
Classroom Climate	46	2.73	0.53

5.1.4 Testing for differences between improving and non-improving teacher groups

As explained in Chapter 4 (4.4), within the sampling strategy we relied on test scores to select two types of schools for the main sample: non-improving and improving schools. The main observation sample (*N*=46) was split in two independent samples, each corresponding to the type of school in which teachers were observed. Data were therefore screened seeking possible differences between both independent samples (Table 21).

Table 21 Means, standard deviations and effect sizes of teacher scores on OTL (improving and non-improving school groups)

Activity	*School type*	*n*	*Mean (%)*	*SD*	*d*
Whole-class interaction	Improving	23	6.16	12.36	0.1
	Non-improving	23	8.33	18.46	
Whole-class lecture	Improving	23	6.16	9.80	0.3
	Non-improving	23	3.62	6.06	
Individual/group work	Improving	23	57.64	24.76	0.2
	Non-improving	23	51.81	24.35	
Management	Improving	23	17.88	17.60	-0.4
	Non-improving	23	24.64	17.13	
Assessment/testing	Improving	23	12.15	19.26	0.0
	Non-improving	23	11.59	12.75	
Students on task	Improving	23	73.38	16.07	0.3
	Non-improving	23	69.45	11.76	

According to Table 21, teachers allocated to improving schools outscore their counterparts in the amount of time spent on *whole-class lecture*, *individual/group work* and *assessment*. Non-improving school teachers appeared to score higher in *whole-class interaction* and *management* activities. Moreover, the mean differences between both teacher groups suggested that improving school teachers had more pupils on task than the teachers allocated in non-improving schools. In order to compare the apparent differences between both groups' mean scores, a series of independent sample tests were conducted.

T-tests indicated that there were not significant differences between both groups at $p<0.05$. However, a medium effect size (Cohen's convention) was found for the analysis on management score differences (d=0.40).

With regards to teacher scores on ISERP scale, frequency means suggested minimal differences between both groups in the display of different behaviours associated with

each of the subsets. According to the data, the improving school teacher group showed higher scores than its counterparts in all subsets comprising ISERP.

After conducting a series of statistical tests, no significant differences were found between the mean scores for both groups of teachers in all subsets of ISERP at $p<0.05$, except for the *Review and practice* subscale (Table 22). An independent sample *t*-test indicated that scores on the *Review and practice* subscale were significantly higher for teachers allocated in improving schools (M=2.64, SD=0.56) than for those teaching in non-improving schools (M=2.41, SD=0.36), $t(44)=2.257$, $p<.05$, d=0.7. However, the subset analyses for medium effect sizes (d=0.4) were found for *Classroom management techniques*, *Appropriate classroom behaviour*, *Variety of teaching methods* and *Positive classroom climate* subset analyses.

Table 22 Means, standard deviations and effect sizes of teacher scores on ISERP subscales (improving and non-improving school groups)

ISERP subscales	*School type*	*n*	*Mean*	*SD*	*d*
Classroom management techniques	Non-improving	23	2.63	0.59	0.4
	Improving	23	2.90	0.61	
Appropriate classroom behaviour	Non-improving	23	2.31	0.43	0.4
	Improving	23	2.51	0.48	
Attention and focus on lesson	Non-improving	23	1.88	0.66	0.3
	Improving	23	2.05	0.56	
Review and practice*	Non-improving	23	2.41	0.36	0.7
	Improving	23	2.64	0.34	
Skills in questioning	Non-improving	23	2.46	0.32	0.2
	Improving	23	2.54	0.36	
Variety of teaching methods	Non-improving	23	1.80	0.64	0.4
	Improving	23	2.07	0.65	
Classroom climate	Non-improving	23	2.62	0.51	0.4
	Improving	23	2.84	0.52	

**Significant at 0.05 level*

***Significant at 0.01 level*

When looking at mean differences between both groups for each of the items comprised in ISERP subscales, the data suggested that teachers in improving schools

outscore their counterparts in 36 of the 50 items. Nonetheless, independent sample *t*-tests indicated that scores were statistically higher for improving school teachers in only five of the individual items of ISERP (Table 23). Due to some of the data failed to meet normality assumptions, a series of non-parametric tests were conducted (see Appendix 2e.3). The analyses of group differences in individual items of ISERP also revealed medium and large effect sizes for 17 of the items on ISERP (Appendix 2e.1). Interestingly, a large effect size (1.0) for the analysis of one of the items (i.e. teacher clearly explains tasks) was found to exceed Cohen's (1988) convention for a large effect (*d*=0.8).

We can therefore conclude that few statistical differences were found when comparing teachers' scores on OTL and ISERP, based on the type of the school in which they are allocated.

Table 23 Means, standard deviations and effect sizes of teacher scores on ISERP individual items (improving and non-improving school groups)

ISERP individual items	*School category*	*n*	*Mean*	*SD*	*d*
The teacher uses time during class transitions effectively*	Improving	23	2.43	0.73	0.8
	Non-improving	23	1.87	0.76	
The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly*	Improving	23	3.00	0.80	0.7
	Non-improving	23	2.35	1.03	
The teacher uses a reward system to manage student behaviour*	Improving	23	1.57	0.84	0.7
	Non-improving	23	1.13	0.46	
The teacher clearly explains tasks**	Improving	23	3.04	0.47	1.0
	Non-improving	23	2.48	0.67	
The teacher displays a positive tone*	Improving	23	3.22	0.42	0.7
	Non-improving	23	2.87	0.55	

**Significant at 0.05 level*

***Significant at 0.01 level*

5.1.5 Testing for differences between novice and returning teachers

For this stage of analyses, the main observation sample (*N*=46) was split in two groups using teachers' experience as a criterion. The screened data (Table 24) suggested major differences between both teacher experience groups in OTL teacher scores. According to the data, novice teachers spend more lesson time on whole-class lecture, individual/group work and management than returning teachers (Table 14). The data

also suggested that returning teachers outscore their counterparts in the allocation of time for *whole-class interaction* and *assessment* activities. Furthermore, the returning teacher group appeared to have more students on task than the novice teacher group.

When testing for statistical differences between both teacher groups, an independent sample *t*-test indicated that the number of students on task was significantly higher for the returning teacher group (M=76.41, SD=12.7) than for the novice teacher group (M=67.22, SD=14.02), $t(44)=2.31$, $p<.05$, d=0.7. No statistical differences were found when comparing mean scores for both groups in any of the activity types of OTL.

Table 24 Means, standard deviations and effect sizes of teacher scores on OTL (novice and rerun teacher groups)

Activity	*Experience*	*n*	*Mean (%)*	*SD*	*d*
Whole-class interaction	Novice	25	5.33	12.93	0.3
	Return	21	9.52	18.31	
Whole-class lecture	Novice	25	4.67	8.70	0.1
	Return	21	5.16	7.67	
Individual/group work	Novice	25	53.03	25.59	0.2
	Return	21	56.75	23.51	
Management	Novice	25	22.45	19.43	0.2
	Return	21	19.84	15.25	
Assessment/testing	Novice	25	14.52	13.24	0.4
	Return	21	8.73	18.91	
Students on task*	Novice	25	67.22	14.02	0.7
	Return	21	76.41	12.70	

**Significant at 0.05 level*

Data were screened to seek differences between novice teachers and returning teachers in their scores on ISERP subscales. Returning teachers appeared to outscore their counterpart in all ISERP subscales. Thus, a series of independent sample *t*-tests (parametric and non-parametric) were conducted to test the differences suggested by the data.

The statistical tests conducted indicated that returning teachers significantly outscore their counterparts in four of the seven subscales of ISERP. Moreover, medium and high

effect sizes were found in most analyses, apart from the mean score differences for the *Classroom management techniques* subset.

Regarding the *Appropriate classroom behaviour* subset, an independent sample *t*-test indicated that scores were significantly higher for the returning teacher group (*M*=2.59, *SD*=0.37) than for the novice teacher group (*M*=2.26, *SD*=0.49), *t*(44)=2.52, p<.0.5, *d*=0.8. Returning teachers also showed significantly higher scores (*M*=2.18, *SD*=0.73) than novice teachers (*M*=1.79, *SD*=0.43) in the display of *Attention and focus on the lesson* behaviours, *t*(31)=2.13, p<.0.5, *d*=0.7. Levene's test indicated unequal variances (*F*=6.25, *p*=.004), so degrees of freedom were adjusted from 44 to 31.

Another independent sample *t*-test indicated that the scores on the *Review and practice* subset were significantly higher for returning teachers (*M*=2.69, *SD*=0.40) than for novice teachers (*M*=2.39, *SD*=0.29), *t*(44)=2.89, p<.01, *d*=0.9. The effect size for this analysis (*d*=0.9) was found to exceed Cohen's convention for a large effect. Finally when testing differences between both groups on the *Skills in questioning* subset, an independent sample *t*-test revealed that returning teachers significantly outscore (*M*=2.61, *SD*=0.37) their counterparts (*M*=2.40, *SD*=0.28), *t*(44)=2.16, p<.05, *d*=0.6.

Table 25 Means, standard deviations and effect sizes of teacher scores on ISERP subscales (novice and returning teacher groups)

ISERP subscales	*Experience*	*n*	*Mean*	*SD*	*d*
Classroom management techniques	Novice	25	2.74	0.50	0.1
	Retun	21	2.81	0.73	
Appropriate classroom behaviour*	Novice	25	2.26	0.49	0.8
	Retun	21	2.59	0.37	
Attention and focus on lesson*	Novice	25	1.79	0.43	0.7
	Retun	21	2.18	0.73	
Review and practice**	Novice	25	2.39	0.29	0.9
	Retun	21	2.69	0.40	
Skills in questioning*	Novice	25	2.40	0.28	0.6
	Retun	21	2.61	0.37	
Variety of teaching methods	Novice	25	1.77	0.64	0.6
	Retun	21	2.13	0.63	
Classroom climate	Novice	25	2.62	0.49	0.5
	Retun	21	2.86	0.55	

**Significant at 0.05 level*

***Significant at 0.01 level*

Lastly, data for both groups were screened for each of the items of ISERP scale. Data suggested that returning teachers had higher scores on 45 of the 49 items of ISERP. A series of independent sample *t*-tests (Appendix 2e.5, 2e.6) indicated that returning teachers had significantly higher scores than novice teachers on 13 ISERP items (Table 25). Medium and large effect sizes were found in the mean score differences for 27 items of ISERP (see Appendix 2e.4).

Table 26 Means, standard deviations and effect sizes of teacher scores on ISERP subscales (novice and returning teacher groups)

ISERP individual items	*Experience status*	*n*	*Mean*	*SD*	*d*
The teacher uses time during class transitions effectively*	Novice	25	1.92	0.64	0.7
	Return	21	2.43	0.87	
The teacher corrects behaviour immediately*	Novice	25	2.88	0.67	0.8
	Return	21	3.33	0.48	
The teacher corrects behaviour accurately*	Novice	25	2.52	0.82	0.8
	Return	21	3.00	0.45	
The teacher monitors the entire classroom*	Novice	25	2.16	0.55	0.7
	Return	21	2.57	0.60	
The teacher has an educational focus*	Novice	25	2.80	0.65	0.8
	Return	21	3.29	0.64	
The teacher uses a brisk pace*	Novice	25	1.96	0.68	0.6
	Return	21	2.43	0.81	
The teacher offers effective assistance to individuals/groups**	Novice	25	2.56	0.51	0.9
	Return	21	3.10	0.62	
The teacher is approachable for students with problems*	Novice	25	2.64	0.49	0.6
	Return	21	2.95	0.50	
The teacher uses a high frequency of questions*	Novice	25	2.76	0.88	0.6
	Return	21	3.29	0.78	
The teacher asks open-ended questions*	Novice	25	2.96	0.61	0.6
	Return	21	3.38	0.74	
The teacher guides pupils through errors*	Novice	25	2.00	0.65	0.8
	Return	21	2.52	0.75	
The teacher clears up misconceptions*	Novice	25	2.88	0.33	0.6
	Return	21	3.14	0.48	
The teacher uses manipulative materials/instructional aides/resources*	Novice	25	1.72	0.79	0.6
	Return	21	2.19	0.75	

**Significant at 0.05 level*

***Significant at 0.01 level*

5.1.6 Summary of quantitative findings

The data results of the pupil survey questionnaire suggested important differences between both school groups in relation to the socioeconomic status (SES) and sociocultural level (SC) of pupils' families, as well as pupil expectations for school attainment in the future. The data reported that pupils in the improving school group

have higher SES and SC and also possess higher expectations to attain higher educational levels than pupils attending non-improving schools.

The results of the teacher survey questionnaire revealed that most teachers in CONAFE primary schools are secondary school graduates aged between 18 and 20 years old who are in their first year of the teaching programme. Variations in the number of grades (levels) taught by each teacher were found, as class sizes varied across the school sample. Most teachers do not find their classroom conditions completely inadequate or fully adequate. However, classroom size was reported as inadequate especially for large class size groups (>20 pupils).

Overall, the results of the analyses conducted on the main sample of teacher observations (*N=46*) suggested that more differences are found when looking at teachers' differences, based on their experience rather to the schools in which they are allocated. However, the few statistical differences along with medium and high Cohen size effects found in the comparison between improving school and non-improving school teachers suggest a tendency in improving school teachers to score higher in effective teaching behaviours.

5.2 Qualitative data findings

5.2.1 Overview of CONAFE-parent partnership for community-based schooling services

As noted in Chapter 3 (3.2), low-density populations in Mexico located in mountainous or isolated areas do not fulfil the criteria to be allocated a general school, as the number of pupils per grade varies every year. Thus, in order to access school services in those populations, children's parents directly approach the corresponding CONAFE local management, who will guide them into the requirements and processes to establish and run a community-based school. As part of CONAFE main requirements to provide schooling services, pupils' parents (via a parent committee) will take on responsibility for constructing and maintaining existing school infrastructure. This also involves applying and collecting available school resources that can take the form of school furniture, supplies or budget. The responsibility for taking care of resources also includes the provision of care, sustenance and shelter to the teacher(s) designated to

the community that is extended to CONAFE staff visiting the community. APEC presidents must also commit to attend meetings at CONAFE local premises for receiving training and collect school resources whenever their presence is requested. Agreements between CONAFE and parent committees are signed not only to set aims and commitment to keep schools services running, but also as codes of conduct to which both parties will adhere to during the corresponding school year.

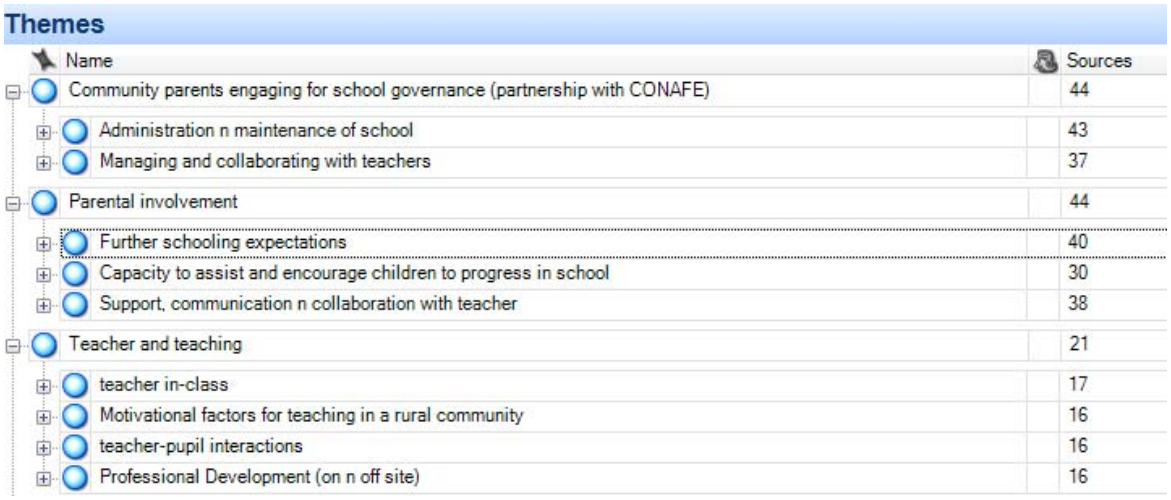
The very first months of every school year are crucial for first year teachers to decide whether to stay or leave the teaching programme, as they deal with diverse issues once they are immersed in their communities. As a cautious measure, CONAFE local management staff (i.e. trainers and assistants) support teachers during the community-immersion stage in order to minimise teacher desertion that could hinder children's progress and learning. Similarly, teachers are expected to attend monthly training sessions aimed to enhance their subject knowledge and lesson preparation skills for delivering curriculum content in the following weeks. During in-service sessions, teachers are also expected to submit administrative work in relation to pupil attendance and maks.

5.2.2 Participant interview data

The qualitative data include 36 interviews conducted with pupils' parents and 16 teachers on the school site and six interviews with CONAFE local management staff working with the schoolteachers (e.g. trainers, assistants and coordinators) of the main sample of schools. Interview data were analysed using *NVivo* software to ease thematic analysis, following Braun and Clarke's procedure (2006).

The following sections outline the main themes and sub-themes (Table 27) emerging from the analysis of interview transcripts; despite each theme being presented and expanded on separately, they are not mutually exclusive. Interview extracts are cited for the purpose of illustrating the most representative narratives, capturing the themes and sub-themes of the participant responses. Most participants (i.e. parents and teachers) are labelled under IMP and NONIMP to make reference to the group of schools that they represent. Local management staff are labelled under HUAT, PTOESC, POCH and CENTR to identify the region that they represent.

Table 27 Main themes and sub-themes from interview data analysis



Themes	
Name	Sources
Community parents engaging for school governance (partnership with CONAFE)	44
Administration n maintenance of school	43
Managing and collaborating with teachers	37
Parental involvement	44
Further schooling expectations	40
Capacity to assist and encourage children to progress in school	30
Support, communication n collaboration with teacher	38
Teacher and teaching	21
teacher in-class	17
Motivational factors for teaching in a rural community	16
teacher-pupil interactions	16
Professional Development (on n off site)	16

5.2.3 Main Theme 1: Parental engagement for school governance

One of the main threads emerging from narratives of the participants is the importance of parent committees (APECs) as parental engagement agencies for school governance. According to the data, committee presidents play a key role in involving parents into decision-making processes towards effective management of the school and its resources. As one interviewee said:

> It's my first year (as president) and it's a bit of effort... attending meetings in Huatulco (CONAFE premises), organise meetings with parents who sometimes disagree... one is responsible for leading them… they expect that. (APEC President, NIMP)

The parental committee (APEC) represents the parents of each community who will manage the school(s) and educational services running throughout the school year. APECs are generally integrated by a president, a vice-president, a treasurer and two spokespeople. According to the data, there is not a single approach under which APEC members are appointed. The selection of committee presidents would vary depending on parents' availability to carry on the committee's duties and –in some cases – their literacy skills to be able to submit forms and sign agreements with CONAFE local management. For example, one interviewee said:

> when my son first enrolled into primary school my husband became APEC president by draw, nobody would volunteer to be part of the committee. (Mother, NIMP)

Finally, parent committees sign an agreement – on behalf of all parents – with CONAFE local management committing to comply with the requirements for receiving educational services and school resources available for both teachers and pupils.

Managing school needs and resources

This sub-theme captures participants' views on the ways and extent the stakeholders on site engage as a whole in decision-making processes and joint collaboration to sort out school needs regarding infrastructure.

As part of the initial agreement signed with CONAFE local management, parents must meet at least once a month to discuss the monthly work plan that teachers generally deliver once they are back from training sessions. According to the data, parents and teachers can also raise other school matters to be discussed during meetings. Commenting on meetings, one of the interviewees said:

> We hold meetings every month... when a new teacher arrives or when teachers need to inform us about something... (Mother, NIMP)

Attendance to meetings is crucial for parents and teachers to make decisions that most parents are in favour of and therefore, commit as a whole. In all communities, parents – especially fathers – may be absent from meetings for various reasons. However, it is APEC's responsibility to manage absenteeism to guarantee fair decision-making processes and short-term solutions. Participants' narratives suggested that constant absenteeism can lead to feelings of unfairness and blame on people for not sorting out issues in due time. As one interviewee put it:

> that's why there have been problems, because some people do not attend meetings and one feels is a waste of time. (Grandmother, NIMP)

Data noted that some APECs have implemented the payment of fines as a way to guarantee parents' attendance and participation in meetings and collective activities. The data suggested that applying this type of measure maximises attendance to meetings. However, high fines can negatively impact parent commitment and collective activities.

> they (parents) no longer participate willingly. They do it because they do not want to pay the fine. They do show up, but they barely participate or work… (Teacher, NIMP)

However, in other settings the payment of fines is seen as a fair measure rather than a punishment or a way to raise funds, this may be related to low fee charges. Another interviewee, when asked about attendance to meetings said:

> everybody attends meetings… there is certain allowance though. We pay 20 pesos (£0.8) if we exceed that. (Mother, IMP)

Data suggested that decision-making processes would be highly influenced by parents' readiness to construct agreements and the current APEC presidents' skills to mediate and guide discussions towards effective short-term solutions. In this regard, it was noted by the researcher that in some cases reaching to an agreement would involve long and even heated discussions. The comment below illustrates such:

> there are occasions in which everybody agrees, we all agree. But sometimes… it's not that easy, and… there are conflicts, but at the end we manage to sort things out (Mother, NIMP)

In this regard, fundraising was noted as another key element when making decisions about school. It was noted by the data that decisions are more easily made when parents are willing to allocate money of their own to sort out school matters. Commenting on putting money in school matters, one of the interviewees said:

> everything can be sorted out… willingly but… some (parents) disagree, they feel 20 pesos (£0.8) is too much to give out of their pockets… others don't mind much… (Mother, NIMP)

However, as noted in the comment below in some cases, school needs are put on hold until external funding applications are processed.

> parents are narrow minded… they don't want to put money into school… they expect to be funded by the borough council to sort things out otherwise they just refuse (APEC President, IMP)

According to the data, APEC's presidents can play an important role in engaging parents into fundraising approaches that would ease the collection of money and

enhance positive collaboration amongst stakeholders. Talking about the practices for fundraising, one interviewee said:

> last year we raffled some kitchenware that people donated. We got plenty so we did not ask parents for money for nearly half a year. (APEC Member, IMP)

Thus, when fundraising approaches are set in place by APECs to raise funds continuously, parents would likely show less resistance in putting large sums into school matters. As one interviewee said:

> the crops that are grown in the school allotment are sold… that money is allocated to school needs. (Teacher, NIMP)

The extent of effective organisation that APECs and parents can achieve also reflects the internal relationships and unity amongst parents living in communities. The data revealed that, despite most communities comprising family members, mixtures of non-family and family members were also found within the communities. The data suggested that internal relationships of community parents may be positively enhanced when socialisation activities are promoted or supported by APEC presidents. As illustrated in the comment below, community socialisation might enhance feelings of belonging and, therefore, increase parental engagement into school matters and decisions.

> we invite the whole community to the parade (Independence Day) they come and when it's over we have a gathering, we eat and thank everybody… we integrate everybody. (APEC Member, IMP)

It was also noted in the data that parents in some communities that promote integration and socialisation as a whole are more prone to conceive themselves as a whole unit taking care of school responsibilities and collaborating for school aims. However, a very different scenario suggested by the data is when parents refuse to participate in any social activity regardless of who promotes such (i.e. teachers or APEC presidents). Talking about this issue, one interviewee said:

> we (parents) only disagree when it comes to organising gatherings… we have decided to be one of those (families) who prioritise children's learning over socialisation activities. (Father, IMP)

Data also showed that some schools are serving children who do not live in the community. Parents of pupils from other communities may see in CONAFE a more affordable system on which they need not spend as much as on general schools, due to the annual resources that are allocated to CONAFE students, such as uniforms and school supplies. It was noted that APECs and parents may make agreements to enrol those pupils in the school as a strategy to maintain the school size necessary ($\geq$4) to keep the school services running for a few years more. Parents of pupils attending a nearby community school will therefore commit to share responsibilities with the rest of the parents evenly.

Moreover, in collaborative parent communities, APEC presidents would find it easier to promote a positive climate of trust in which suggestions, complaints, and ideas are openly communicated enhancing school governance and achievement of goals as a whole. As one interviewee said:

> they (committee) have money… they should be buying something for the school… such as detergent, bleach… They (teachers) do not have those for cleaning the school. (Mother, NIMP)

By contrast, lack of trust and communication within parent communities – including APEC presidents – will inevitably hinder the relationships amongst stakeholders who may have concerns or ideas related to school matters, but will not openly communicate those. As one interviewee put it:

> we once had a very good teacher and we wanted him to stay for another year, but the president did not pay attention to us so we couldn't submit our request to CONAFE management. (Mother, NIMP)

Furthermore, it was noted that in some cases parents would not openly disagree with APEC presidents to avoid conflict. This kind of climate between APEC presidents and parents would likely weaken their capacity as a whole to support teachers and staff. One participant commented:

> When I tell them I need some material, they (parents) immediately start arguing about the money involved... so I don't feel they willingly support me (Teacher, NIMP)

Another interviewer alluded to the notion of the reception of donations and resources for the school:

> it depends on who the president is, some people don't like to get up early (to go get donations for school)… but we need to make an effort so that we don't have to put money of our own for many things. (Mother, NIMP)

Finally, it was noted that all primary schools (i.e. multi-grade classrooms) in the sample possessed the basic infrastructure to operate: a classroom made of concrete, chairs, library corners, tables and blackboards. Furthermore, it was noticeable that most improving schools in the sample have managed to extend and maintain further education services in recent years (i.e. lower-secondary multi-grade classrooms).

Managing and relating to teachers

This sub-theme comprises participants' narratives regarding the communication, attitudes and expectations towards teachers that mainly derive from the responsibility parents have over teachers allocated to the community.

According to participants' narratives, parents generally acknowledge the fairness of the agreement as to take care of teachers in exchange for their work and the effort placed into educating their children. One participant commented:

> they (teachers) do their best... they are supporting us... they want to get some funding to progress... and one supports them with shelter, meals... they are very young so they do their best. (Mother, IMP)

It was noted that in each of the communities the rota for serving meals to teachers along the school year was in place and participants were already used to it. Moreover, in some cases parents would also share with APECs the load of administrative work that needs to be submitted to CONAFE local management to keep track of teachers' job. As one interviewee said:

> we agree all, who is going to manage the teachers' register and so on... (Mother, IMP)

The data suggested that all parent communities follow CONAFE's lead in setting up rules for guiding teachers' behaviour which are adapted to the context of the

community and in some cases considering the former experiences they had. Commenting on rules for teachers, one of the interviewees said:

> we make an agreement. Let's say, by 8pm the gate of the school should be locked and the teachers should be in their room. If they need to go out at night, they must ask for permission. (Mother, IMP)

Moreover, the data suggested that some parents and APEC members would also care for the emotional wellbeing of teachers while settling in the community. The comment below illustrates how parents would show concern and approach teachers:

> I sit next to them (teachers) to serve more food if they like… and to ask them how they feel, what they think of the community, to make them feel comfortable and supported. (Mother, IMP)

It was noted that supporting teachers in their emotional state not only opens the lines of communication between both parties, also eases teachers' adaptation process, preventing them from dropping out. As one interviewee put it:

> if we don't support them, it's relatively easy for them to drop out… many (teachers) do that (Mother, IMP)

Regarding the behaviour expected by teachers, it was noted that community parents would show either paternal or authoritarian attitudes especially towards young inexperienced teachers. Such attitudes are likely shaped by former experiences with other teachers, and sometimes even the way they relate to their own children at home.

> they (teachers) don't have that kind of freedom to do things on their own… everything needs to be consented by parents (Mother, NIMP)

Since most teachers are very young, they are generally expected to abide to the rules and to adapt to the community, by doing so they could have more chances to earn people's trust and respect. Data also revealed the preference parents have for elder or returning teachers who are considered more mature and responsible. For example, one interviewee said:

> these (teachers) are old enough... they are really teaching well. (Mother, NIMP)

In this regard, the data showed that teachers' self-discipline to commit to timetables and duties would be a highly valued trait in most of the communities, as a sign of

respect and maturity. Commenting on reliability of teachers, one of the interviewees said:

> teachers are rarely absent, they arrive as due, otherwise they would let us know. If something comes up, they usually ask for permission. (Mother, NIMP)

Data also suggested that as teachers willingly adapt to the community and gain more experience in the classroom, the relationships with parents evolve to more horizontal relationships. These would eventually be translated into obtaining more support in their proposals or requests as a sign of trust and engagement. One participant commented:

> I asked the teacher whether he was willing to do his best, we (APEC) would then support him once we got parents' consent… parents voted yes, so we will do the teacher's project (APEC President, IMP)

Parents' own concepts around good teaching are mainly product of past experiences with their own children and former teachers in the community. The induction provided to APEC presidents may also influence the parameters under which parents would know whether teachers are doing their job or not. Talking about this issue, one interviewee said:

> not everybody takes this (teaching) seriously… they may do just enough to get their funding. Others really make an effort. (Mother, NIMP)

In some of the cases, being a returning and/or a female teacher is positively associated with subject knowledge, teaching skills and commitment to pupils' learning. As one interviewee put it:

> I see how this teacher (female) is progressing with the children. I notice she does know… the other one (male novice teacher) is usually behind. (Mother, IMP)

Another interviewee, when asked about differences observed in teachers said:

> my son would place more effort and willingness to go to school when the female teacher worked with his group. (Mother, NIMP)

According to the data, parents tend to associate teachers' discipline in the classroom with good teaching. Parents would associate pupil achievement and progress to

teaching taking place in classrooms, rather than outdoor activities. For example, one interviewee said:

> he (teacher) was very responsible… he rarely let children out of the classroom to play… (Father, IMP)

Similarly, participants' narratives revealed that good teaching is associated with homework assignments and after-school sessions that are consequently perceived as heavily influencing pupils' marks and progress. One participant commented:

> it is very evident when they (the teachers) don't do their best because they don't pay attention to the children or demand any homework... or sometimes they just don't care whether they did the homework or not. (Mother, NIMP)

When teachers are unable to either abide by the rules or meet parents' expectations, parents and APEC presidents may manage the situation in different ways. The data suggested that the display of concerns and issues to teachers would likely depend on the kind of communication – and trust – that teachers have developed so far with parents and APEC presidents.

Data suggested that when the environment amongst parents is not stable enough, including APEC, parents might express their discontent to teachers bluntly. If teachers are very young or novice, they would likely be told off and reminded of the good behaviour (i.e. obedience) that is expected as part of their job in the community. The comment below illustrates this:

> we are very clear and we tell teachers to pay attention to our children… as they are earning a scholarship, our children are meant to be progressing (Mother, NIMP)

Another approach that might be used in such settings is to inform APEC presidents of teachers' misbehaviour so that they decide whether to have a talk with teachers and/or let CONAFE local management sort out the issues. APEC presidents may in such cases ask for the teachers' removal from the community. As one interviewee put it:

> I talked to the teacher (last year's) but he just didn't get it... thus I informed the assistant just as CONAFE management suggests we (APEC) do (former APEC President, IMP).

In this regard, the data suggested that when communication is misled between teachers and parents, positive or reliable feedback will not likely take place. Both parents and teachers could adopt a 'get along to go along' attitude that would prevent conflict between both parties carrying on as expected and doing what is required for the rest of the school year. Commenting on feedback received from parents, one of the interviewees said:

> one would ask parents for their opinion or feedback... but they will just agree or say it is fine. They won't say it bluntly even when they disagree (Teacher, NIMP)

In more engaging settings, parents would be more understanding and state their needs and expectations and keep the communication open so that both parties can express their complaints freely pursuing better relationships that would benefit children and school in general. As one interviewee said:

> all parents told me they liked my work, just a couple of them recommended that I be less strict and play more with my pupils (Female Teacher, IMP)

Finally, the narratives of participants highlighted the cases in which deep trust and engagement between parents and teachers can take place. The data suggested such relationships are likely influenced by the fact that teachers stay in the community for longer periods of time (e.g. weekends, one more school year) or they willingly spend more time with all parents and pupils outside the classroom or school environment. For example, one interviewee said:

> last year's teacher, a young female.... when she had some time in the afternoon she would pay short visits to all pupils' households... she got along with everybody... (Mother, IMP)

5.2.4 Main theme 2: Parental involvement

This theme refers to the extent to which parents are able to help and support their children to achieve learning and school aims via homework assignments and teacher advice. This theme also comprises the individual capacity that parents have to express and communicate their expectations of children regarding the importance of school.

Capacity to assist children with school homework and learning

A common thread in participants' narratives – mostly pupils' mothers – is the limitations in numeracy and literacy that somehow impede them from actively or directly intervening when children are doing homework assignments, especially when children are in their first years of primary education.

The data suggested that mothers with lower literacy skills would likely struggle more to assist young children at home, especially those who are learning to read and write. Mothers with low literacy and numeracy skills would likely remind children about homework and monitor from a distance but would rarely sit or interact with them, as they feel unable to help much. One participant commented:

> if he (son) just wanted (to start reading)... I know he can... he knows the letters already but he barely joins them... (Mother, NIMP)

Moreover, it was noted that low capacity to assist children might be also be translated into commanding children to behave at school and to get good/pass marks, rather than engaging into a conversation about the importance of proper behaviour and achievement. Similarly, those parents would rely on their children' independence skills and will to accomplish school aims. The comment below illustrates such behaviour:

> I tell them (children) to go grab a book and start reading… I tell them to try to write, to practise... (Mother, NIMP)

According to the data, parents who are aware of their limitations but are still willing to help their children might push them to seek external aid when being unable to assist them. Data also noted that, regardless of the literacy levels of parents, children may benefit from older siblings or other people in the family who are able to explain tasks to them:

> if I just knew more I wouldn't bother my oldest children (to help their young sibling) and perhaps they would know even more. (Mother, NIMP).

Similarly, parents and children would also benefit from the fact that teachers are based in the community. In this regard, one participant commented:

> when he (son) has homework and I am unable to help I tell him to go ask the teacher...when he comes back he feels happy he managed to do the homework. (Mother, NIMP)

On the other hand, parents with higher literacy levels would likely show higher capacity not only to assist but also to interact with children during homework tasks communicating the importance of schooling, progress and achievement. As one interviewee said:

> I tell her (daughter) not to settle with a pass mark, that she can do better... so she does want to get higher marks. (Mother, IMP)

It is also noted in the data that elder children (fifth and sixth graders, mainly) would become very independent students due to the nature of the multi-grade setting and, therefore, rarely ask for assistance at home. In those cases, parents would just provide children with prompts or reminders about school tasks. One participant commented:

> I am learning to read and write… I just remind her of her homework assignments... she already knows what she has to do... (Mother, NIMP)

Value and access to further schooling

This sub-theme refers to the extent that parents and children are able to engage into further schooling as well as the main factors influencing the decisions of moving on to higher educational grades.

The data confirmed that CONAFE school services are perceived by parents as the only affordable and accessible choice they have for educating their children. According to the data, CONAFE community schools not only prevent children from walking long distances facing climate conditions and risks but also provide them with school supplies, books and uniforms every year as part of the agreement that CONAFE has with the Ministry of Education and local governments. The comment below illustrates the extent of aid that CONAFE students receive:

> there is a school kit that CONAFE provides every year. There is also a kit provided by the State government in recent years... that kit is graded... and includes two sets of uniforms for pupils... (CONAFE local management)

Moreover, the data suggested that the aid parents (on behalf of pupils) receive for keeping students in primary education (i.e. Prospera/Oportunidades) is barely enough

to buy children's school supplies when needed and to allocate funds for the maintenance of the school. One participant commented:

> we don't spend on anything because CONAFE provides everything... only when children run out of supplies I buy those using the aid they receive. (Mother, NIMP)

As noted before, some communities have all basic educational services (i.e. pre-primary, primary and lower secondary) running in the community, which eases the decision to keep children at school due to the low costs involved. The data suggested that, while in primary school, some children express a desire to drop out of school. However, in most cases parents keep sending them so that they get the most of the educational services available in the community, as illustrated in the comment below:

> he (son) says he just wants to finish primary school but I tell him I will send him to lower secondary school... and until then, he can make a decision whether he wants to continue or not. (Mother, IMP)

When lower secondary services are not available within the community, sending a child to a school outside the community would undoubtedly represent more expense and work for parents. In this regard, the participants' narratives revealed that in many cases children would be encouraged to reach higher literacy and numeracy levels than those attained by parents. However, parents would not likely encourage children to attend schools outside the community. Commenting on child expectations for further education, one of the interviewees said:

> I couldn't study so I would like to support them(children) until they finish low-secondary education... going to upper secondary school would involve more money and the aid we receive is not enough. (Mother, NIMP)

The data suggested that when parents note that their children are not doing well at school, they might not see it worth investing money in schooling. Thus, failing or struggling to pass on to upper grades may be used as a reason – especially for fathers – to discourage elder children to continue in school and to engage in labour activities. Talking about this issue, one interviewee said:

> my student's father told him to start working in the farm as he didn't see the point for him to keep studying,.. so he (pupil) is dropping out soon. (Teacher, NIMP)

By contrast, the data suggested that parents who have higher expectations for their children may already have already ideas on how to administrate and secure more resources to send their children outside the community. Those parents also explicitly express support as long as their kids show willingness to progress in school. Low marks, in these cases, would not be used as a reason to stop sending pupils to school. One interviewee said:

> she (daughter) says she is willing to keep going to school... we have family in Oaxaca (city) that would make it (attain higher education) easier, so she has all our support, she is motivated as well. (Mother, IMP)

According to the data, pupils' will to continue in school may be hindered by the increase in workload and subject difficulty in lower and upper secondary schools. Moreover, pupils' older siblings may have already dropped out of school, leaving children without external assistance at home or role models to follow. Participants also highlighted other factors that also interfere with children's lack of interest in school during adolescence, such as socialisation and the possibility of finding a partner. And, as noted by the data, parents would not be able to persuade children at that point. In fact, parents would respect children's reluctance to continue in school, as seen in the comment below.

> even when we want them to progress, we can't force them or push them if they (children) are not interested in studying anymore... (Mother, IMP)

Response to teachers' feedback and advice

This theme refers to parents' response (i.e. attitudes and actions) towards workshops and advice provided by teachers regarding pupils' performance and behaviour in class.

According to the narratives, some parents who are unable to monitor children's progress and behaviour may not support or reinforce rules set by teachers in the classroom. This lack of support would be perceived as leaving pupils' progress and achievement solely as the teachers' responsibility. Talking about this issue, one interviewee said:

> the children say they can't do it (the task), and they just refuse to do it... parents promise they will help, but they don't (Teacher, NIMP)

By contrast, parents who are more aware of children's progress may be more supportive of teachers' rules, which eventually translate into more stable settings for children's learning. As one interviewee said:

> setting rules has worked very well... my children eventually got used to speaking less rudely in class... parents have supported and provided me with feedback... (Teacher, IMP)

Regarding parental involvement workshops, most participants referred to those as playful activities in which they would have a good time to interact amongst themselves including their own children. However, some parents may feel uncomfortable or shy when performing role play and games. Data suggested that resistance to workshops might result in low attendance or even explicit requests to teachers to deliver the content in a different way. In this regard, one participant commented:

> we signed an agreement (on parents' request) so that role play or games would not take place during the workshop (Teacher, NIMP)

Thus, very few participants provided an account reflecting on workshop topics or incorporating such to assist and encourage children.

5.2.5 Main theme 3: Teacher and teaching

This main theme comprises participants' views on the main factors influencing teachers as well as their self-perceptions about teaching in CONAFE primary schools.

Motivational sources for teaching

This theme comprises participants' views on the main reasons underlying the decision to enrol CONAFE's teaching programme as well as the motivational factors that would either reinforce or undermine their stay until the end of the school year.

Most teachers' narratives point out that the main reason for joining CONAFE was to obtain funding for their higher education studies in the future. Many participants also referred to the experience of living and teaching in a rural setting as part of the attraction of CONAFE programme that excited them at first. These main reasons – likely reinforced during the initial training stage – seem to keep teachers motivated during the first weeks – even months – as they immerse and adapt to rural communities.

One participant commented:

> I have a sister who joined CONAFE and got the sponsorship. That's why I decided to join the programme and, to be honest I also wanted to experience what it was like to be part of CONAFE teaching team. (Teacher, NIMP)

Data revealed that first year teachers –due to their young age and inexperience – will be facing many changes and challenges that will likely hinder their motivation to stay in the community for the whole school year. Young teachers are prone to feelings of loneliness or isolation as they adjust to living in rural settings in which conditions may not be the easiest to handle (e.g. access, lack of services, eating habits). Talking about this issue, interviewees said:

> coming to a community and to be alone… detaching from the life you are used to having… it's hard to adapt. (Teacher, NIMP)

> well, it's complicated… you don't know where you are going, nor the people... you don't know the children… you meet them and since it's your first experience you don't know where to start. (CONAFE Trainer)

> I struggled a lot last year, there was no water so we (teachers) had to go to the river... there was no electricity either... (Teacher, IMP)

A common thread in participants' narratives is parents' key role when welcoming a teacher into the community by showing care, support and sympathy during the adaptation process. For example, one interviewee said:

> we don't want them (teachers) to feel lonely here at school… we come to visit them so that they get to know us. (Mother, IMP)

Moreover, data also suggested the importance of parents' support to manage issues with pupils in class such as misbehaviour, slow learning and attitudes towards tasks. Parental involvement would inevitably shape teachers' motivation and capacity to do their best along the school year. Commenting on what diminishes motivation in teachers, one of the interviewees said:

> sometimes that demotivates you… you do your best to help children, you do want to help but it's just impossible because they both (parents and pupils) do not have the will to listen. (CONAFE Trainer)

Participants' narratives also showed that experience and knowledge from CONAFE local management is essential when allocating teachers to communities based on both

parties capacities and skills to work together. Similarly, the data showed that CONAFE local staff visits (e.g. trainers, assistants) would work as stabilisers and mediators during the very first months with the aim of building up teacher's confidence and minimising the likelihood of dropping out.

> the accompaniment teacher trainers provide during the first month is crucial… if they (teachers) do not find ways to cope and sort out issues during that month, they will easily drop out the teaching programme. (CONAFE local management)

Once teachers have gone through the settling stage, they are more likely to experience feelings of sympathy and accomplishment towards children and their learning progress. Such feelings along with the expressed reciprocity from parents would likely keep them motivated for the rest of the school year in the community.

> they (pupils) are going to keep learning …keep on teaching them motivates me. (Teacher, IMP)

Moreover, data suggested that by the time teachers start their second year, they have developed a sense of fulfilment and become more confident about their skills. Therefore, the adaptation process in a new community for a returning teacher seems to be much faster, enabling more focus on lesson planning and classroom management from the beginning of the school year.

Teaching: planning, practice, support and struggles

This theme is based on the participants' narratives regarding the process behind planning lessons as well as the main challenges facing when teaching in multi-grade settings. Participants' views on CONAFE support for teaching on and off site also comprise this theme.

Participants' narratives provided accounts of the initial training process that all teachers go through. Data noted that managing administrative work (e.g. registers, forms), the handbook and syllabus content for the first weeks constitutes one of the main aims of initial training. However, participants' views suggested that initial training content is not enough for them to handle issues once they are in a multi-grade classroom. Commenting on initial training, one of the interviewees said:

> at CONAFE site, you are inducted on how to plan your lessons… but once you are in the community, it is difficult to apply all that. (Returning Teacher)

Most participants referred to the teachers' handbook and syllabus as the core parts of lesson planning. A third element of lesson planning that participants referred to was the teacher journal in which the most relevant aspects of the lesson are jotted down (e.g. extent of syllabus covered, learning issues faced, pupils' improvements and setbacks) on a daily basis.

According to the data, the handbook is the basis for lesson planning, as it works as a guideline to provide teachers with a sequence of steps and activities to be followed in every lesson. As one interviewee put it:

> the handbook consists of… a sequence, how to start (the lesson)… instructions for delivering the lesson. (Novice Teacher)

Participants also referred to handbooks as a very helpful tool which is relatively easy to understand and follow. In the participants' views, the syllabus content and work scheme are relatively flexible to adapt to pupils' progress in order to meet monthly goals. One participant commented:

> I use the handbook to see the aims for the class, what needs to be covered... I develop more activities... different ones. (Novice Teacher)

According to the data, the handbook would provide teachers with few activities that pupils may have already done the previous year. Thus, one of the main struggles for teachers – especially novice ones – is to come up with fresh, graded activities that will complement or align to those suggested in the handbook. Talking about this issue, one interviewee said:

> I am not very creative to come up with tasks... sometimes my mind goes completely blank... I have the syllabus content and plenty of hours to cover, but the activities are not enough... (Returning Teacher, IMP)

Another challenge that participants noted as troubling lesson planning is handling unpredictable student attitudes towards tasks which, combined with misbehaviour, can cause confusion and frustration in teachers. In participants' views, these situations should be covered during initial training in order to know what to do or how to react. One participant commented:

> I used to stay up late planning my lesson... but the following day they (pupils) would refuse to do the activities... (Teacher, NIMP)

Data suggested that experienced and female teachers would likely have a higher capacity and tolerance in handling and managing pupils' attitudes and behavioural issues. The comment below illustrates how these situations are managed by female and/or returning teachers:

> he (pupil) tends to get upset when he cannot handle the tasks.... sometimes I just give him some time so he will give it a try again... if I try to cheer him up to persuade him, he will just stare at me. (Returning Teacher, IMP)

Similarly, female and returning teachers would also be more aware of pupils needs, especially with lower grades. This will likely be reflected in the emphasis on literacy and numeracy skills, as well as the concern for making syllabus content easy to understand for all learners. One participant commented:

> it's not about making them perform the algorithm (divisions)... it's mostly that they grasp why and how to do it... (Female Teacher, IMP)

CONAFE local management will allocate two teachers per school if the number of pupils exceeds 16. However, programme enrolment and drop-out rates may alter teacher allocations within the first month. The comment below illustrates this type of situation:

> we are sent two teachers when the school year starts... but if a teacher drops out in another community, one of our teachers is relocated... the teacher that stays has to deal with 28 pupils... then children don't get the same attention... (Father, IMP)

Participants noted that one teacher teaching a large class size (>15 pupils) would impede pupils' progress during the school year. Just one teacher would not be able to handle the delivery of the lessons for all levels while dealing with behavioural and learning issues that inevitably arise due to the composition of the classroom. For example, one interviewee said:

> until last year they (CONAFE) would send us one teacher only... this year we have two teachers and it's better… my children… each has their own teacher… they feel good, they are paid more attention now... (Mother, NIMP)

It was also suggested by the narratives that in very few scenarios more experienced teachers – fully committed and supported by parents as a whole – would likely come up with effective ways to serve a large class size. As one interviewee put it:

> I explained to parents that by dividing the group in two separate shifts, I would be able to teach better, parents supported me and so we did until another teacher arrived. (Teacher, IMP).

The presence of other teachers in the community would not only help with managing large class size schools but would also benefit teachers during their adaptation process. The data suggested that teachers would agree on the division of work and pupils according to their skills and experience. CONAFE local management's experience was noted as relevant when pairing two teachers to work in a classroom together throughout the school year. The data suggested that participants would perceive an experienced or female teacher levering the skills of a novice or male teacher as an effective approach that benefits all stakeholders. Commenting on pairing teachers, one of the interviewees said:

> in Barrio Nuevo we placed an experienced teacher with a novice teacher... considering that the experienced one will lead the novice one, especially because it's a big community. (CONAFE local management)

With regards to the support provided by CONAFE to teachers, monthly training sessions (i.e. tutorials) were suggested to provide teachers with the subject knowledge and ideas for activities they will need to complement the handbook activities for the following weeks. Moreover, participants referred to tutorials as very helpful in giving them subject knowledge to be delivered in their coming lessons. Training sessions were also referred to as helpful for suggesting ideas for activities and ways to deliver complex content. For example, one interviewee said:

> they (tutorials) are like workshops divided by subject... so you join the ones you feel you lack knowledge or are difficult... such as Spanish language ... (Teacher, NIMP)

Finally, it was noted that tutorials were helpful for novice teachers to relate to other teachers going through similar situations as a way to share and resolve issues with pupils and parents. Another interviewee, when asked about tutorial sessions, said:

> during each tutorial there are talks... as a group... we talk about the issues we are facing in the communities... (Teacher, NIMP)

Moreover, it was noted by the researcher how tutorials at CONAFE's premises provide young teachers with the atmosphere to socialise amongst peers, enhancing their sense of belonging to the teaching programme.

Regarding supportive itinerant staff coming into the communities, it was noted that trainers mainly support teachers while in class, so that the lessons are properly delivered. Participants also referred to the allocation of itinerant pedagogical assistants (APIs) to communities in which children have showed low achievement in the diagnostic assessment at the beginning of the school year. The data suggested that both teachers and parents acknowledge the support provided by APIs in bringing along pupils skills:

> the API's approach is more direct and personalised... it is possibly more beneficial... (Returning Teacher)

Teachers also provide extra sessions for pupils who are lagging behind or struggling to progress with syllabus content, even in cases where APIs are allocated to the community. However, the data revealed that pupils' attendance at afternoon sessions relies on parents' emphasis to send their children to school. Commenting on how they manage to help students after school, one of the interviewees said:

> we have sessions in the afternoon... after class... from 2 to 4 (pm)... we had an API but she dropped out. (Teacher, NIMP)

5.2.6 Qualitative data transformation and synthesis

As noted earlier above, the three main salient themes suggested some differences between the main comparison groups of this study. Thus, data were screened in *NVivo* by the means of *matrix coding queries* to portray key differences between non-improving and improving school group (Table 27). The matrix coding queries enabled to look for patterns across both school groups.

Table 28 Matrix coding query for 'Parental involvement' theme

	A : Capacity to assist chil...	B : Further schooling views...	C : Response to teacher's...
Parents:School type = Improver	34	113	28
Parents:School type = Non-improver	32	102	33
Teachers:School type = Improver	3	16	31
Teachers:School type = Non-improver	0	16	28

While some patterns were found as clear differences between both groups (e.g. barriers for further schooling), others seemed to fall between both groups (e.g. indirect assistance or supervision for school assignments). Therefore, I decided to use analytical tables as a cross-comparison approach in which individual differences and similarities amongst schools are portrayed to ease group comparisons. I considered the most salient nodes (Table 29) comprised in each sub-theme to transform/group them into 'affirmative' variables (e.g. capacity, ability, readiness) that could be evaluated by its presence in each school using patterns found in the data, supported by references counts and field observation notes.

Table 29 Sub-themes and nodes under 'school governance' main theme

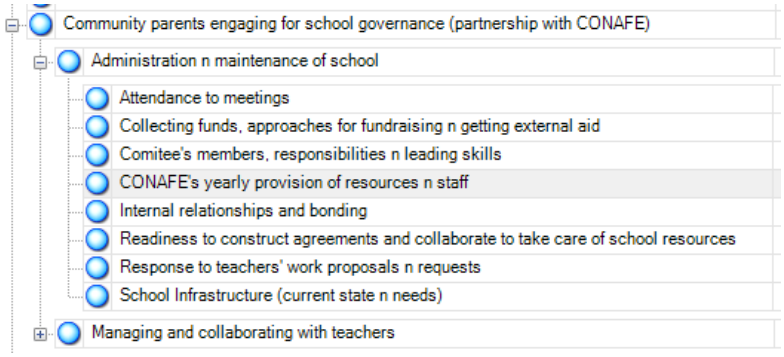


Table 30 References for 'collecting funds and getting external aid' node

Collecting funds, approaches f

Name	In Folder	References
PadresAguaHedionda	Internals\\Interviews\\Parents	8
PadresSitio3	Internals\\Interviews\\Parents	3
PadresBarrioPOCH1	Internals\\Interviews\\Parents	3
PadresGranadillo	Internals\\Interviews\\Parents	2
PadresLaReja2	Internals\\Interviews\\Parents	2
PadresBarrioPOCH2	Internals\\Interviews\\Parents	2
PadresPaloGrande1	Internals\\Interviews\\Parents	2
PadresPescadito1	Internals\\Interviews\\Parents	2
PadresReforma1	Internals\\Interviews\\Parents	1
PadresSitio2	Internals\\Interviews\\Parents	1
PadresEncierro1	Internals\\Interviews\\Parents	1
PadresEncierro3	Internals\\Interviews\\Parents	1
LECBarrioNHUAT1	Internals\\Interviews\\LECs	1
LECBarrioNHUAT2	Internals\\Interviews\\LECs	1
LECsBarrioNPOCH	Internals\\Interviews\\LECs	1
PADRESbarrionuevoHUAT3	Internals\\Interviews\\Parents	1
PADRESbarrionuevoHUAT4	Internals\\Interviews\\Parents	1
PadresBarrioPOCH3	Internals\\Interviews\\Parents	1
PadresPaloGrande3	Internals\\Interviews\\Parents	1

Analytical tables

Therefore, the analytical tables presented in this section are the result of a data transformation process in which the salient codes for each sub-theme were treated as variables. I explore each category – and its subsets – based on the general evaluation of the presence of each of its variables using a four-point-Likert scale: (1) rarely seen/mentioned; (2) occasionally seen/mentioned, (3) frequently seen/mentioned and (4) consistently seen/mentioned. Finally, I present each set of comparisons using the mean scores that were obtained in each subset and category accordingly.

School governance (improving and non-improving schools)

This category comprises two subsets of variables: the capacity to manage schools' needs and resources (9 variables) and the capacity for managing and relating to teachers allocated in the community (7 variables). The ten schools of the main sample for this study are individually represented in the columns labelled as IMP (improvers) and NIMP (non-improvers).

As noted in Table 32, the variables related to school governance were more frequently noted in improving schools. It is also noted that one of the improving schools (IMP6) was outscored by two non-improving schools (NIMP2, NIMP3) in this subset.

Table 32 Capacity for managing school needs and resources

	School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
1	Positive relationships amongst most parents reflected in meetings or other whole-community activities	2	4	3	4	4	1	1	2	2	1
2	Readiness to attend and pariticipate in meetings	4	4	2	4	4	2	2	3	3	2
3	Capacity to reach agreements and short term solutions during meetings	3	4	2	4	3	1	1	3	2	1
4	Ability to maintain, fix, and improve school infrastructure thereby collective work	2	4	2	3	4	2	1	3	2	2
5	Readiness to allocate money to school or to engage in internal fundraising approaches	3	4	2	4	4	1	2	3	2	1
6	Ability to request and make use of external (local & federal government) fundraising approaches	3	2	4	3	1	3	2	2	2	3
7	Committee's readiness to collect donated material and welcome itinerant staff	4	4	2	4	2	2	2	1	2	1
8	Capacity to integrate, maintain and extend school services (including community diners and other community services)	4	4	3	4	3	3	2	2	2	2
9	Open communication between school committee presidents and parents	3	4	2	4	3	2	1	2	2	1
	Overall score	**3.11**	**3.78**	**2.44**	**3.78**	**3.11**	**1.89**	**1.56**	**2.33**	**2.11**	**1.56**

Table 31 Capacity for managing and relating with teachers

	School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
1	Ability to supervise and make sure instruction takes place as expected	2	3	2	3	3	2	1	1	1	1
2	Capacity to openly express concerns and constructively feedback teachers	2	3	1	4	3	3	3	2	2	1
3	Authoritative but encouraging management from parents and APEC	3	2	1	4	2	2	2	2	2	1
4	Community empowerment to request intervention from local management	1	1	1	4	1	2	2	2	2	1
5	Capacity to develop trust and positive bonding with teachers	2	4	3	3	4	3	2	2	2	1
6	Support from school committee to teachers to engage and communicate with parents	3	4	1	4	4	2	2	1	2	1
7	Genuine care, sympathy for teachers and value of their work	3	4	3	3	3	3	2	2	3	2
	Overall score	**2.29**	**3.00**	**1.71**	**3.57**	**2.86**	**2.43**	**2.00**	**1.71**	**2.00**	**1.14**

For the second subset of variables corresponding to the capacity for managing teachers (Table 33), the differences between both improving and non-improving schools are clear at both ends of the spectrum suggesting notable differences in the management of teachers according to the data. However, it is noted that one of the improving schools (IMP3) is outscored by two of its counterparts from the non-improving group (NIMP1, NIMP3).

Finally, when adding up both subsets of variables comprised in the school governance category, the differences between both groups of schools clearly suggest that parents in improving schools have a higher capacity for governing and managing the school (Table 33).

Table 33 Overall results for school governance category across the main sample of schools

School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
School governance overall mean scores	2.75	3.44	2.13	3.69	3.00	2.13	1.75	2.06	2.06	1.38

Parental involvement (improving and non-improving schools)

Three subsets of variables are comprised under this category: *assistance to children with homework and learning at home, further schooling views* and *response to teacher's feedback and requests* regarding pupils' academic needs.

The first subset regarding the capacity to assist children with school chores and learning at home suggested that most improving schools outperformed three out of four non-improving schools in the sample (Table 34). Similar results were found with regard to the views on further schooling subset; one school of the improving group (IMP4) showed similar scores to those of two non-improving schools (NIMP1, NIMP3) as seen in Table 35.

When looking at the last subset of variables, it was suggested that improving school parents have higher capacity for responding to teacher's feedback and requests compared to their counterparts in the non-improving schools (Table 36).

Table 35 Capacity to assist children with school homework and learning

	School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
1	Capacity to directly assist children while doing homework assignments	1	3	1	2	2	3	1	1	1	1
2	Capacity to indirectly assist, supervise or seek external aid for school assignments	3	1	3	2	3	1	2	3	2	2
	Overall score	**2.00**	**2.00**	**2.00**	**2.00**	**2.50**	**2.00**	**1.50**	**2.00**	**1.50**	**1.50**

Table 35 Views on further schooling

	School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
1	Capacity to communicate expectations and importance of school to children (e.g. role models in the family or community, success stories)	2	4	2	2	3	2	2	1	1	1
2	Capacity to access/promote further schooling outside the community	3	3	3	2	2	3	2	1	2	1
3	Value of further schooling as a way to progress	2	4	3	2	2	3	2	2	3	1
	Overall score	**2.33**	**3.67**	**2.67**	**2.00**	**2.33**	**2.67**	**2.00**	**1.33**	**2.00**	**1.00**

Table 34 Response to teacher's feedback on pupil academic needs

	School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
1	Ability to engage in workshops/reflect on content	2	3	2	3	3	1	1	1	1	1
2	Ability to follow teachers' advice and feedback regarding academic progress	2	2	1	3	3	3	2	2	2	1
3	Capacity to support teachers' rules and aid with behavioural/attitude issues in class	2	2	1	3	2	3	1	1	2	1
	Overall score	**2.13**	**2.75**	**2.00**	**2.38**	**2.50**	**2.38**	**1.63**	**1.50**	**1.75**	**1.13**

Finally the overall mean scores for this category revealed that higher levels of parental involvement are present in improving schools (Table 37).

Table 37 Overall results for parental involvement category across the main sample of schools

School type	IMP1	IMP2	IMP3	IMP4	IMP5	IMP6	NIMP1	NIMP2	NIMP3	NIMP4
Parental involvement overall mean scores	2.13	2.75	2.00	2.38	2.50	2.38	1.63	1.50	1.75	1.13

Teacher and teaching (improving and non-improving schools)

Two subsets of variables were comprised under this category: the motivational sources guiding teachers (3 variables) and their teaching skills status (4 variables). Teachers are labelled under RT (returning teacher) and NT (novice teacher) according to their experience in CONAFE. Scores for the first subset suggest individual and group differences mostly noted when looking at the whole spectrum of scores distributed according to the school in which teachers are allocated (Table 37). Thus, most teachers working in improving schools (except for RT6 & NT1) appeared to have both external and internal motivational sources to keep on teaching , while most non-improving schools teachers (apart from NT3 & RT7) did not seem to have balanced motivational sources to keep them going for the rest of the school year. Regarding teachers' teaching skills status, the range of scores also suggests the influence of the school type in which teachers are based as the highest scores (except for RT7). Finally, the overall teacher scores for this category calculated by school type suggest minor differences between both school groups (5.2.11).

CONAFE local management support

This category comprises three variables aiming to represent the main support provided by local management to the school community and teachers of the main sample. Minor differences are suggested amongst the four regions to which the schools of the main sample belong. However, more support from local management is noted in the schools corresponding to the HUAT region (Table 38)

Table 38 Overall results for CONAFE local management across the main sample of schools

Local management	HUAT					POCH		PTOE	CENTR	
School type	IMP	IMP	IMP	NIMP	NIMP	IMP	NIMP	NIMP	IMP	IMP
Monitoring of staff during last year aiming to level off slow learners (APIs, summer tutors)	3	3	2	3	3	3	2	1	1	2
Teacher trainers visits and staff assistance aiming to support teacher	3	3	2	3	3	2	3	2	1	2
Punctual and proper allocation of teachers and supplies	2	3	3	3	3	3	3	1	3	2
Mean scores per school	**2.67**	**3.00**	**2.33**	**3.00**	**3.00**	**2.67**	**2.67**	**1.33**	**1.67**	**2.00**
Mean scores per region	**2.80**					**2.67**		**1.83**	**1.67**	

Ideal types

The ideal types presented in this section aim to portray each of the school-level agents (local management, teacher and parents) involved in CONAFE school processes according to the relevant patterns, significant findings and key differences found in both strands of the data.

Ideal type 1: the improving community managed school

This type of community managed school comprises a relatively large number of families (>15) that have children enrolled in one or two CONAFE school services. Most parents in this community type are likely to have attained lower – even upper – secondary education which provides them with more economic and social advantages. For instance, not all pupils are likely to be beneficiaries of the *Prospera* student aid programme, as most fathers in this type of community have stable jobs involving basic skills such as commerce activities in urban/touristic areas. Pupils' mothers are likely to be in charge of their household chores and other communal services (i.e. community diners) during the day.

The expansion of school services up to lower secondary school has likely taken place as a need to prevent children from walking long distances facing adverse climate conditions and other risks. Furthermore, parents are somewhat more aware of their school responsibilities for paying electricity bills and doing the necessary collaborative work to provide children and teachers with the necessary conditions for everyday instruction. The state of infrastructure of this community-based school is likely to be

above average (e.g. vast area, playground/court for children, adequate teacher shelter facilities) due to the short-term actions taken by parents every year. Thus, the expansion and care provided to schools reflects a sense of ownership of the school services and the commitment to keep services running – and improving – as expected and in compliance with CONAFE local management.

The committee president in this type of community is likely someone who works alongside parents distributing a somewhat equal share of responsibilities and making sure consensus takes place at all times. The APEC president of this type of community is likely to promote discussion during meetings to hear parents' views on teachers' proposals and to obtain the support, consent and commitment from parents as a whole in any activity – including social gatherings – involving the school. In response, parents are likely to attend school meetings and/or to engage in decisions made by the community. Similarly, allocation of money for school infrastructure that needs fixing or changing may not be very problematic for parents, as they are likely to have more resources and/or to rely on treasury funds from former – internal and external – fundraising approaches. Nonetheless, the APEC president in this community is likely to seek and apply for funds (on parents' behalf) to maintain the existing infrastructure. Similarly, APEC members would be ready and willing to collect any material/resource available for school and pupils at CONAFE premises and to shelter more teachers (i.e. trainers, assistants and summer teachers) arriving in the community, regardless of the costs and the logistics involved.

Furthermore, it is likely that parents have developed the necessary experience to welcome and set precise rules for new teachers arriving in the community, encouraging them to get to know the community and its members as part of their professional experience. The parents in this community would also be more understanding with novice teachers, sympathising with their adaptation feelings during the first weeks. However, any sort of misbehaviour involving instruction including the violation of any of the agreements signed with CONAFE will be brought to APEC president's attention, leading to talks with teachers. Most issues would be sorted out having straightforward communication stating what is expected from teachers (e.g. extra help sessions, focus on seat work in class). When teacher misbehaviour prevails,

community parents and committee are likely to discuss whether it is worth requesting CONAFE local management's intervention to sort out the issue or to request the teacher's removal from the community.

In this type of community, parents tend to be responsive to teachers' requests, especially when they are smoothly adapting to the community and doing their best to help pupils to progress in school. Parents appreciate the effort of teachers, reflected in after-school sessions, household visits and teachers spending more time playing with pupils outside school hours. Thus, teachers' real concern for getting to know the community and its members is likely to be reciprocated with trust and positive relationships. Parents' response to teachers will also be reflected in attendance at parent involvement workshops, supporting rules and discipline techniques set in class, and the involvement reflected in pupils' homework assignments and learning at home.

With regards to pupils' school duties and learning at home, parents' numeracy and literacy skills play an important role, enabling them to help their young children during their early stages of primary education. Parents in this type of community would likely expect their children to succeed by progressing and getting good marks so they – especially mothers – might be more active in monitoring pupil progress and/or in expressing their desire for children to improve their academic skills and marks. Mothers are more likely to communicate their expectations and full support to children explicitly, so that they keep progressing across basic education grades. Parents in this type of community would likely know their children's interests for the future, but at the same time they would be very realistic about the barriers for children to succeed in lower and upper secondary school (e.g. adolescence issues, heavy workload at school). Despite the adverse situations that children may encounter in the future, parents would rarely discourage their children to continue at school, especially when basic education services are available in the community. In some cases, own parents' stories, exemplary cases of people in the community or in the family, and even the possibility of enrolling on the CONAFE teaching programme as a funding opportunity in the future may be used to keep children's expectations high.

Ideal type 2: The non-improving community managed school

This type of school community is relatively small (<15 families) and comprises pupils' parents who have chosen CONAFE schools mainly due to the low costs involved (e.g. free school supplies, no transport fees). In this type of community, parents are more likely to be illiterate or to have basic numeracy and literacy skills, thus their economy largely depends on farming activities and other unstable/temporary jobs. Most pupils in this type of school are beneficiaries of the *Prospera* student aid programme that enables them to receive monthly cash grants as long as they keep up school attendance. However, the *Prospera* cash transfers are more likely to compensate for the lack of stable income in the families, as school supplies are provided by CONAFE and school uniforms are likely to be supplied by local government.

Pre-primary and primary schools are normally available in this type of community. However, primary schools are more likely to have the average basic infrastructure to rather than pre-primary schools. This type of community would lack enough space/land to expand and integrate all existing services such as pre-primary classrooms, teacher shelter facilities and a recreational area for pupils to play. Despite the small size of the community, parents might not feel fully integrated as a whole and major disagreements might take place during meetings, especially when discussing the possibility to allocate some money to school. In this community, the committee president would likely lack the capacity and/or experience to lead discussions, thus consensus-made decisions would be hard to achieve. Similarly, APEC's presidents may not be fully engaged with school needs for expanding or improving facilities for instruction to take place in the long run. Community disengagement is likely to be noted by the absence – or forced attendance – at school meetings and agreements that are barely translated into short-term actions, leaving most parents with feelings of discontent and a lack of commitment. Few fundraising activities take place within this type of community as parents mostly rely on external monetary support to sort out infrastructure issues. Similarly, collecting material or classroom resources might represent trouble in terms of time and money to bring those to the community by APEC presidents and other members. A similar attitude might be observed when sheltering more incoming CONAFE staff that aim to level off low achievers or to

promote arts and crafts within the communities. Thus, rather than voluntary, forced agreements will be made by committee and parents as they fear that school services may be suspended if they do not comply with the initial agreement signed with CONAFE local management.

The climate of miscommunication in this type of community would be also reflected in the management of teachers, especially when sheltering and managing novice teachers who are going through an immersion process. Regarding teachers' behaviour, some parents may tell off teachers for conduct that they consider inappropriate, regarding instruction or attitudes towards pupils, making clear that they expect obedience from teachers as they are benefiting from the programme. In some cases, the APEC president may not express parents' concerns to teachers, but complain direct to local management. Similarly, parents who actually value teachers' work are not likely to express their support during meetings, as it may be perceived as some form of favouritism. Thus, a 'get along to go along' attitude may be taken by all the parties to avoid conflict and to do just the necessary to comply with agreements and duties along the school year.

Due to their low literacy levels, parents in this type of community may find themselves unable to assist young children with homework tasks and learning at home. Therefore, some parents are likely to remind and command children to do homework assignments relying on children's will and effort to learn and carry on with schoolwork on their own. Other parents may seek external assistance in pupils' older siblings or relatives in the community, and CONAFE assistants and teachers on site. Similarly, some children would be reminded – even warned – to have their homework done and behave at school on teachers' request. However, parents would rarely engage in conversations with pupils about the importance of school in the present or the future. The purpose of schooling may be perceived by some parents of this community as a way to learn basic skills while growing old enough to perform labour activities. Some other parents may just want their children to attain the education that they missed (lower/upper secondary school) which may provide them with more job choices in the future.

Most parents in this type of community would find it extremely difficult to send their children out of the community to pursue further education, due to the costs and time involved and – in a few cases – the social issues and risks surrounding the community. Thus, in this type of community children would feel easily discouraged from staying in school even before completing primary education as educational goals are not set for them and they may struggle with school workload. Children's elder siblings may have already dropped out school taking the opportunity to make some money during harvest season which also sets an example for primary school children. Some parents – fathers mostly – may even discourage their children by reminding them they lack money to send them out of the community and attending school is not worth the effort as children are already struggling to progress in school. Finally, parents in this type of community are likely to see parental involvement workshops as a form of entertainment due to the activities (e.g. role play, hands-on activities) set by teachers while delivering the sessions. In a few cases parent involvement workshops would be perceived as a waste of time leading to frequent absences or explicit requests from parents to make sessions less time consuming and/or interactive.

Ideal type 3: The novice primary schoolteacher

A CONAFE novice teacher would likely be aged between 18-19 years old, a recent – or in the process of becoming a – secondary school graduate. The novice tutor would likely come from a rural high density municipality (500-2500 inhabitants) or in the least of the cases they may have been a former CONAFE student.

This type of teacher would be highly motivated by the chance of getting CONAFE's funding for higher education and/or also be influenced by other friends in the experience of being a rural tutor while deciding on future career choices. During pre-service training, the novice tutor prospect would have been tested in their subject knowledge and their capacity to handle CONAFE's methodology for multi-grade instruction for the first weeks of the school year. The initial novice teacher's skills along with their municipality choice would serve as the main criteria to be allocated to a community school. Similarly, a novice tutor's skills at an initial stage must have been noted by local management in order to schedule a trainers' visit that aims to observe the teacher in the community and to provide the necessary support. During pre-service

training, the novice teacher must have also been inducted into the procedures to do administrative work that needs submitting during in-service training sessions such as: student and teacher registers, meeting minute forms and pupils' marks.

The novice tutor has not been told the details of the actual challenges that they would face in the communities as a way to prevent bias during the immersion process. However, once the novice tutor arrives in the community, they would face the challenges of the actual setting. These could involve long walks to access the community, lack of basic services, suitable accommodation and meals and, more importantly, community parents and the committee in charge of managing the school during the school year. Challenges are likely to increase for the novice teacher once instruction starts, thus, depending on the class size, the novice teacher is likely to struggle to set classroom discipline, to manage pupils who refuse or are unable to do tasks as planned, and to deal with pupils who have low literacy and numeracy skills. Thus, the novice teacher is likely to face feelings of frustration and abandonment during the first weeks that could possibly lead to their drop out of the teaching programme. However, the novice teacher is not likely to be sent to the community on their own unless the community has only one school service running and the class size is small ($\leq$16 students). Being in the company of other novice tutors would ease their community immersion process in most of the cases, especially if the novice teacher is paired with a more experienced teacher when delivering lessons to a large class size ($\geq$16). In this regard, the novice teacher is likely to be led by the returning teacher when constructing agreements for better instruction delivery and more appropriate classroom management suiting both teachers' skills, experiences and dispositions.

When delivering instruction on their own, the novice teacher is likely to be visited by teacher trainers during the first weeks as a result of pre-service training observations that could indicate some sort of vulnerability that would undoubtedly hinder their willingness to stay in the programme when actual challenges and issues arise. CONAFE local management would be responsible for programming teacher trainer visits with the purpose of supporting novice teachers in their lesson planning and delivery; in some cases, teacher trainers would also mediate or intervene on behalf of local management in specific situations occurring in the classroom or in the community.

Regarding in-service training, the novice teacher would be attending their first sessions in order to share their first experiences seeking peer support and advice on how to handle diverse issues in the community and classroom, especially those related to pupil behaviour in class. The novice teacher would eventually become more skilled in submitting administrative work on the first day of in-service training sessions. During the following two days of training, the novice teacher would be attending the workshops suiting their extent of subject knowledge and pedagogical needs, teacher trainers would deliver a series of workshops promoting peer work and support in the development of activities for the curriculum aims to be covered in the coming weeks. In-service training would likely provide young teachers with the sense of belonging to a large community of CONAFE tutors which would gradually enhance their commitment and self-concept throughout the school year.

Once the novice teacher has remained in the programme the first four months, they are likely to be fully adapted to the community and more skilled in the management of pupils and instructional resources. Furthermore, if the novice teacher has been allocated to an improving school community (5.2.1 in this chapter), they are likely to have developed a sense of commitment to the pupils and the community in general. This commitment would be reflected in the time spent with pupils and parents and a genuine desire to help low achievers to manage their learning goals by the end of the year. By contrast, the novice teacher who has been allocated to a non-improving school setting is likely to be highly motivated by the funding that they would receive the following year. However, this novice teacher might have become resilient enough to cope with the everyday challenges avoiding problems with parents and pupils doing their best – or just enough – to comply with their teaching goals. Furthermore, this teacher is not likely to spend more time with pupils or parents outside the school and when necessary, mediation by CONAFE local staff would take place to alleviate tense situations between both teachers and parents aligning to the school operation rules and commitments signed at the beginning of the school year.

By the end of the school year, the novice teacher would likely face feelings of fulfilment and resilience produced by the experiences lived and the maturity acquired along the year. Based on such feelings, the novice teacher would make a choice: (1) to

leave the programme to start their higher education studies or pursue another career choice, (2) to commit to the teaching programme for another year willing to face new challenges and earn more funding, or (3) to become a teacher trainer as offered by CONAFE local management due to good performance and outcomes in the first year.

Ideal type 4: The returning teacher

A returning teacher is likely aged 20+ but is rarely above 25 years old. This type of teacher has likely been in the teaching programme the preceding year or might have decided to rejoin the programme to get more funding/experience for their higher education studies. The returning teacher might have provided instruction in pre-primary or lower secondary CONAFE schools. Furthermore, a returning teacher might have been a teacher trainer or may be enrolled in teacher higher education programmes running on weekends.

The returning teacher is likely to have developed the self-confidence, resilience and maturity required to teach a second year. Thus, this teacher's community immersion process is likely to be shorter than the novice teacher's, enabling more focus on instruction and classroom management from the beginning of the school year. The returning teacher has had to take pre-service training again, so their community allocation would be more strategic and beneficial, based on their former experience and current skills.

Accordingly, the community challenges facing a returning teacher are more manageable. For instance, it is relatively easier for a returning teacher to get to know students and set rules in the classroom from the start and, therefore, avoid behavioural issues in the classroom. Regarding planning activities for different grades, the returning teacher is likely to be more capable at exploiting CONAFE's class resources, adding their own ideas for tasks according to students' needs and subject knowledge. Similarly, the returning teacher would be more capable in detecting and tackling issues regarding low literacy and numeracy skills. The returning teacher would also be more knowledgeable in assisting parents with fundraising ideas, including the procedures for requesting external resources. Finally, unexpected situations such as being in charge of a large class due to peers dropping out of the programme would

also be more manageable for a returning teacher, especially in an improving school setting.

With regard to teacher management in the community, the returning teacher is likely to be viewed by most communities – regardless of the type – as more mature and more responsible, easing the relationships between both parties from the beginning. However, the returning teacher's skills may be enhanced or even deteriorate according to the type of school they are allocated to. For instance, the returning teacher in a non-improving school setting is likely to feel overlooked in their efforts to help children and deliver instruction as planned due to lack of reciprocity and support by parents. Few adverse conditions are likely to make returning teachers drop out of the programme, and in some cases the returning teacher might even keep doing their best to carry on with school aims until the end of the school year.

The returning teacher would be attending in-service training along with novice tutors and be likely contributing with their own experiences and ideas during workshops so that novice teachers can benefit from those. However, the returning teacher may not benefit from training sessions as fully as novice teachers, especially when they are already enrolled in higher education programmes. However, the returning teacher is likely to be more structured in their lesson planning and delivery as well as in the use of criteria for assigning and marking tasks and homework. Finally, it is unlikely that a returning teacher would remain in the teaching programme more than two years as their higher education funding will not exceed six years (three per teaching year) and the salary that CONAFE offers them is rather low. Thus, the returning teacher that stays longer in the programme (e.g. five years) is likely to feel demotivated as the incentives would be minimal affecting their sense of belonging to the teaching programme.

Ideal type 5: CONAFE local management

A CONAFE local management is likely to administer a large number of schools (100-150) providing pre-primary, primary and lower secondary educational services. A CONAFE local management is mainly run by a coordinator and an assistant who have worked for CONAFE for at least ten years and are very knowledgeable about the CONAFE

teaching method, the region and its communities including the societal structures managing schools and teachers. Other CONAFE local management's key staff members are teacher trainers and educational assistants who are the link between local coordinators and teachers. As noted in 5.2.4, a teacher trainer may be a returning teacher and an educational assistant has been both a teacher and a teacher trainer. Similarly, a CONAFE local manager has performed diverse roles (e.g. teacher trainer, pedagogical assistant) along their career in CONAFE. More importantly, a local manager has been teacher in their youth, which makes them very understanding of the process and the challenges that young teachers go through.

The knowledge and experience possessed by a local manager will likely enable a suitable and prompt allocation of teachers based on the characteristics of the school community and teachers' skills. Local managers would develop the strategies for assisting and covering for teachers who may drop out of the programme during the first four months by scheduling teacher trainer visits to schools and sending assistants to sort out issues between parents and teachers when needed. Local CONAFE managers would be a supportive, understanding and friendly authority figure for young teachers that will be willing to listen to their concerns and advise them using their vast experience. However, local managers can remove or fire teachers once the necessary support has been provided and yet instruction has not taken place as agreed, and/or parents have requested teacher removal due to behavioural issues.

All administrative procedures regarding teacher payroll, records of current and former teachers, trainers and assistants are processed by local CONAFE management. Administrative processes would also involve the submission of pupil records and registers required by the local Ministry of Education and the student aid programme *Prospera*. CONAFE local management will also submit funding applications, already agreed and signed by parent committees, to federal aid programmes and CONAFE at federal level. Local coordinators may also ally with non-governmental institutions and individuals to get resources (e.g. donations) for the schools while funding applications are processed.

Finally, CONAFE local management will hold teacher in-service training sessions in their premises every four or six weeks based on a calendar already set for the school year and using a cascade approach. While teacher trainers are visiting teachers within the region, educational assistants will be trained at CONAFE state premises in order to deliver the training content to teacher trainers and teachers accordingly.

5.2.7 Summary

Taken together, the qualitative results provide account of the main agents involved in CONAFE school processes, suggesting that positive interactions amongst parents including committee presidents and teachers would positively impact the governance of the school which would also provide the necessary conditions for lessons to take place.

The three main themes and the sub-themes that arose from the data enabled a cross-case comparison.

According to the data, joint agreements and collaboration of community parents as a whole would be likely reflected not only in the current state of the school infrastructure and services available but also in the integration of other community services that seek common wealth.

Furthermore, teachers would benefit from an integrated community and committee that not only would take care of the school but would show support, care and value for the job that they are doing in the community. Finally, it was suggested that teachers would also find much easier to work with children inside and outside the classroom if they are also supported by parents at an individual level.

Chapter 6 Discussion and integration of results

In this chapter, both quantitative and qualitative findings are integrated, interpreted and discussed with the related literature. This study has investigated key differences between two groups of primary schools in rural Mexico and the factors explaining such differences. In this study, we refer to a school as a multi-grade classroom (first to sixth grades) in which instruction can be provided by one or two teachers simultaneously. Similarly, an improving school refers to a school that has had an upward progress trajectory in its pupils' mathematics skills across time. Conversely, a non-improving school has had either a level or a downward trend on its pupils' mathematics skills in recent years (Appendix 1a).

Data integration and discussion of quantitative and qualitative findings in this study are guided by the following research questions:

1. How are CONAFE schooling services run in order to cater for rural low-density populations in Oaxaca, Mexico?

2. What are the main differences in relation to instructional practice in improving schools as opposed to non-improving CONAFE primary schools?

3. What other key differences exist between improving schools and non-improving CONAFE primary schools?

4. To what extent can the presence or absence of SER/SI factors provide account of improvement trajectories for both school groups?

The study employed a mixed-method approach with a parallel design (4.3) in which quantitative and qualitative data analyses were conducted separately. The quantitative analysis stage aimed to find differences between improving and non-improving schools at the classroom level. Structured class observations were used for measuring effective teacher behaviour, the distribution of class time for diverse activities in class and the amount of pupils on task. A descriptive quantitative analysis of participants' survey questionnaire answers (98 pupils and 16 teachers) aimed to find differences at an individual level. During the qualitative analysis stage, differences between both school

groups at the school level were sought in the themes that emerged from a thematic analysis. Comparisons were enabled by transforming salient qualitative data into measurable quantitative data. A final step in the analysis of qualitative data resulted in five ideal types, corresponding to the three main agents involved in the provision of CONAFE school services: community parents, local management and teachers.

This chapter provides a more in-depth discussion of both quantitative and qualitative findings based on the convergences and divergences found in the two strands of data, the research questions and the related literature.

6.1 Research Question 1

How are CONAFE schooling services run in order to cater for rural low-density populations in Oaxaca, Mexico?

One the most relevant findings of this study was that CONAFE schools are run under a school governance model in which the management of the schools and teachers within each community is devolved to pupils' parents via a signed explicit agreement. For this reason, each community must integrate a parent committee (APEC, by its acronym on Spanish) that legally represents school parents for a school year in expressing their commitment to keep school services running as outlined in the agreement. Accordingly, CONAFE local management commits to provide the communities the teachers for each existing service (i.e. pre-primary, primary, lower secondary). Teachers are therefore recruited, trained and supported for delivering multi-grade lessons using CONAFE pedagogical model and resources.

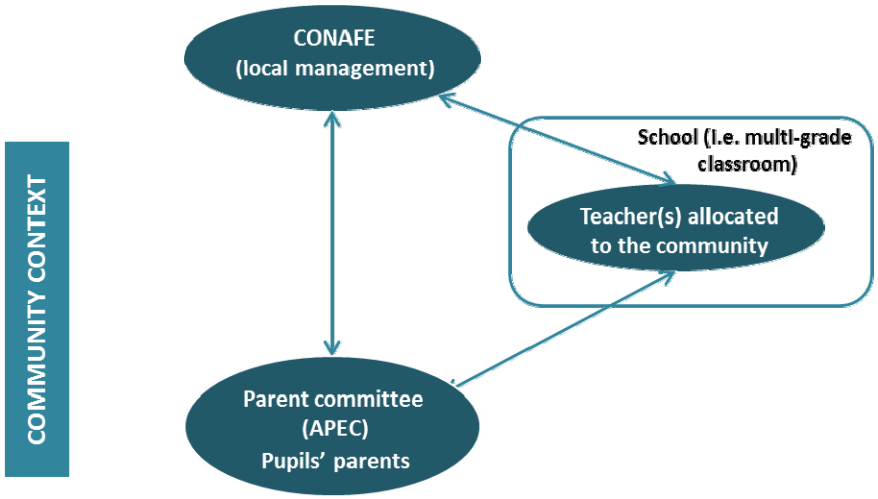


Figure 18 Community parents – CONAFE partnership model for school governance

Although CONAFE schooling programmes did not originate as the result of a decentralisation reform, this study confirmed that the CONAFE school governance model aligns to those models observed in most SBM programmes in different countries (Barrera-Osorio et al., 2009). Furthermore, CONAFE's school governance model is more similar in structure to those existing in Central America such as EDUCO (El Salvador), PROHECO (Honduras), *Centros Autonomos* (Nicaragua) and PRONADE (Guatemala), in which parent councils constitute the legal entities to perform functions on behalf of the parents (Barrera-Osorio et al., 2009; Di Gropello, 2006). This type of governance models aligns to those described by Wohlstetter and Odden (1992) Leithwood and Menzies (1998) as community control models. Nonetheless, as noted by Barrera-Osorio et al. (2009), Central America's SBM community managed schools possess higher levels of autonomy as they can control substantial resources that also enable them to hire, fire, and pay schoolteachers and other staff.

The evidence provided by this study confirmed the limited autonomy devolved schools in Mexico previously noted by Barrera-Osorio et al. (2009) and Skoufias and Shapiro (2006) that consists of school-level decision making for school infrastructure and resources needed in classrooms. However, the qualitative findings of this study found that, despite the limited autonomy devolved to CONAFE schools, parent empowerment can be high enough to exercise some political influence or make demands on the school providers and borough councils to build or improve the infrastructure and services (Bauch & Goldring, 1998).

Furthermore, the findings of this study noted that some communities possess a high capacity for managing schools leading to more parental involvement – responsive of school needs – and accountability relationships amongst the main parties involved (Barrera-Osorio, 2009). This evidence aligns to the so-called 'short route of accountability' developed by the World Bank (2004), in which the providers (i.e. CONAFE & Ministry of Education) are accountable directly to parents by passing decisions directly to the communities. According to this study, this short route of accountability has enabled low-density populations to request and access school services dealing with fewer bureaucracy levels –compared with general rural schools- by establishing direct contact with providers.

Similarly, the evidence found in relation to accountability relationships aligns to the four types noted in the World Development Report (World Bank, 2004). The 'compact relationships' are found connecting CONAFE management levels and at the bottom, connecting local management with frontline providers (i.e. teachers) and local management of the schools (i.e. parent councils) via signed agreements and budget allocation for teachers training and school supplies. The 'voice relationship' involves the appointment of parent committee members every year that constitute the legal entities that on community parents' behalf, request services and apply for funding. Client power can be expressed as the extent of involvement and active participation in the management of the school and teachers, whereas the management relationship involves all the teachers allocated to the community being monitored and trained by CONAFE local management staff for proper accomplishment of short- and long-term goals. The findings of this study highlighted the importance of APEC school councils' presidents in involving the parent communities and enhancing accountability relations and democratic participation in decision-making processes for managing the school. The results of this study also suggest that parents' lack of stature to state openly their opinions is likely to result in unquestionable decisions made by APEC presidents within an environment of apathy, suspicion and minimal accountability relationships (De Grauwe, 2005).

In this regard, this study provided evidence of the barriers for parent committees to run smoothly in order to carry out the commitments agreed with CONAFE and

therefore, to respond to local school infrastructure needs. Thus, as noted in Chapter 5 (5.2), relationships amongst community parents can be difficult and complex, leading to conflicts when school matters are brought up at meetings requesting parent participation of any kind. These findings corroborate some of the conclusions reached by Leithwood and Menzies (1998) highlighting interpersonal conflict as the one of the main obstacles to conflict resolution skills affecting the running of school councils. Attitudes and beliefs, especially those towards fundraising and attendance at meetings, were also found as crucial for parent committees to make decisions regarding school maintenance.

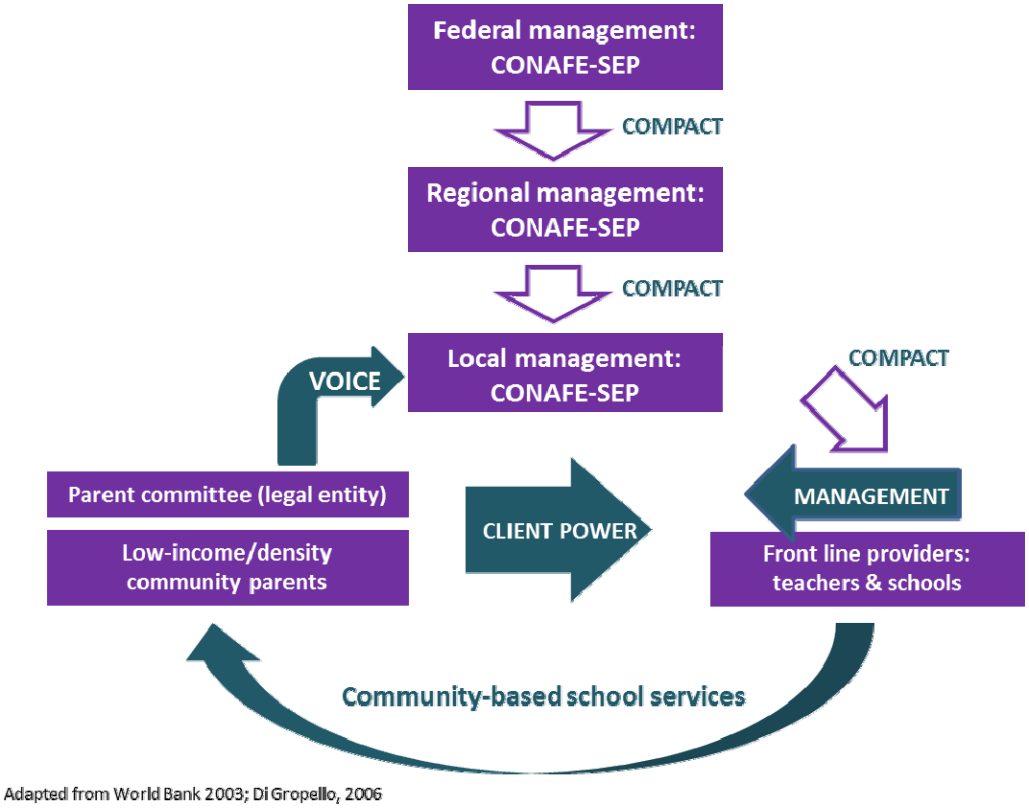


Figure 19 Accountability model for CONAFE schooling services

Finally, the evidence provided by the qualitative data is consistent with the literature that suggests that a balance between accountability and participation can be reflected in the material resources obtained for schools and decisions made in the interest of children (Barrera-Osorio et al., 2009). Thus, communities with the highest school management capacity appeared to be more resourceful and able to integrate and expand school services so that children would access basic education levels staying

safe in the community while benefiting from the school services and supplies provided by CONAFE along with other compensatory approaches running in the communities (i.e. community diners).

Generally speaking, CONAFE schools have elements of Di Gropello et al.'s (2011) 'school autonomisation model' in which the lines of accountability and core relationships can reach the capacity of complementing each other. However, core relationships may not always be given balanced weight, hindering the lines of accountability and, therefore, school outcomes and goals set.

6.2 Research Question 2

What are the main differences in relation to instructional practice in improving schools as opposed to non-improving primary schools?

In this study, the evaluation of instructional practices was considered highly important as the literature highlighted classroom-level factors as the main predictors of student progress overtime, and especially explaining more variance of pupil achievement in disadvantaged settings (Mortimore et al., 1998; Muijs & Reynolds, 2000, 2001; Muijs et al., 2004). More specifically, we relied on formally identified teacher behaviours and instructional practice measures that have been positively associated with pupil achievement (e.g. Carroll, 1963; Bloom, 1971; Doyle, 1986; Brophy & Good, 1986; Creemers 1994; Mortimore et al., 1988; Reynolds et al., 1996; Muijs & Reynolds, 1999, 2000a, 2000b; Reynolds & Muijs, 1999).

This study reported no statistical differences or above medium size effects (d=$\leq$0.4) between both teacher groups in relation to the number of pupils on task or the allocation of in-class time to key activities (5.1.4). Nonetheless, improving school teachers were significantly more consistent in the display of five effective teaching behaviours: (1) using time during class transitions more effectively, (2) taking care that materials were ready for class and distributed evenly, (3) using a reward system to manage student behaviour, (4) explaining tasks more clearly, and (5) displaying a positive tone in class. These behaviours also showed large effect sizes (d=$\geq$0.7) that corroborated their importance when comparing both school groups.

Despite the fact that the frequency of some teaching behaviours was not statistically different between both teacher groups, medium size effects were noted (d=≥0.4) in 11 behaviours: (1) starting lessons on time, (2) giving detailed directions and explanations, (3) using a brisk pace, (4) challenging pupils appropriately, (5) asking pupils for more than one answer, (6) guiding pupils through errors, (7) clearing up misconceptions, (8) giving positive feedback, (9) using manipulative materials, (10) encouraging pupil interaction, and (11) conveying genuine concern for pupils.

Regarding the behaviours related to the use of time, the qualitative findings noted that improving schools, parents tend to be more vigilant of teachers' making sure that classes start on time and that pupils stay in the classroom at all times apart from during lunch breaks and school ceremonies. With regard to teachers in improving schools who have tasks and material set for all the levels including the use of manipulative materials, this suggests some extent of mastery in the organisation and time spent on lesson planning noted as highly important in the literature concerning multi-grade teaching (Miller, 1989; 1991). This also indicates that teachers have,-to some extent, more control of children's behaviour at the start of the lesson and during transitions which is also reflected in their pace during class (Muijs et al., 2014).

In relation to the *use of a reward system*, *challenging and providing positive feedback* to pupils; and *showing care* for pupils, especially those lagging behind, the qualitative data noted that parents in general aware of how their children respond towards encouragement and genuine care exhibited by teachers. These results are relevant as they align to the findings of Ledoux and Overmaat (2001), and Teddlie and Stringfield (1993), noting that low-SES students need -and tend to be more responsive- more structure and positive reinforcement (i.e. external rewards) than pupils from higher-income settings.

The absence of more significant differences and bigger size effects between both teacher groups can possibly be explained by the fact that schools observed varied in size and therefore, the number of teachers allocated per school/classroom varied across the sample. For instance, it was noted that only three teachers provided full multi-grade instruction to fewer than or equal to 16 pupils, while four teachers taught

only two grades (one level). In the seven remaining schools of the sample, teachers sharing larger groups (up to 26 pupils) split pupils by grades/levels to provide direct instruction to even number of pupils within the same classroom in most of the cases. It was noticeable that in mixed gender shared instruction, female teachers tend to provide lessons to early grades (first to fourth) while male teachers deliver lessons to upper levels (fourth to sixth grades).

In relation to the variability in teachers' experience, the quantitative data noted that five out of six improving schools had returning teachers (1+ years of experience), being one paired with a first year teacher. In the case of non-improving schools, only one school – out of four – had two returning teachers. The qualitative data indicated that returning teachers had somewhat higher self-efficacy than novice teachers, who were still in the process of gaining confidence with their teaching and classroom management skills. This type of evidence led to a follow-up analysis in which statistical differences between novices and more experienced teachers converged with the qualitative findings (6.4).

6.3 Research Question 3

What other key differences exist between improving schools and non-improving CONAFE primary schools?

As noted in 6.1., CONAFE schools have a community managed governance structure that relies on parents' capacity – as a whole – to manage schools and teachers onsite. The qualitative data noted that improving schools have higher capacity for managing schools and teachers. High capacity for managing schools and teachers was mostly observed in accountable, involving relationships amongst parents that derive into more responsive decision-making processes based on the interest of children (De Grauwe, 2007). Non-improving school showed lower capacity for managing schools noted by poor collaborative relationships and lack of accountability at the school level as the interests of parents do not usually concur in relation to school matters (Leithwood & Menzies, 1998).

At pupil individual level, it was found that pupils in improving school settings possess higher socioeconomic status (SES) and sociocultural capital (SCC) compared to pupils in non-improving schools (5.1.1). SES and SCC are some one of the most extensively studied variables in SER's explaining a great percentage of the variance in pupil achievement that impacts school effects depending on the country and the particular schools under examination (Teddlie, Stringfield & Reynolds, 2000; Murillo & Román, 2011a).

Another difference found between both groups was the type of employment parents possess. According to the findings, more fathers in improving schools are employed in non-related farming activities than those in non-improving schools. The qualitative data suggested that parents working outside the communities are likely to impact not only the economy of the families, but also shape – to some extent – their views regarding education and social mobility for their children. A set of behaviours found in the data enabled the evaluation of parental involvement in CONAFE primary schools. Parental involvement appeared to be higher and, to some extent, in relation with factors such as SES and SC (6.4 in this chapter).

The differences found at both individual and school level for both groups confirm the presence of two important contextual variables (i.e. school governance structure and pupils' SES) that former research has found as having direct and indirect effects upon school outcomes (Teddlie, Stringfield & Reynolds, 2000). Furthermore, the fact that parents are located at two levels of the nested structure of the schools highlights the fact that contextual variables heavily influence the presence of school effectiveness factors for this study including their cross-level interactions as discussed in 6.4 of this chapter.

6.4 Research Question 4

To what extent can the presence or absence of SER/SI factors provide account of improvement trajectories for both school groups?

The main group differences found at three main levels of CONAFE schools revealed the presence and extent of SER/SI factors which are highly mediated by the contextual

variables found in this study. The factors found and their interrelationships are discussed below.

6.4.1 Capacity for governing schools and school resources

As noted in 6.1 the relationships amongst parents are highly important to prioritise the delivery of school services and commit to those via their capacity for governing schools. The capacity of CONAFE school parents for governing schools observed in this study relied on two main aspects: (1) the capacity to maintain school resources and infrastructure and (2) the capacity for managing teachers. The qualitative data revealed that all schools have governing bodies (i.e. parent committees) that managed schools and teachers along a continuum ranging from high to low capacity for school governance (5.2.4).

Most improving schools in this study noted high capacity for managing schools and teachers. As noted further above (6.1), high capacity for managing schools is the result of a balanced relationship between autonomy, accountability and parental involvement to manage schools. While most participants in the study noted the lack of resources to improve classroom infrastructure, communities with high management capacity were more able to sort out school infrastructure issues by implementing local and external fundraising approaches. This was reflected in the growth and improvement of school services across time involving more appropriate facilities for pupils and teachers (e.g. teachers' room, toilets, additional classrooms) and recreational spaces such as playgrounds or basketball courts which have an impact on student achievement in Latin America (Murillo & Román, 2011b).

By contrast, schools with low capacity for managing schools were less able to collectively prioritise pupil and teachers' needs regarding infrastructure. Such communities were mostly relying on external aid (e.g. CONAFE, borough budget available) as they were more limited for raising funds locally and therefore unable to expand or improve their schools' facilities.

The fact that parents provide shelter, care and manage teachers as the human resources of the school is also an essential part of the school governance in CONAFE

schools. High capacity for managing teachers is noticeable in the way teachers are inducted and supported by parents as a whole throughout the school year so that teachers can comply with the aims set for pupils' learning and achievement. The extent of capacity for managing teachers was found as a factor influencing teachers and their teaching in this study (6.2) as the context in which teachers are nested inevitably shapes their professional development, their commitment and their motivation to remain in the programme.

6.4.2 Positive school culture and community–school ties

The qualitative findings in this study noted that relationships within parent communities running schools can be rather complex especially as – due to the small number of families – all community relationships are usually taken to the school arena and vice-versa. In improving school communities –with high capacity for school management – a sense of community and school ownership was observed as parents refer to the school as 'their school'. This is also noted in the importance placed towards not only maintaining, but also extending and improving school facilities (Fullan, 1991; Hopkins et al., 1994; Reynolds et al., 2015). Positive relationships are also observed in the open communication amongst parents to discuss and construct agreements during meetings, taking on responsibilities as a whole and supported by committee presidents accordingly. Similarly, internal rules are set by committees in consensus with parents so that they align to the commitment they have with the school and the community in general.

The community–school ties may also involve the organisation of recreational activities and gatherings (e.g. school festivals, parades) that will reinforce the cohesion of school parents and the community in general. This is in line with SER evidence in which the community participation and positive school culture are highly important for effective schools as it sets the proper environment for instruction to take place (Reynolds et al., 2015; Teddlie & Reynolds, 2000).

Contrarily, the lack of positive school culture in communities is manifested in parents who tend to blame each other for not attending meetings or for being reluctant to put money/time into sorting out school matters. These attitudes from parents usually

delay decision making and result in postponing solutions to school matters. Furthermore, as the sense of community is low, relationships amongst parents may involve feelings of mistrust and miscommunication which also impede the integration of non-native inhabitants including teachers who are unlikely to ask for support from the community as a whole. Therefore, communities – including teacher – with no positive culture and low sense of community are likely to do just what is needed to comply with the agreement signed with CONAFE.

6.4.3 Leadership

As CONAFE schools lack head teachers, leading roles are placed on parent committee members, more specifically APEC presidents. The qualitative findings revealed that communities with high school governance capacity are more likely to appoint APEC presidents based on an established system (e.g. having experience as an APEC member). Communities with low capacity for school governance are more likely to rely on parents' volunteering for APEC positions.

As parent committee (APEC) presidents are legally entitled to make decisions on behalf of parents, effective leadership features were noted in the way APEC presidents lead and engage with parents to manage schools as a whole. Effective APEC presidents had strong influence on parents reinforcing the idea of school ownership encouraging all parents' participation and consent in decisions regarding schools matters. Effective leadership from presidents and committee members was also noted in the equal distribution of school responsibilities including those relating to monitoring teachers within the community (Teddlie & Stringfield, 1993; Muijs et al., 2004). These features of leadership align to distributed leadership models found in the literature in which the leadership function is stretched over the work of a number of individuals in order to achieve tasks through the interaction of multiple leaders (Gronn, 2000; Spillane, 2001).

As mothers are most of the time working in the community, they appear to be more effective APEC members in terms of time availability for organising parent meetings, attending meetings in CONAFE premises and collecting material for schools. Furthermore, APEC presidents sharing school management with all parents is likely to reach teachers so that their proposals to improve schools and pupil performance are

heard and supported by parents. This evidences the importance of teacher involvement for teacher collegiality and collaboration leading to school improvement and change (Glickman et al., 2001; Little, 1990; Mitchel & Sackney, 2000). Finally, another of distributed leadership was observed in the efforts to maintain school services via developing relationships with other communities leading to benefiting more students and parents and lowering costs for both communities.

By contrast, lack of effective leadership features in committee presidents was mostly noted in communities in which parents lack voice – sometimes due to their low literacy levels – or involvement from presidents who may prioritise personal matters over school needs. This is more likely to happen in communities where there is no sense of community so that parents are sometimes forced in to collaborative work using the payment of fines. Finally, the lack of effective leadership from parent committees also hinders the relationships with teachers as they may lack confidence to ask for support and may perceive APEC presidents as authoritarian rather than supportive roles in the community.

6.5.4 Parental involvement, expectations and value of schooling

In this study, parental involvement was found in the data as a set of behaviours – either at home or school – meant to support children's educational progress (El Nokali, Bachman & Votruba-Drzal, 2010). The specific behaviours that were found in this study were: (1) parental views on further schooling (i.e. communication of expectations, capacity for accessing schooling out of the community, value of schooling); (2) response to teachers' feedback (i.e. participation in school activities and workshops, ability to comply with teacher advice and requests, capacity to support rules for proper behaviour in the classroom); and (3) capacity of parents for helping pupils during homework duties and learning (i.e. direct and indirect assistance). These behaviours associated to parental involvement have been prominent in several meta-analyses (e.g. Fan & Chen, 2001; Jeynes, 2003; Jeynes, 2007; Hill & Tyson, 2009; Jeynes, 2012).

In relation to this, the quantitative data also noted that pupils in non-improving schools had lower schooling expectations than their counterparts in improving schools (5.1.1). The relationship between pupil SES and schooling expectations was suggested

by the qualitative data as most parents from non-improving settings highlighted the lack of monetary resources as the main barrier to send pupils outside the communities to pursue further education. This may lead to discouraging children in their will to study outside the communities (Lupton, 2003; Harris et al., 2006).

Some more differences found between both school groups also implied a relationship between SCC and parental involvement in relation to home-based activities. According to the qualitative findings, parents with higher SCC were more able to provide direct assistance to children and were also more capable of engaging into open communication with their children. This lends support to Blanco's (2007) findings in relation to a positive significant relationship between open communication and the expectations of Mexican sixth graders to achieve higher education.

Low/non-literate parents reported being able to indirectly assist pupils with homework by monitoring children at home and seeking external help (i.e. elder siblings, teachers and CONAFE staff on site) when needed. The data also noted that low SCC parents tend to exhibit a more commanding approach – rather than communicative – in order to express concerns and obligations to pupils in relation to school.

In relation to the value of schooling, mothers mostly – regardless of their SCC-insisted on the need for pupils to attain basic education as a way to improve and widen their labour opportunities in the future. Furthermore, it was noted that non-literate mothers in both school settings had managed to enrol older children in upper secondary schools outside the community becoming role models for their younger siblings and other children in the communities.

Finally, the findings in relation to parents' response to teachers' feedback, improving schools revealed to be more able to participate in workshops, follow teachers' advice to support children with their learning and to support teachers' rules to prevent misbehaviour in class. Parental involvement workshops and suggestions supported by CONAFE local management and teachers are mostly welcomed by parents in improving schools; this is likely to be mediated by a positive school culture towards supporting teachers and children. The assistance and participation in workshops suggests a

positive effect in relation to spending more time 'talking about school and pupils' noted in other community managed systems (Di Gropello, 2006).

6.4.5 Monitoring progress and raising attainment

The qualitative data noted that pupil assessment in CONAFE schools had recently changed into a summative approach that replaced exams, except for the diagnostic and the final exams. These two exams were highlighted as being determinant in the decision for allocating specific interventions aiming to improve low achievers' skills. It was noted that at the end of the school year, CONAFE local management places summer tutoring programmes in schools with a relatively high number of low achievers. Similarly, Itinerant Pedagogical Assistants (APIs) are allocated to communities in which low achievers are detected via diagnostic tests. The qualitative findings noted that the interventions made by APIs and summer tutors in levelling off pupils' skills is evident to most parents who feel their children are more motivated by this type of personalised interventions.

However, one of the main drawbacks of this type of interventions is that decisions regarding the number and the communities to where APIs and summer tutors must be allocated are not made by CONAFE local managements. All schools in the sample had been exposed to these types of interventions in recent years. However, qualitative findings revealed that communities with higher capacity for school governance were more enthusiastic about the presence of summer tutors and APIs regardless of the effort and costs involved in sheltering and catering more teachers in the community.

6.5.6 Effective teaching

Multi-grade schools can be effective with the commitment of teachers, the use of special materials, the provision of in-service activities and the involvement of parents in the educational process (Rojas & Castillo, 1988). In this regard, this study found that effective teaching in CONAFE primary schools relies on: (1) the appropriate use of framework and pedagogic approach supporting CONAFE teaching method and materials, (2) the capacity of parents to manage incoming teachers, (3) the experience and number of teacher(s) allocated per school, and (4) the efficacy of CONAFE local

management to provide communities with materials and resources (e.g. books, stationery) needed for instruction and to assist teachers on site and during in-service training.

According to the findings of this study, CONAFE's pedagogical approach for multi-grade instruction –grouping two grades in one level – facilitates classroom arrangement leading to positive achievement effects (Gutierrez & Slavin, 1992). Furthermore, CONAFE's multi-grade guide is relatively easy to manage by young teachers as it provides them with the main steps to deliver a lesson including aims, tasks aligned to pupils' books and ideas for in-class activities. Qualitative data supported the fact that CONAFE work scheme has a number of hours set for each subject in primary schools, being maths curriculum content prioritised compared to the rest of the subjects (e.g. Language, History, Geography, etc.). Therefore, it was noted that the first part of the day – in most schools – was spent on Mathematics lessons. This structured approach aligns with evidence found in other studies in which content is delivered in small sets using certain number of aims and content prioritising basic – numeracy and literacy – skills.

The qualitative findings indicated that high capacity to manage teachers would likely be reflected in constant monitoring of teachers aiming to prevent teacher absences and to maximise in-class time (Murillo, 2007a). Similarly, parents are likely to demand more 'attention' and 'effort' from teachers to help pupils improve their skills and marks thereby extra school sessions or homework tasks. This 'demand of effort' from parents to teachers has also been observed in other community managed systems in which parents get the most of teachers' time in the communities in order to help pupils progress (Di Gropello, 2006; Teddlie & Stringfield, 1993). It was also suggested by the findings that communities with high capacity for managing teachers are also more able to 'socialise' (i.e. adaptation stage) teachers by making induction a more supportive and positive experience for teachers leading to more focus on professional development towards pupils' needs (Feldman, 1976; Teddlie & Stringfield, 1993).

The quantitative data results showed that all teachers in the sample had secondary education as their highest educational level attained. This is consistent with the

evidence found in Latin American rural schools related to the recruitment of teachers with lower levels of education, experience and subject knowledge (Psacharopoulos, Valenzuela & Arends, 1993). For this study, the experience of teachers in relation with their effectiveness was quantitatively tested following up the variability observed within the classrooms and the results of qualitative data suggesting that returning teachers (1+ years of experience) had somewhat higher self-efficacy beliefs and were more motivated than novice teachers. The quantitative findings mostly corroborated qualitative findings showing that returning teachers had significantly more pupils on task. Returning teachers were also found significantly more frequent and/or consistent in the display of effective teaching behaviours associated with (1) maintaining appropriate classroom behaviour, (2) maintaining attention and focus on lesson, (3) providing students with review and practice, and (4) demonstrating skills in questioning. These results are important since, according to the qualitative data, returning teachers may either become teacher trainers or share instruction with novice teachers, providing them with peer support and indirect mentoring.

The results in relation to having more pupils on task suggest a clear priority set on pupils being engaged in learning over other non-educational activities (Brophy & Good, 1986). This is also aligned to the proper management of student behaviour which as noted in the literature is difficult to attain in low-income settings but it is essential for maximising learning time (Muijs et al., 2004). Qualitative findings revealed that most novice teachers struggle to manage pupil misbehaviour and reluctance to work in class whereas returning teachers possess more skills to reinforce classroom rules and motivate pupils to work. Novices facing these situations would likely shift to traditional methods (e.g. copying texts, working individually) in order to control students abandoning CONAFE's inductive approaches for instruction. These findings lend support to earlier work from Vonk and Schras (1987) and Flores and Day (2006) regarding new teachers becoming more traditional and teacher-centred while dealing with behavioural issues. In relation to instruction for fifth and sixth graders (i.e. Level 3), it was noted that novice teachers are prone to rely on seat work, individualisation and – formally designed – written materials for those grades and therefore, diminish

student learning via cooperative learning and whole-class interaction (Gutierrez & Slavin, 1992).

The findings in relation to the experiences lived by novices shaping their motivation and self-efficacy beliefs revealed that one of the main struggles is that the expectation created during the in-service training preparation does not always match with the reality of the setting. These findings are in line with the so-called 'reality shock' or abruptness new teachers face as they take on the full responsibility of their roles noted by Veenman (1984), Huberman (1993) and Vonk (1993). Furthermore, whereas pre-service training for teachers takes place in CONAFE local management premises involving the same process for all teachers, induction stage takes place in the communities and is mainly dependant on the capacity of parent committees for managing teachers. In this regard, it was found that novice teachers grow into their profession and identities while adapting and being constantly challenged by the reality of their contexts (Feldman, 1976; Teddlie & Stringfield, 1993; Day, 1999). Communities' low capacity for managing teachers can negatively affect novices' motivation to continue in the programme and, to some extent, hinder the development of returning teachers. The qualitative findings noted that returning teachers have overcome the difficulties of their first year and become resilient to maintain their commitment despite the challenging circumstances facing. This resilience enables them to work in communities with low capacity for school governance and low parental involvement being committed to pupils' learning and progress via instruction (Gu & Day, 2013).

Finally, the qualitative findings noted that all primary schools had a library corner with a limited variety of books aimed to support tasks and reading activities. Allocation of student books and supplies is usually efficient as parent committees are in charge of collecting such, prior to the start of the school year. Regarding teacher allocation to communities, the findings noted that this is partly dependant of recruitment figures at the beginning of the school year. The qualitative data also noted that the proper and punctual allocation – and relocation – of teachers is partly associated with the experience of CONAFE local managers who have developed a series of measures – supported by staff – to prevent major disruptions in the delivery of instruction once

the school year has started. In relation to professional development, CONAFE local management staff (i.e. teacher trainers) are more likely to perform mentorship roles rather than supervisory ones as a way to support teachers in their professional development and diminish the chances of desertion (Gold, 1996). As a result, in-service training takes the form of workshops in which teachers work on their subject knowledge gaps as they exchange ideas for activities related to the aims to be covered in the following weeks. The data highlighted the importance of in-service training as it provides – novice – teachers with a collective sense of purpose via social connectedness with other young teachers.

6.5 Summary

In this chapter I have discussed the findings of this study by addressing each of my research questions. In the first part of the chapter I have mainly discussed the particular model under which CONAFE schools are run across Mexico. In the second part, I have addressed the main differences found between improving and non-improving schools at three levels of school (i.e. individual, classroom, school). Finally, in the last section I have looked at the extent of school effectiveness and improvement factors found in relation to the major differences between the two groups of schools. In the upcoming chapter, I arrive at the main conclusions derived from this study including the discussion of implications, contributions and limitations of this study. Finally, some unanswered issues are highlighted including future research recommendations.

Chapter 7 Conclusions

The present chapter comprises two main sections. The first revises the aims of this study, as well as the main findings discussed in Chapter 6, in relation to the posed research questions. The second section accounts for the contribution to knowledge, the implications for practice and policy and the directions for future research.

The main purposes of this mixed methods study were: (1) to investigate the factors influencing student achievement in two groups of CONAFE primary schools of Oaxaca; and (2) to generate a greater understanding of the school processes taking place in low-income rural settings of southeast Mexico.

In order to address these aims, this thesis posed following four research questions:

1. How are CONAFE schooling services run in order to cater for rural low-density populations in Oaxaca, Mexico?

2. What are the main differences in relation to instructional practice in improving schools as opposed to non-improving CONAFE primary schools?

3. What other key differences exist between improving schools and non-improving CONAFE primary schools?

4. To what extent can the presence or absence of SER/SI factors provide account of improvement trajectories for both school groups?

7.1 Summary

I found in answer to my research questions that CONAFE schools are run under a governance model fitting with SBM, as the autonomy of the school is devolved to parents to manage teachers and school infrastructure. Despite the limited autonomy granted to schools via decision making and a limited budget, this study found that community parents are able to demonstrate a high capacity for governing the schools, as in the case of the improving schools of this study. The study noted that the capacity for governing schools is heavily influenced by the *school culture* and the extent of *positive relationships* amongst parents who are able to come to a consensus on the

priorities regarding school maintenance and needs. Parents running improving schools in this study showed a higher capacity for governance, as schools' infrastructure included the integration of classrooms and other community services in an ample space favouring recreational activities and sports for pupils and parents. By contrast, existing school services and infrastructure in non-improving schools reflected the low capacity of parents to construct agreements prioritising school needs and adequate facilities for pupils and teachers. *Distributed leadership* features were found in parent committee's presidents of most improving schools, who were able to exert parents' commitment and ownership of the school by engaging them into collaborative work and agreements. A distinct feature of presidents' effective leadership was the shared management of teachers, involving not only the provision of meals and shelter but also the monitoring of teachers to guarantee the provision of instruction as expected. This study confirmed that CONAFE primary schoolteachers are mostly upper secondary school graduates who see in CONAFE teaching programme a way to earn funding for their higher education studies. In relation to instructional practices and pupil learning, the small, significant differences found suggest that teachers allocated to improving schools are able to provide students with more practice and, to some extent, to establish the conditions necessary to provide instruction and maximise class time. Teachers in non-improving schools are less likely to manage pupil misbehaviour, which impacts on pupils being on task and the management of class time. Non-improving schools were found to likely increase teacher turnover and/or hinder teachers' motivation as a result of their low capacity for managing novice teachers. Finally, important differences were found at the pupil individual level involving the SES and SCC of families that appeared to be higher in improving schools. In relation to this, factors such as *parental involvement* and *pupil expectations* in this study were associated with both pupil SES and SCC, favouring improving schools.

7.2 Contribution to knowledge

Most of SER base in relation to schools in challenging circumstances has involved public schools serving urban-disadvantaged communities in developed countries which are entirely different to the context and schools concerning this

study which constitutes a major contribution to the field. Similarly, SER studies in Mexico have not looked at rural multi-grade schools due to the complexities involved in the research design, availability of longitudinal assessment data, access to schools, and time allocated for data collection.

As noted earlier in this study, former SER studies in Mexico have highlighted the importance of context variables in rural settings as significant for explaining low pupil performance. However, isolated contextual variables –beyond significant correlations- have failed to explain their relationships with other school level factors in order to portray a better picture of rural school phenomena. Thus, the findings of this study not only confirm the presence of important contextual factors but also disclose their interrelationship with other factors related to pupil achievement and attainment.

This is the first study in the area which focuses on the effectiveness of a specific set of rural multi-grade primary schools in low income/density areas in Mexico using a mixed-method approach. As noted earlier CONAFE schools are under-researched as their character is sometimes undermined by the fact that those schools are not directly run by the Ministry of education in Mexico and therefore, teachers are not required to go through formal teacher education. Thus, the evidence regarding how professional development occurs for CONAFE teachers contributes to the knowledge of similar approaches for teaching interventions in other countries (i.e. Teach First). More importantly, this is one of the very few studies in Mexico that has used a structured classroom observation approach to address classroom level factors that are highly important for pupil achievement, especially in disadvantaged areas.

Therefore, this study contributes to highlight the extent of effectiveness of CONAFE schools as the main provider of basic education in low income

populations. Finally, contextual variables found in this study contribute to contingency theory as the configuration of situational factors varied when comparing the two main groups of schools guiding this study. Thus, this study has responded to the current need to know more about the school and its relationship with its surrounding community as a way to determine its effectiveness based on its adaptation to the local circumstances and needs.

7.3 Implications for policy and practice

The school effectiveness factors found in this study have corroborated the findings of studies in developing and developed countries, sustaining their importance in relation pupil achievement. This study explored the main factors and their interrelationships across three main levels of school: individual, classroom and school levels. Therefore the implications of this study include:

1. The autonomy devolved to parents in CONAFE schools has proven significance to this study, as no other public schools are given that type of autonomy. However, existing relationships amongst parents in the communities shape the school culture of the setting. As changing the school culture requires time, a starting point could include the provision of more tailored training to parent committees to provide them with strategies to involve and exert ownership of the schools in their parent communities as a whole.

2. In relation to the allocation of budget to APECs, parents should be informed of all the possible funding sources available to them, as well as the possibilities to establish networks with other communities to support each other in the application for state funding available for rural schools. Similarly, government aid programmes for school infrastructure should adjust the budget to meet local needs of rural schools.

3. The findings of this study provide account of how professional development of CONAFE teachers takes place on the job and the circumstances that may favour or hinder such development. This study highlighted that the resources for teaching are merely sufficient in most cases. This highlights the need to allocate more classroom resources so that teachers can diversify their activities for instruction. Similarly, more

resources and/or incentives must be set in place for novice teachers to stay a second year which as noted in this study, is likely to make a difference in instruction delivery.

4. The findings of this study pointed out the effectiveness of returning teachers in the allocation of instructional time and effective teaching behaviours. In this regard, strategies and incentives to retain first-year teachers should be implemented so that more pupils can benefit from their past experiences. In relation to this, pre-service training could be enhanced by providing novice teachers with team-teaching practice in the communities prior to the start of the school year. Prospective novice teachers during pre-service training could also benefit from observing lessons in actual scenarios in order to reflect and analyse the instructional practices of more experienced teachers.

5. In relation to the benefits of mentorship highlighted in this study, the limited personnel available in CONAFE local management was noted, which may impede the proper and punctual monitoring and support of teachers in the communities. Thus, more experienced staff should be hired and allocated to CONAFE local management for continuous monitoring and support of teachers on site.

7.4 Limitations of this study

This study was subject to the following limitations:

1. The population of this study was confined only to CONAFE schools located in Oaxaca. Therefore, the findings of this study could be generalised only to the population from which the sample was obtained.

2. The sample was not representative of population, as purposive and convenience sampling strategies were applied in the collection of quantitative data. Thus, these sampling approaches limit the generalisability of the results from this study to other populations.

3. There was a potential bias in the quantitative demographic data, because self-response instruments were applied to teachers and pupils. Thus, the results of self-report instruments could be unreliable and inaccurate due to the personal

circumstances and the fact that participants have a tendency to report socially desirable responses.

5. There was a potential bias in the interpretation of the qualitative results interpretation as a result of the researcher's experiences, beliefs and feelings towards the study.

6. Another major limitation is that the school setting categories in Mexico assume, to some extent, homogeneity within the school settings. However, this study has suggested some degree of between-school variation due to the societal structures existing in the communities and their socioeconomic status in general.

7.5 Future research

This research informs and provides evidence of the factors influencing the extent of improvement observed in two groups of CONAFE schools. However, given that the present study explored an educational subsystem (CONAFE) that has been not been studied under the scope of SER/SI, the findings remain preliminary.

Further investigation is needed using a larger sample of schools with a design built on the findings of this study, so that variables can be measured and tested against students' educational outcomes for more robust inferences. Another possibility for future research would consist of a longitudinal study to analyse trajectories in the development of community-based schools, keeping track of changes in the parent committees running the schools, the variation in teachers allocated to schools and pupils' longitudinal attainment data.

Finally, teacher effectiveness results obtained in this study suggest further exploration of the effectiveness of teachers from other subsystems teaching in similar circumstances which would ideally lead to a model of differential teacher effectiveness.

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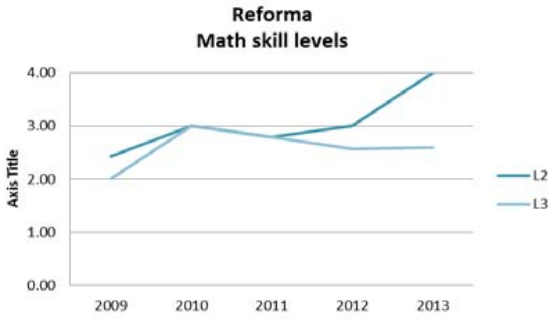
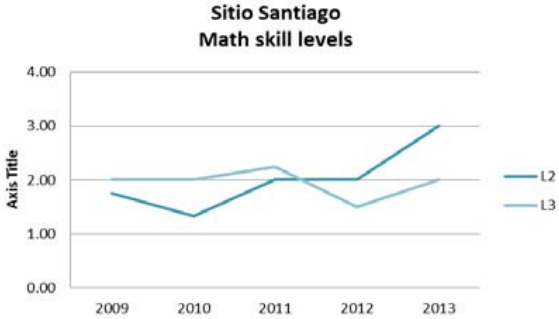
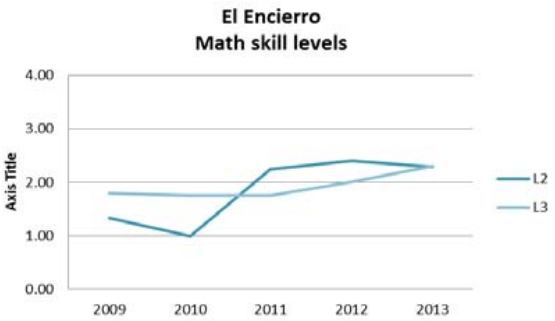
3d. Qualitative results (*Nvivo* coding and output)

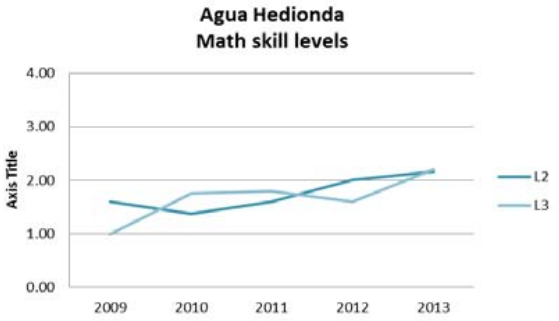
Appendix 1: Participants

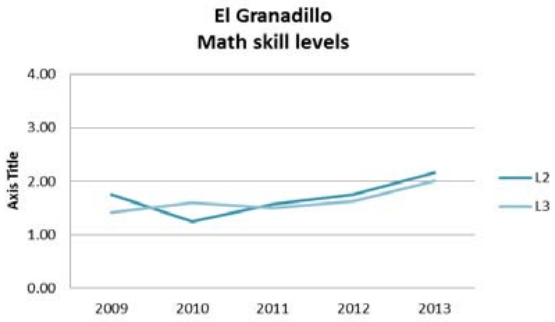
1a. School main sample: Improving schools

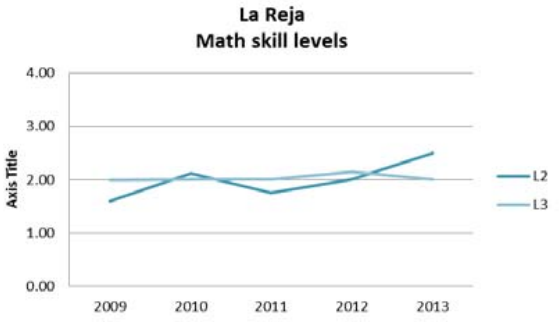












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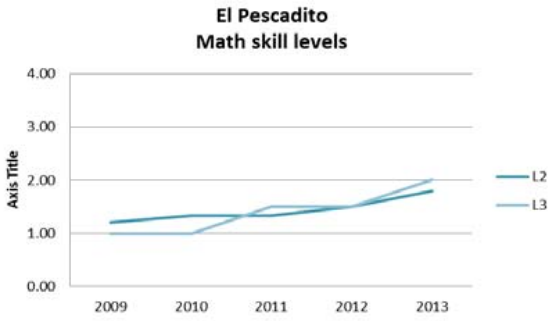

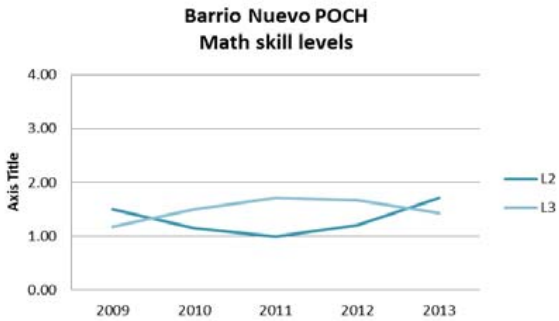

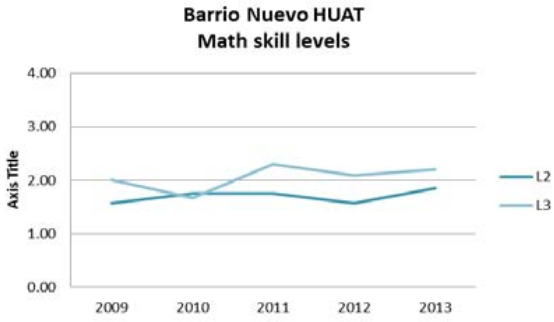

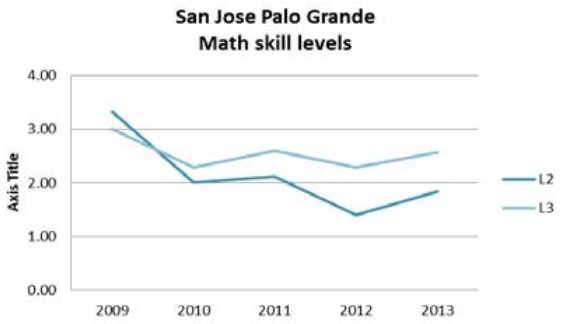

1c. Participant information sheet (Parent version)

UNIVERSITY OF Southampton

Participant Information Sheet

(Parent version)

Study Title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher: Rosa Maria Cruz **Ethics number**:13110

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

Rosa Maria Cruz is a Doctoral student at University of Southampton. She is being sponsored by the National Council for Technology and Science (CONACyT) and the Ministry of Education (SEP) in Mexico. She is undertaking this PhD research project about School Effectiveness and Improvement in disadvantaged contexts as a way to pursue a Doctoral degree in Education.

This research project aims to find what school processes are currently taking place in CONAFE community-based schools of Oaxaca that along with other factors may be contributing to improving students' academic performance and learning. Moreover, another aim of this research is to find the most relevant school factors that can be replicated in other CONAFE schools to make them more effective across time.

Why have I been chosen?

For this study a sample of CONAFE schools located in Oaxaca has been chosen based on the results of ENLACE test in recent years. You have been chosen due to the fact that your child/children is/are being catered for in one of the schools of the sample.

What will happen to me if I take part?

If you take part of this study, you will be contributing to this study by providing your views and experience regarding CONAFE schools. Your participation will consist on one interview in which you will first provide the researcher with some information about your background and living conditions. Afterwards, during the same session you will be asked for your opinion about your child's school and his/her learning experience in this type of educational service provided in your municipality.

Regarding your child's participation in the study, he/she will be asked to answer a questionnaire to provide information about his/her background, his/her home conditions, and his/her school conditions. Moreover, her/his class will be observed three times consecutively to gather information regarding classroom environment, teaching and learning. Finally, your child and her/his classmates will participate in a group session in which they will be asked to express their opinions and perceptions with regard to their wellbeing at school.

Are there any benefits in my taking part?

There may be no benefit to the individual, but others will ideally benefit from the knowledge generated out of this study.

Are there any risks involved?

No risks are involved at all.

Will my participation be confidential?

This research study is being conducted in compliance with the Data protection Act/ University of Southampton Policy. The information you will be providing will be coded so that your name will be either changed or coded into numbers. Additionally, all Information you will be providing will be digitalised and kept in password protected files and computer that only the researcher will have access to. Such data will only be accessed by the researcher up to 5 years after the study is completed and destroyed afterwards according to the Data Protection Act and University policy.

What happens if I change my mind?

Your participation is highly appreciated and very valuable for the purposes of this study. However, if at any stage of the study you consider you won't be able to continue, you are entirely free to withdraw your participation in the study.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you should contact:

Head of Research Governance

(02380 595058, rgoinfo@soton.ac.uk).

Where can I get more information?

If you would like more information about the study you can contact the researcher via the following email: rmc1g12@soton.ac.uk

You can also contact any of the supervisors that are guiding this study:

Prof. David Reynolds

D.Reynolds@soton.ac.uk

Prof. Daniel Muijs

D.Muijs@soton.ac.uk

1d. Participant information sheet (Teacher version)

UNIVERSITY OF Southampton

Participant Information Sheet

(Teacher version)

Study Title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher: Rosa Maria Cruz **Ethics number**: 13110

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

Rosa Maria Cruz is a Doctoral student at University of Southampton. She is being sponsored by the National Council for Technology and Science (CONACyT) and the Ministry of Education (SEP) in Mexico. She is undertaking this PhD research project about School Effectiveness and Improvement in disadvantaged contexts as a way to pursue a Doctoral degree in Education.

This research project aims to find what school processes are currently taking place in CONAFE community-based schools of Oaxaca that along with other factors may be contributing to improving students' academic performance and learning. Moreover, another aim of this research is to find the most relevant school factors that can be replicated in other CONAFE schools to make them more effective across time.

Why have I been chosen?

For this study a sample of CONAFE schools located in Oaxaca has been selected. You have been chosen because you are part of CONAFE teaching staff allocated to such schools.

What will happen to me if I take part?

If you take part of this study, you will be contributing to it with your views and experience that will be collected in different ways. You will first be required to fill out some questionnaires regarding some information about you and your background. Next, part of your class will be observed for three days consecutively to get an insight of the classroom climate as well as the interactions among pupils and yourself while instruction is taking place.

After observations are made you will be asked to rate the perceptions and views you have regarding your students, the school you are teaching at, as well as your teaching practices.

Are there any benefits in my taking part?

There may be no benefit to the individual, but other teachers will ideally benefit in the future from the knowledge generated out of this study.

Are there any risks involved?

No risks are involved at all.

Will my participation be confidential?

All the information collected from the questionnaires and observations will be used for the purposes of this study. The information you will be providing will be coded so that your name will be changed or even coded into numbers. Additionally, all Information you will be providing will be digitalised and kept in password protected files and computer that only the researcher will have access to. Such data will only be accessed by the researcher up to 5 years after the study is completed and disposed of afterwards according to the Data Protection Act and University policy.

What happens if I change my mind?

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Prof. Daniel Muijs

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1d. Participant information sheet (CONAFE management version)

UNIVERSITY OF Southampton

Participant Information Sheet

(CONAFE management version)

Study Title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher: Rosa Maria Cruz **Ethics number**: 13110

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

Rosa Maria Cruz is a Doctoral student at University of Southampton. She is being sponsored by the National Council for Technology and Science (CONACyT) and the Ministry of Education (SEP) in Mexico. She is undertaking this PhD research project about School Effectiveness and Improvement in disadvantaged contexts as a way to pursue a Doctoral degree in Education.

This research project aims to find what school processes are currently taking place in CONAFE community-based schools of Oaxaca that along with other factors may be contributing to improving students' academic performance and learning. Moreover, another aim of this research is to find the most relevant school factors that can be replicated in other CONAFE schools to make them more effective across time.

Why have I been chosen?

For this study a sample of CONAFE schools located in Oaxaca has been selected. You have been chosen because you are part of CONAFE management staff in charge of such schools.

What will happen to me if I take part?

If you take part of this study, you will be contributing to it with your views and experience that will be collected in different ways. You will first be required to fill out some questionnaires regarding some information about you and your background. Next, part of your class will be observed for three days consecutively to get an insight of the classroom climate as well as the interactions among pupils and yourself while instruction is taking place.

After observations are made you will be asked to rate the perceptions and views you have regarding your students, the school you are teaching at, as well as your teaching practices.

Are there any benefits in my taking part?

There may be no benefit to the individual, but other teachers will ideally benefit in the future from the knowledge generated out of this study.

Are there any risks involved?

No risks are involved at all.

Will my participation be confidential?

All the information collected from the questionnaires and observations will be used for the purposes of this study. The information you will be providing will be coded so that your name will be changed or even coded into numbers. Additionally, all Information you will be providing will be digitalised and kept in password protected files and computer that only the researcher will have access to. Such data will only be accessed by the researcher up to 5 years after the study is completed and disposed of afterwards according to the Data Protection Act and University policy.

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You can also contact any of the supervisors that are guiding this study:

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D.Reynolds@soton.ac.uk

Prof. Daniel Muijs

D.Muijs@soton.ac.uk

UNIVERSITY OF Southampton

CONSENT FORM (Parent version)

Study title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher name: Rosa Maria Cruz Avendano

Ethics reference: 13110

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (12/12/2014-Version number 1) and have had the opportunity to ask questions about the study. ☐

My child has read the information sheet (12/12/2014-Version number 4) and understands what his/her participation consists on as well as the possible risks involved ☐

I agree to take part in this research project and agree for my data to be recorded and used for the purpose of this study ☐

I understand that my responses will be anonymised in reports of the research ☐

I understand that my child's participation and mine are voluntary and we may withdraw at any time without our legal rights being affected ☐

I would like to receive feedback on the study and its findings once it is completed ☐

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study.

Name of participant (print name)……

Contact details (if you want to receive feedback on the findings of the study)

……

Signature of participant……..

Date……

UNIVERSITY OF Southampton

CONSENT FORM (Teacher)

Study title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher name: Rosa Maria Cruz Avendano

Ethics reference: 13110

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (12/12/2014-Version number 2) and have had the opportunity to ask questions about the study. ☐

I agree to take part in this research project and agree for my data to be recorded and used for the purpose of this study ☐

I understand that my responses will be anonymised in reports of the research ☐

I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected ☐

I would like to receive feedback on the study and its findings once it is completed ☐

Data Protection

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study.

Name of participant (print name)……

Contact details (if you want to receive feedback on the findings of the study)

……

Signature of participant……..

Date……

UNIVERSITY OF Southampton

CONSENT FORM (CONAFE management)

Study title: Explanatory factors behind the effectiveness and improvement of primary schools serving rural areas in Mexico

Researcher name: Rosa Maria Cruz Avendano

Ethics reference:13110

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (12/12/2014-Version number 3) and have had the opportunity to ask questions about the study. ☐

I agree to take part in this research project and agree for my data to be recorded and used for the purpose of this study ☐

I understand that my responses will be anonymised in reports of the research ☐

I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected ☐

I would like to receive feedback on the study and its findings once it is completed ☐

Data Protection

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study.

Name of participant (print name)……

Contact details (if you want to receive feedback on the findings of the study)

……

Signature of participant……..

Date……

Appendix 2: Quantitative Stage

2a. Student questionnaire

School name :

Grade/Level :

Gender :

Age:

Family composition and household conditions

1. What language did you first learn?
    a. Spanish
    b. A native language (e.g. Mixe, Zapotec, Mixtec)
    c. A foreign language (e.g. English, French, German)
2. What language do you speak at home most of the time?
    a. Spanish
    b. A native language (e.g. Mixe, Zapotec, Mixtec)
    c. A foreign language (e.g. English, French, German)
3. What language do you speak at school most of the time?
    a. Spanish
    b. A native language (e.g. Mixe, Zapotec, Mixtec)
    c. A foreign language (e.g. English, French, German)
4. What language do your parents speak at home most of the time?
    a. Spanish
    b. A native language (e.g. Mixe, Zapotec, Mixtec)
    c. A foreign language (e.g. English, French, German)
5. What language did/do your grandparents speak most of the time?
    a. Spanish
    b. A native language (e.g. Mixe, Zapotec, Mixtec)
    c. A foreign language (e.g. English, French, German)
6. What is your mother's current occupation?
    a. Don't have a mother
    b. Housekeeper
    c. Basic skills occupation (e.g. farmer, cleaner, seller, miner)
    d. Medium skills worker (e.g. factory worker, electrician, carpenter)
    e. Provides a service as an employee receiving a salary (e.g. waitress, policewoman, driver)
    f. Provides a service as an employer or owner (e.g. restaurant, cafeteria, stall)
    g. Office worker (e.g. receptionist, archivist, secretary, typist, assistant)
    h. Upper skills worker or specialised technician (e.g. nurse, mechanic, gastronomy, programmer)
    i. Professional (e.g. physician, engineer, dentist, teacher)
    j. Managerial or director position in a public or private organisation
7. What are your mother's highest qualifications?

a. Don’t have a mother
b. Never attended school
c. Primary school
d. Lower secondary school
e. Upper secondary school
f. Undergraduate
g. Postgraduate

8. What is your father’s current occupation?
    a. Don’t have a father
    b. Does not have an occupation at the moment
    c. Basic skills occupation (e.g. farmer, cleaner, seller, miner)
    d. Medium skills worker (e.g. factory worker, electrician, carpenter)
    e. Provides a service as an employee receiving a salary (e.g. waiter, policewoman, soldier, driver)
    f. Provides a service as an employer or owner (e.g. restaurant, cafeteria, stall)
    g. Office worker (e.g. receptionist, archivist, secretary, typist, assistant)
    h. Upper skills worker or specialised technician (e.g. nurse, mechanic, gastronomy, programmer)
    i. Professional (e.g. physician, engineer, dentist, teacher)
    j. Managerial or director position in a public or private organisation
9. What are your father’s highest qualifications?
    a. Don’t have a father
    b. Never attended school
    c. Primary school
    d. Lower secondary school
    e. Upper secondary school
    f. Undergraduate
    g. Postgraduate
10. Which educational level would you like to attain?
    a. Primary school
    b. Lower secondary school
    c. Upper secondary school
    d. Undergraduate
    e. Postgraduate
11. Which educational level would your parent(s) like you to attain?
    a. Don’t know
    b. Primary school
    c. Lower secondary school
    d. Upper secondary school
    e. Undergraduate
    f. Postgraduate
12. How many books (excluding magazines and school books) are there in your home?
    a. None
    b. 1-10 books
    c. 11-25 books
    d. 26-50 books
    e. More than 50 books
13. Who do you live with?
    a. Both parents
    b. Just mother
    c. Just father

    d. Other relatives (e.g. grandparents, uncle, aunt)
14. How often are there strong disagreements among people living in your home?
    a. Never/almost never
    b. Several times per month
    c. Several times per week
    d. Everyday
15. How often do you have strong disagreements with any of your parents?
    a. Never/almost never
    b. Several times per month
    c. Several times per week
    d. Everyday
16. How often do your parents monitor your school performance?
    a. Never/almost never
    b. Rarely
    c. Frequently
    d. Almost always/always
17. To what extent are your parents aware of the resources you need for school?
    a. Never/almost never
    b. Rarely
    c. Frequently
    d. Almost always/always
18. How often do your parents help you study/do homework when needed?
    a. Never/almost never
    b. Rarely
    c. Frequently
    d. Almost always/always
19. How often do you seek/find external support to study or do homework?
    a. Never/almost never
    b. Rarely
    c. Frequently
    d. Almost always/always
20. How often do you speak to your family about what you have learned at school?
    a. Never/almost never
    b. Rarely
    c. Frequently
    d. Almost always/always
21. During the past week, how many hours did you spend on helping your family (e.g. household chores)?
    a. Didn't help at all
    b. Less than one hour per day
    c. 1-2 hours per day
    d. 3 or more hours per day
22. What material is the floor of your house made of?
    a. Ground, wood, carton
    b. Plain cement
    c. Floor tile, floor boarding, carpet
23. How many bathrooms are there in your house?
    a. None
    b. 1
    c. 2
    d. More than 2

24. Is there a telephone landline in your household?
    a. Yes
    b. No
25. Do you have internet connection in your home?
    a. Yes
    b. No
26. Do any of your parents have a car?
    a. Yes
    b. No
27. Is there a computer in your household?
    a. Yes
    b. No
28. In your home, do more than 3 people sleep in one room?
    a. Yes
    b. No
29. How many light bulbs are there in your home?
    a. 0-1
    b. 2-3
    c. 4-5
    d. More than 5
30. Is there running /tap water in your home on a daily basis?
    a. Yes
    b. No
31. Have you ever travelled on holidays?
    a. Never
    b. Only once
    c. A few times
    d. Always
32. On your last holidays did you go to a festival, art exhibit or to the cinema?
    a. Yes
    b. No
33. What medical services do you and your family have access to?
    a. None
    b. Local clinics (e.g. Seguro Popular, Centro de Salud) and pharmacies
    c. Social Security Institutions (e.g. IMSS, ISSSTE)
    d. Private medical services
34. Have you ever been granted /do you have an *Oportunidades* scholarship?
    a. Yes
    b. No
35. Do you make any money by working outside your home?
    a. Yes
    b. No

2b. Psychometric properties of survey-questionnaire items

Psychometric properties of the scale index: school cultural capital												
Variables/items		Correlation amongst variables				Internal consistency			Rasch indicators		
		1	2	3	4	r total	Cronbach Alpha without item	Cronbach Alpha	Measure	INFIT	OUTFIT
1	Mother's educational level					**0.62**	0.59	0.70	-0.69	0.81	0.77
2	Father's educational level	**0.69**				**0.61**	0.59		-0.71	0.81	0.77
3	Educational level expected by parents	**0.40**	**0.41**			**0.39**	0.69		-1.33	1.04	1.07
4	Number of books at home	**0.30**	**0.30**	**0.22**		**0.38**	0.70		-0.05	1.17	1.12
5	Times student has gone to the cinema	**0.37**	**0.35**	**0.16**	**0.29**	**0.41**	0.68		0.28	1.08	1.13

Psychometric properties of the ST scale index: socioeconomic status															
Variables/items		Correlation amongst variables								Internal consistency			Rasch indicators		
		1	2	3	4	5	6	7	8	r total	Cronbach Alpha without item	Cronbach Alpha	Measure	INFIT	OUTFIT
1	Oportunidades (cash-transfer aid programme)									**0.22**	0.75	0.74	0.15	1.36	1.64
2	Household floor	**0.19**								**0.39**	0.73		-1.15	1.17	1.21
3	Land line	**0.12**	**0.28**							**0.49**	0.70		-0.92	0.90	0.84
4	Drainage	**0.16**	**0.26**	**0.29**						**0.40**	0.71		-1.15	1.02	1.13
5	Car	**0.14**	**0.25**	**0.35**	**0.25**					**0.46**	0.70		-0.93	0.93	0.89
6	Microwave oven	**0.15**	**0.23**	**0.33**	**0.24**	**0.32**	**0.13**			**0.53**	0.69		-0.41	0.86	0.82
7	Computer	**0.13**	**0.25**	**0.35**	**0.27**	**0.34**	**0.13**	**0.37**		**0.56**	0.68		0.90	0.79	0.72
8	Internet	**0.05**	**0.18**	**0.29**	**0.20**	**0.27**	**0.08**	**0.32**	**0.64**	**0.46**	0.71		1.86	0.93	0.92

Psychometric properties of the scale index: pupil's native language									
Variables/items		Correlation		Internal consistency			Rasch indicators		
		1	2	r total	Cronbach Alpha without item	Cronbach Alpha	Measure	INFIT	OUTFIT
1	Language learnt first			**0.49**	0.54	0.66	0.46	0.96	0.96
2	Language spoken at home	**0.43**		**0.49**	0.54		-0.08	0.97	0.97
3	Language spoken at school	**0.37**	**0.37**	**0.44**	0.60		0.62	1.07	1.07

2c. Structured observation scale: Opportunity to learn (OTL)

Professional Development and Review

Teacher: School: Class:

Observer: Date: Time:

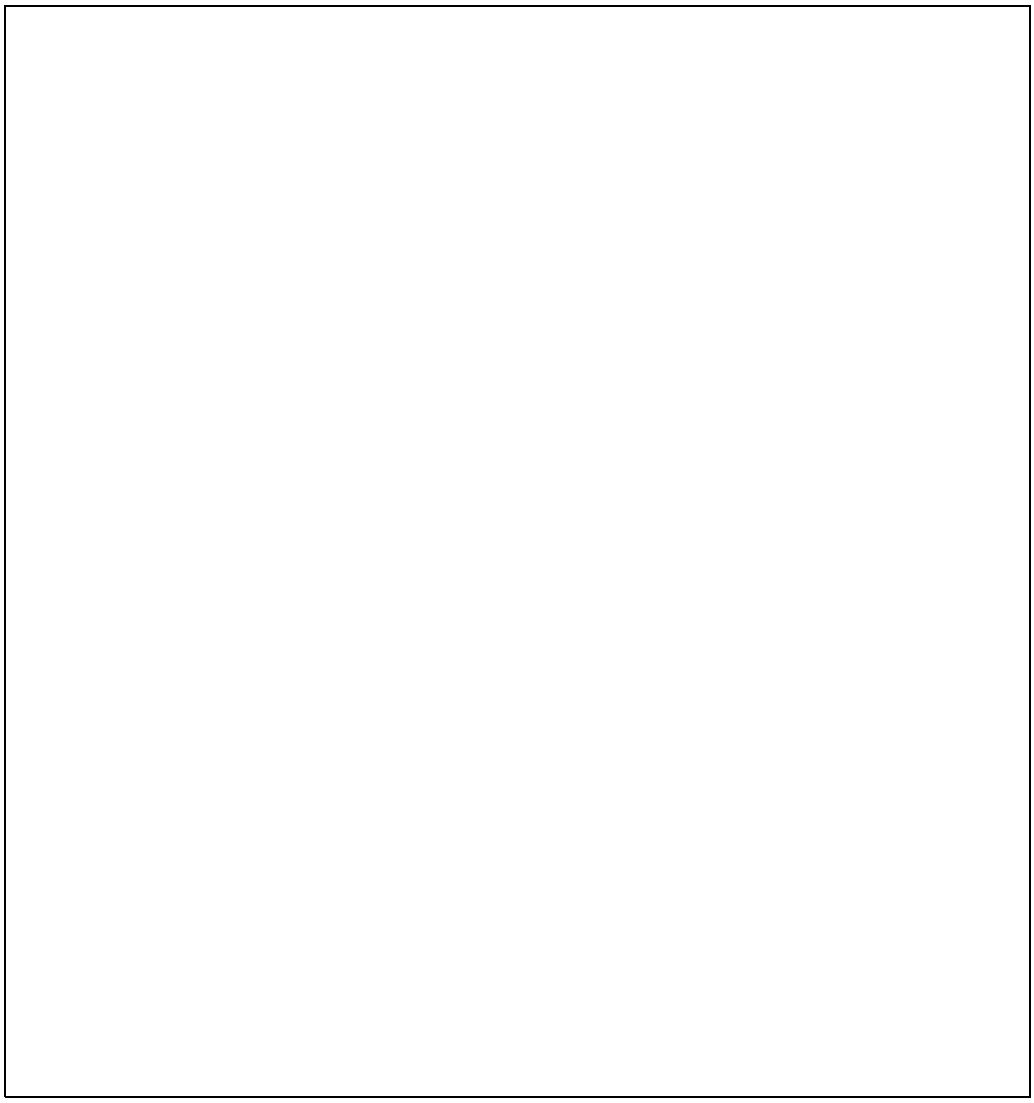
Number of Students:

High/low set?

Mixed Years?

Within lesson differentiation?

Class layout:



Based on SSOS, Vergilio, ISERP, CAR

Developed by Eugene Schaffer, Daniel Muijs, Catherine Kitson, David Reynolds

Activity code	Time	Descriptive notes	Time on task (every 5 mins)	
			Category	Number of students
			Time: On task: Off task: Waiting: Out of class:	
			Time: On task: Off task: Waiting: Out of class:	
			Time: On task: Off task: Waiting: Out of class:	

Activity Key:
1 = Whole class interactive
2 = Whole class lecture
3 = individual/group work
4 = Classroom management
5 = Testing/assessment

a = Calculators
b = Collaborative

2d. Structured observation scale: Professional Development and Review (ISERP)

Professional Development and Review					
[Each item has a scale of 1 – 4 beside it, with the following values: 1 = behaviour rarely observed, 2 = behaviour occasionally observed, 3 = behaviour often observed, 4 = behaviour consistently observed, na = not applicable, and a labelled space for comments.]	***rarely***	***occasionally***	***often***	***consistently***	
Classroom Management Techniques					
1. Rules and consequences are clearly understood	1	2	3	4	NA
2. The teacher starts a lesson with an appropriate time	1	2	3	4	NA
3. The teacher uses time during class transitions effectively	1	2	3	4	NA
4. The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly	1	2	3	4	NA
5. There are limited disruptions in the class	1	2	3	4	NA
Maintain Appropriate Classroom Behaviour					
6. The teacher uses a reward system to manage student behaviour	1	2	3	4	NA
7. The teacher corrects behaviour immediately	1	2	3	4	NA
8. The teacher corrects behaviour accurately	1	2	3	4	NA
9. The teacher corrects behaviour constructively	1	2	3	4	NA
10. The teacher monitors the entire classroom	1	2	3	4	NA
Focus and Maintain Attention on Lesson					
11. The teacher clearly states objectives/purposes of the lesson	1	2	3	4	NA
12. The teacher checks for prior knowledge	1	2	3	4	NA
13. The teacher presents material accurately	1	2	3	4	NA
14. The teacher presents material clearly	1	2	3	4	NA
15. The teacher gives detailed directions and explanations	1	2	3	4	NA
16. The teacher emphasises key points of the lesson	1	2	3	4	NA
17. The teacher has an educational focus	1	2	3	4	NA
18. The teacher uses a brisk pace	1	2	3	4	NA
19. Pupils are appropriately challenged	1	2	3	4	NA
Provides Students with Review and Practice					
20. The teacher clearly explains tasks	1	2	3	4	NA
21. The teacher offers effective assistance to individuals/groups	1	2	3	4	NA
22. The teacher checks for understanding	1	2	3	4	NA
23. The teacher or students summarise the lesson	1	2	3	4	NA
24. The teacher re-teaches if error rate is high	1	2	3	4	NA
25. The teacher is approachable for students with problems	1	2	3	4	NA

Demonstrate Skills in Questioning					
26. The teacher uses a high frequency of questions	1	2	3	4	NA
27. The teacher asks educational questions	1	2	3	4	NA
28. The teacher asks open-ended questions	1	2	3	4	NA
29. The teacher probes further when responses are incorrect	1	2	3	4	NA
30. The teacher elaborates on answers	1	2	3	4	NA
31. The teacher asks pupils to explain how they reached their answer	1	2	3	4	NA
32. Students are asked for more than one answer	1	2	3	4	NA
33. The teacher uses appropriate wait time between questions and responses	1	2	3	4	NA
34. The teacher notes pupils' mistakes	1	2	3	4	NA
35. The teacher guides pupils through errors	1	2	3	4	NA
36. The teacher clears up misconceptions	1	2	3	4	NA
37. The teacher gives immediate academic feedback	1	2	3	4	NA
38. The teacher gives accurate academic feedback	1	2	3	4	NA
39. The teacher gives positive academic feedback	1	2	3	4	NA
Demonstrates a Variety of Teaching Methods					
40. The teacher uses a variety of explanations that differ in complexity	1	2	3	4	NA
41. The teacher uses a variety of instructional methods	1	2	3	4	NA
42. The teacher uses manipulative materials/instructional aides/resources	1	2	3	4	NA
Establishes a Positive Classroom Climate					
43. The teacher communicates high expectations for pupils	1	2	3	4	NA
44. The teacher exhibits personal enthusiasm	1	2	3	4	NA
45. The teacher displays a positive tone	1	2	3	4	NA
46. The teacher encourages pupil interaction and communication	1	2	3	4	NA
47. The teacher conveys genuine concern for pupils (empathic, understanding, warm, friendly)	1	2	3	4	NA
48. The teacher knows and uses pupil names	1	2	3	4	NA
49. The teacher displays pupils' work in the classroom (ample amount, attractive displayed, current)	1	2	3	4	NA
50. The teacher prepares an inviting and cheering classroom	1	2	3	4	NA

2e. Quantitative Analysis results

2e.1: Means, standard deviations, and relevant effect sizes of teacher scores on ISERP individual items (Improving and non-improving schools)

ISERP individual items	*School category*	*n*	*Mean*	*SD*	*d*
Teacher starts lesson with an appropriate time	Improving	23	3.26	0.92	0.4
	Non-improving	23	2.91	0.79	
The teacher uses time during class transitions effectively*	Improving	23	2.43	0.73	0.8
	Non-improving	23	1.87	0.76	
The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly*	Improving	23	3.00	0.80	0.7
	Non-improving	23	2.35	1.03	
The teacher uses a reward system to manage student behaviour*	Improving	23	1.57	0.84	0.7
	Non-improving	23	1.13	0.46	
The teacher gives detailed directions and explanations	Improving	23	2.39	0.66	0.5
	Non-improving	23	2.00	0.95	
The teacher uses a brisk pace	Improving	23	2.39	0.78	0.6
	Non-improving	23	1.96	0.71	
Pupils are appropriately challenged	Improving	23	3.13	0.55	0.5
	Non-improving	23	2.83	0.65	
The teacher clearly explains tasks**	Improving	23	3.04	0.47	1.0
	Non-improving	23	2.48	0.67	
The teacher offers effective assistance to individuals/groups*	Improving	23	3.00	0.60	0.7
	Non-improving	23	2.61	0.58	
Students are asked for more than one answer	Improving	23	1.00	0.30	0.6
	Non-improving	23	1.26	0.54	
The teacher guides pupils through errors	Improving	23	2.39	0.78	0.4
	Non-improving	23	2.09	0.67	
The teacher clears up misconceptions	Improving	23	3.09	0.42	0.4
	Non-improving	23	2.91	0.42	
The teacher gives positive academic feedback	Improving	23	2.91	0.67	0.5
	Non-improving	23	2.57	0.79	
The teacher uses manipulative materials/instructional aides/resources	Improving	23	2.13	0.76	0.5
	Non-improving	23	1.74	0.81	
The teacher displays a positive tone*	Improving	23	3.22	0.42	0.7
	Non-improving	23	2.87	0.55	

The teacher encourages pupil interaction and communication	Improving	23	3.00	0.95	0.5
	Non-improving	23	2.52	0.99	
The teacher conveys genuine concern for pupils (empathic, understanding, warm, friendly)	Improving	23	3.09	0.73	0.5
	Non-improving	23	2.70	0.82	

**Significant at 0.05 level*

***Significant at 0.01 level*

2e.2: Parametric independent sample t-test (improving and non-improving schools)

Independent Samples Test

		Equality of Variances		t-test for Equality of Means						
									of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
STUDENTS ON TASK	Equal variances assumed	3.134	.084	.948	44	.348	3.93522	4.15214	-4.43288	12.30331
	Equal variances not assumed			.948	40.315	.349	3.93522	4.15214	-4.45454	12.32497
STUDENTS OFF TASK	Equal variances assumed	3.145	.083	.011	44	.991	.04565	4.03156	-8.07943	8.17073
	Equal variances not assumed			.011	40.740	.991	.04565	4.03156	-8.09783	8.18914
STUDENTS WAITING	Equal variances assumed	4.705	.036	-1.534	44	.132	-3.18348	2.07524	-7.36585	.99889
	Equal variances not assumed			-1.534	38.663	.133	-3.18348	2.07524	-7.38222	1.01526
STUDENTS OUTSIDE	Equal variances assumed	2.748	.105	-.923	44	.361	-.78609	.85206	-2.50330	.93113
	Equal variances not assumed			-.923	38.634	.362	-.78609	.85206	-2.51006	.93789
WHOLE CLASS INTERACTION	Equal variances assumed	1.926	.172	-.469	44	.641	-2.17478	4.63361	-11.51322	7.16365
	Equal variances not assumed			-.469	38.427	.641	-2.17478	4.63361	-11.55162	7.20206
WHOLE CLASS LECTURE	Equal variances assumed	5.995	.018	1.056	44	.297	2.53739	2.40329	-2.30612	7.38090
	Equal variances not assumed			1.056	36.689	**.298**	2.53739	2.40329	-2.33353	7.40831
INDIVIDUAL / GROUP WORK	Equal variances assumed	.011	.917	.805	44	.425	5.83043	7.24187	-8.76459	20.42546
	Equal variances not assumed			.805	43.988	.425	5.83043	7.24187	-8.76471	20.42558
MANAGEMENT	Equal variances assumed	.030	.864	-1.319	44	.194	-6.75304	5.12050	-17.07273	3.56664
	Equal variances not assumed			-1.319	43.968	.194	-6.75304	5.12050	-17.07294	3.56685
ASSESSMENT / TESTING	Equal variances assumed	.815	.372	.116	44	.908	.55913	4.81555	-9.14597	10.26424
	Equal variances not assumed			.116	38.175	.908	.55913	4.81555	-9.18798	10.30624

Rules and consequences are clearly understood	Equal variances assumed	.599	.443	-.401	44	.691	-.087	.217	-.524	.350
	Equal variances not assumed			-.401	42.894	.691	-.087	.217	-.525	.351
The teacher starts a lesson with an appropriate time	Equal variances assumed	1.008	.321	1.378	44	.175	.348	.253	-.161	.857
	Equal variances not assumed			1.378	43.120	.175	.348	.253	-.161	.857
The teacher uses time during class transitions effectively	Equal variances assumed	.558	.459	2.581	44	**.013**	.565	.219	.124	1.007
	Equal variances not assumed			2.581	43.932	.013	.565	.219	.124	1.007
The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly	Equal variances assumed	3.825	.057	2.405	44	**.020**	.652	.271	.106	1.199
	Equal variances not assumed			2.405	41.457	.021	.652	.271	.105	1.200
There are limited disruptions in the class	Equal variances assumed	2.229	.143	-.533	44	.596	-.130	.245	-.623	.362
	Equal variances not assumed			-.533	43.110	.597	-.130	.245	-.624	.363
The teacher uses a reward system to manage student behaviour	Equal variances assumed	19.523	.000	2.173	44	.035	.435	.200	.032	.838
	Equal variances not assumed			2.173	33.922	**.037**	.435	.200	.028	.841
The teacher corrects behaviour immediately	Equal variances assumed	.342	.562	.940	44	.352	.174	.185	-.199	.547
	Equal variances not assumed			.940	42.958	.352	.174	.185	-.199	.547
The teacher corrects behaviour accurately	Equal variances assumed	.160	.691	.824	44	.414	.174	.211	-.251	.599
	Equal variances not assumed			.824	43.999	.414	.174	.211	-.251	.599
The teacher corrects behaviour constructively	Equal variances assumed	.362	.551	.981	44	.332	.217	.222	-.229	.664
	Equal variances not assumed			.981	43.582	.332	.217	.222	-.230	.664
The teacher monitors the entire classroom	Equal variances assumed	.534	.469	0.000	44	1.000	0.000	.180	-.363	.363
	Equal variances not assumed			0.000	43.358	1.000	0.000	.180	-.363	.363
The teacher clearly states objectives/purposes of the lesson	Equal variances assumed	.131	.720	.673	44	.504	.217	.323	-.434	.868
	Equal variances not assumed			.673	43.925	.504	.217	.323	-.434	.868
The teacher checks for prior knowledge	Equal variances assumed	.222	.640	.708	44	.483	.174	.246	-.321	.669
	Equal variances not assumed			.708	41.114	.483	.174	.246	-.322	.670
The teacher presents material accurately	Equal variances assumed	.171	.682	-.208	44	.836	-.087	.418	-.930	.756
	Equal variances not assumed			-.208	42.723	.836	-.087	.418	-.931	.757
The teacher presents material clearly	Equal variances assumed	.003	.957	-.336	44	.738	-.130	.388	-.912	.652
	Equal variances not assumed									

The teacher gives detailed directions and explanations	Equal variances assumed	.802	.375	1.621	44	.112	.391	.241	-.095	.878
	Equal variances not assumed			1.621	39.028	.113	.391	.241	-.097	.880
The teacher emphasises key points of the lesson	Equal variances assumed	.069	.794	0.000	44	1.000	0.000	.165	-.333	.333
	Equal variances not assumed			0.000	43.098	1.000	0.000	.165	-.333	.333
The teacher has an educational focus	Equal variances assumed	4.250	.045	1.082	44	.285	.217	.201	-.188	.622
	Equal variances not assumed			1.082	39.120	.286	.217	.201	-.189	.624
The teacher uses a brisk pace	Equal variances assumed	1.742	.194	1.979	44	.054	.435	.220	-.008	.878
	Equal variances not assumed			1.979	43.536	.054	.435	.220	-.008	.878
Pupils are appropriately challenged	Equal variances assumed	1.157	.288	1.716	44	.093	.304	.177	-.053	.662
	Equal variances not assumed			1.716	42.773	.093	.304	.177	-.053	.662
The teacher clearly explains tasks	Equal variances assumed	11.132	.002	3.317	44	.002	.565	.170	.222	.909
	Equal variances not assumed			3.317	39.786	**.002**	.565	.170	.221	.910
The teacher offers effective assistance to individuals/groups	Equal variances assumed	2.665	.110	2.237	44	**.030**	.391	.175	.039	.744
	Equal variances not assumed			2.237	43.950	.030	.391	.175	.039	.744
The teacher checks for understanding	Equal variances assumed	1.064	.308	.509	44	.613	.087	.171	-.258	.431
	Equal variances not assumed			.509	42.308	.614	.087	.171	-.258	.432
The teacher re-teaches if error rate is high	Equal variances assumed	.291	.592	-.180	44	.858	-.043	.241	-.529	.442
	Equal variances not assumed			-.180	43.814	.858	-.043	.241	-.529	.442
The teacher is approachable for students with problems	Equal variances assumed	.256	.615	1.155	44	.254	.174	.151	-.130	.477
	Equal variances not assumed			1.155	43.013	.255	.174	.151	-.130	.478
The teacher uses a high frequency of questions	Equal variances assumed	4.564	.038	.336	44	.739	.087	.259	-.435	.609
	Equal variances not assumed			.336	39.104	.739	.087	.259	-.437	.611
The teacher asks educational questions	Equal variances assumed	2.267	.139	.476	44	.636	.087	.183	-.281	.455
	Equal variances not assumed			.476	38.411	.637	.087	.183	-.283	.456
The teacher asks open-ended questions	Equal variances assumed	.773	.384	.209	44	.835	.043	.208	-.376	.463
	Equal variances not assumed			.209	42.068	.836	.043	.208	-.376	.463
The teacher probes further when responses are incorrect	Equal variances assumed	.309	.581	.565	44	.575	.130	.231	-.335	.596
	Equal variances not assumed			.565	42.796	.575	.130	.231	-.335	.596

The teacher elaborates on answers	Equal variances assumed	.628	.432	-.469	44	.641	-.087	.185	-.461	.287
	Equal variances not assumed			-.469	43.375	.641	-.087	.185	-.461	.287
The teacher asks pupils to explain how they reached their answer	Equal variances assumed	3.692	.061	-.571	44	.571	-.087	.152	-.394	.220
	Equal variances not assumed			-.571	36.944	.572	-.087	.152	-.396	.222
Students are asked for more than one answer	Equal variances assumed	11.806	.001	-2.021	44	.049	-.261	.129	-.521	-.001
	Equal variances not assumed			-2.021	34.471	**.051**	-.261	.129	-.523	.001
The teacher uses appropriate wait time between questions and responses	Equal variances assumed	.552	.461	1.074	44	.288	.261	.243	-.228	.750
	Equal variances not assumed			1.074	44.000	.288	.261	.243	-.228	.750
The teacher notes pupils' mistakes	Equal variances assumed	.001	.974	-.695	44	.490	-.087	.125	-.339	.165
	Equal variances not assumed			-.695	41.358	.491	-.087	.125	-.339	.166
The teacher guides pupils through errors	Equal variances assumed	1.831	.183	1.418	44	.163	.304	.215	-.128	.737
	Equal variances not assumed			1.418	42.945	.163	.304	.215	-.128	.737
The teacher clears up misconceptions	Equal variances assumed	0.000	1.000	1.414	44	.164	.174	.123	-.074	.422
	Equal variances not assumed			1.414	44.000	.164	.174	.123	-.074	.422
The teacher gives immediate academic feedback	Equal variances assumed	.769	.385	.439	44	.663	.043	.099	-.156	.243
	Equal variances not assumed			.439	42.420	.663	.043	.099	-.156	.243
The teacher gives accurate academic feedback	Equal variances assumed	2.542	.118	.838	44	.407	.130	.156	-.183	.444
	Equal variances not assumed			.838	42.444	.407	.130	.156	-.184	.444
The teacher gives positive academic feedback	Equal variances assumed	2.239	.142	1.615	44	.114	.348	.215	-.086	.782
	Equal variances not assumed			1.615	42.862	.114	.348	.215	-.087	.782
The teacher uses a variety of explanations that differ in complexity	Equal variances assumed	1.695	.200	.917	44	.364	.217	.237	-.260	.695
	Equal variances not assumed			.917	41.337	.364	.217	.237	-.261	.696
The teacher uses a variety of instructional methods	Equal variances assumed	.810	.373	.902	44	.372	.217	.241	-.268	.703
	Equal variances not assumed			.902	42.983	.372	.217	.241	-.269	.703
The teacher uses manipulative materials/instructional aides/resources	Equal variances assumed	.739	.395	1.693	44	.098	.391	.231	-.075	.857
	Equal variances not assumed			1.693	43.800	.098	.391	.231	-.075	.857
The teacher communicates high expectations for pupils	Equal variances assumed	.175	.678	.993	44	.326	.261	.263	-.269	.791
	Equal variances not assumed			.993	43.525	.326	.261	.263	-.269	.791

The teacher exhibits personal enthusiasm	Equal variances assumed	.726	.399	1.059	44	.295	.261	.246	-.236	.757
	Equal variances not assumed			1.059	43.168	.295	.261	.246	-.236	.758
The teacher displays a positive tone	Equal variances assumed	.063	.802	2.412	44	**.020**	.348	.144	.057	.638
	Equal variances not assumed			2.412	41.290	.020	.348	.144	.057	.639
The teacher encourages pupil interaction and communication	Equal variances assumed	.164	.688	1.665	44	.103	.478	.287	-.101	1.057
	Equal variances not assumed			1.665	43.924	.103	.478	.287	-.101	1.057
The teacher conveys genuine concern for pupils (empathic, understanding, warm, friendly)	Equal variances assumed	.547	.463	1.704	44	.096	.391	.230	-.072	.854
	Equal variances not assumed			1.704	43.435	.096	.391	.230	-.072	.854
The teacher knows and uses pupil names	Equal variances assumed	.000	1.000	0.000	44	1.000	0.000	.124	-.251	.251
	Equal variances not assumed			0.000	44.000	1.000	0.000	.124	-.251	.251
The teacher displays pupils' work in the classroom (ample amount, attractive displayed, current)	Equal variances assumed	.388	.537	-.586	44	.561	-.174	.297	-.772	.424
	Equal variances not assumed			-.586	43.426	.561	-.174	.297	-.773	.425
The teacher prepares an inviting and cheering classroom	Equal variances assumed	2.100	.154	1.025	44	.311	.217	.212	-.210	.645
	Equal variances not assumed			1.025	42.571	.311	.217	.212	-.211	.645

2e.3: Non-parametric independent sample t-test (improving and non-improving schools)

	The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly	The teacher uses a reward system to manage student behaviour	The teacher clearly explains tasks	The teacher displays a positive tone
Mann-Whitney U	175.500	194.500	151.000	191.500
Wilcoxon W	451.500	470.500	427.000	467.500
Z	-2.198	-2.137	-3.016	-2.321
Asymp. Sig. (2-tailed)	.028	.033	.003	.020

2e.4: Means, standard deviations, and relevant effect sizes of teacher scores on ISERP individual items (novice and return teachers)

ISERP individual items	*teacher experience*	*n*	*Mean*	*SD*	*d*
The teacher uses time during class transitions effectively*	Novice	25	1.92	0.64	0.7
	Return	21	2.43	0.87	
The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly	Novice	25	2.44	0.87	0.5
	Return	21	2.95	1.02	
The teacher corrects behaviour immediately*	Novice	25	2.88	0.67	0.8
	Return	21	3.33	0.48	
The teacher corrects behaviour accurately*	Novice	25	2.52	0.82	0.8
	Return	21	3.00	0.45	
The teacher monitors the entire classroom*	Novice	25	2.16	0.55	0.7
	Return	21	2.57	0.60	
The teacher clearly states objectives/purposes of the lesson	Novice	25	2.00	0.82	0.6
	Return	21	2.62	1.28	
The teacher checks for prior knowledge	Novice	25	2.00	0.76	0.7
	Return	21	2.57	0.81	
The teacher emphasises key points of the lesson	Novice	25	1.12	0.44	0.4
	Return	21	1.33	0.66	
The teacher has an educational focus*	Novice	25	2.80	0.65	0.8
	Return	21	3.29	0.64	
The teacher uses a brisk pace*	Novice	25	1.96	0.68	0.6
	Return	21	2.43	0.81	
Pupils are appropriately challenged	Novice	25	2.84	0.47	0.5
	Return	21	3.14	0.73	
The teacher offers effective assistance to individuals/groups**	Novice	25	2.56	0.51	0.9
	Return	21	3.10	0.62	

The teacher re-teaches if error rate is high	Novice	25	1.36	0.64	0.5
	Return	21	1.76	0.94	
The teacher is approachable for students with problems*	Novice	25	2.64	0.49	0.6
	Return	21	2.95	0.50	
The teacher uses a high frequency of questions*	Novice	25	2.76	0.88	0.6
	Return	21	3.29	0.78	
The teacher asks open-ended questions*	Novice	25	2.96	0.61	0.6
	Return	21	3.38	0.74	
The teacher elaborates on answers	Novice	25	1.36	0.57	0.4
	Return	21	1.62	0.67	
The teacher asks pupils to explain how they reached their answer	Novice	25	1.12	0.44	0.4
	Return	21	1.33	0.58	
The teacher guides pupils through errors*	Novice	25	2.00	0.65	0.8
	Return	21	2.52	0.75	
The teacher clears up misconceptions*	Novice	25	2.88	0.33	0.6
	Return	21	3.14	0.48	
The teacher gives positive academic feedback	Novice	25	2.56	0.71	0.5
	Return	21	2.95	0.74	
The teacher uses a variety of explanations that differ in complexity	Novice	25	1.84	0.85	0.5
	Return	21	2.24	0.70	
The teacher uses manipulative materials/instructional aides/resources*	Novice	25	1.72	0.79	0.6
	Return	21	2.19	0.75	
The teacher exhibits personal enthusiasm	Novice	25	2.36	0.86	0.4
	Return	21	2.71	0.78	
The teacher displays a positive tone	Novice	25	2.92	0.57	0.6
	Return	21	3.19	0.40	
The teacher encourages pupil interaction and communication	Novice	25	2.60	1.12	0.4
	Return	21	2.95	0.80	
The teacher prepares an inviting and cheering classroom	Novice	25	2.56	0.65	0.5
	Return	21	2.90	0.77	

**Significant at 0.05 level*

***Significant at 0.01 level*

2e.5: Parametric independent sample t-test (novice and return teachers)

Independent Samples Test

		Equality of Variances		t-test for Equality of Means						
									Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
STUDENTS ON TASK	Equal variances assumed	.010	.923	-2.311	44	.026	-9.18810	3.97588	-17.20096	-1.17523
	Equal variances not assumed			-2.331	43.723	.024	-9.18810	3.94122	-17.13253	-1.24367
STUDENTS OFF TASK	Equal variances assumed	3.514	.068	2.511	44	.016	9.50318	3.78482	1.87537	17.13099
	Equal variances not assumed			2.595	42.264	.013	9.50318	3.66226	2.11380	16.89256
STUDENTS WAITING	Equal variances assumed	.404	.528	.100	44	.921	.21451	2.13787	-4.09407	4.52310
	Equal variances not assumed			.102	43.974	.919	.21451	2.10020	-4.01823	4.44726
STUDENTS OUTSIDE	Equal variances assumed	.088	.768	-.628	44	.533	-.54008	.85969	-2.27266	1.19251
	Equal variances not assumed			-.635	43.882	.529	-.54008	.85012	-2.25350	1.17335
WHOLE CLASS INTERACTION	Equal variances assumed	1.914	.174	-.907	44	.369	-4.19013	4.61987	-13.50088	5.12061
	Equal variances not assumed			-.880	35.123	.385	-4.19013	4.75960	-13.85144	5.47117
WHOLE CLASS LECTURE	Equal variances assumed	.001	.978	-.202	44	.841	-.49257	2.44167	-5.41343	4.42828
	Equal variances not assumed			-.204	43.878	.839	-.49257	2.41469	-5.35943	4.37429
INDIVIDUAL / GROUP WORK	Equal variances assumed	1.642	.207	-.509	44	.613	-3.71444	7.30131	-18.42927	11.00039
	Equal variances not assumed			-.513	43.615	.611	-3.71444	7.24680	-18.32305	10.89418
MANAGEMENT	Equal variances assumed	1.534	.222	.500	44	.619	2.61345	5.22574	-7.91835	13.14524
	Equal variances not assumed			.511	43.823	.612	2.61345	5.11635	-7.69906	12.92595
ASSESSMENT / TESTING	Equal variances assumed	.021	.886	1.217	44	.230	5.78568	4.75527	-3.79794	15.36929
	Equal variances not assumed			1.180	34.930	.246	5.78568	4.90227	-4.16717	15.73852
Rules and consequences are clearly understood	Equal variances assumed	.140	.710	.773	44	.443	.168	.217	-.269	.604
	Equal variances not assumed			.761	38.896	.452	.168	.220	-.278	.613
The teacher starts a lesson with an appropriate time	Equal variances assumed	.025	.876	.967	44	.339	.248	.256	-.269	.764
	Equal variances not assumed			.967	42.663	.339	.248	.256	-.269	.764
The teacher uses time during class transitions effectively	Equal variances assumed	4.918	**.032**	-2.280	44	.028	-.509	.223	-.958	-.059
	Equal variances not assumed			-2.221	36.107	.033	-.509	.229	-.973	-.044
The teacher takes care that tasks/materials are ready and papers and materials are collected and distributed evenly	Equal variances assumed	.134	.716	-1.836	44	.073	-.512	.279	-1.075	.050
	Equal variances not assumed			-1.810	39.511	.078	-.512	.283	-1.085	.060
There are limited disruptions in the class	Equal variances assumed	.543	.465	.977	44	.334	.238	.244	-.253	.729
	Equal variances not assumed			.976	42.371	.335	.238	.244	-.254	.730
The teacher uses a reward system to manage student behaviour	Equal variances assumed	.269	.607	-.289	44	.774	-.061	.211	-.487	.365
	Equal variances not assumed			-.287	41.466	.776	-.061	.212	-.490	.368
The teacher corrects behaviour immediately	Equal variances assumed	.012	.913	-2.597	44	.013	-.453	.175	-.805	-.101
	Equal variances not assumed			-2.669	43.163	.011	-.453	.170	-.796	-.111
The teacher corrects behaviour accurately	Equal variances assumed	17.662	**.000**	-2.391	44	.021	-.480	.201	-.885	-.075
	Equal variances not assumed			-2.509	38.187	.016	-.480	.191	-.867	-.093
The teacher corrects behaviour constructively	Equal variances assumed	.070	.792	-1.019	44	.314	-.227	.222	-.675	.221
	Equal variances not assumed			-1.024	43.290	.312	-.227	.221	-.673	.220
The teacher monitors the entire classroom	Equal variances assumed	1.801	.186	-2.421	44	.020	-.411	.170	-.754	-.069
	Equal variances not assumed			-2.405	41.336	.021	-.411	.171	-.757	-.066
The teacher clearly states objectives/purposes of the lesson	Equal variances assumed	13.099	**.001**	-1.983	44	.054	-.619	.312	-1.248	.010
	Equal variances not assumed			-1.909	32.753	.065	-.619	.324	-1.279	.041
The teacher checks for prior knowledge	Equal variances assumed	.979	.328	-2.458	44	.018	-.571	.232	-1.040	-.103
	Equal variances not assumed			-2.445	41.649	.019	-.571	.234	-1.043	-.100
The teacher presents material accurately	Equal variances assumed	4.920	**.032**	-.767	44	.447	-.320	.417	-1.161	.521
	Equal variances not assumed			-.745	35.533	.461	-.320	.429	-1.191	.551

The teacher presents material clearly	Equal variances assumed	3.588	.065	-.683	44	.498	-.265	.388	-1.047	.517
	Equal variances not assumed			-.665	36.104	.510	-.265	.398	-1.073	.543
The teacher gives detailed directions and explanations	Equal variances assumed	10.276	**.003**	-1.028	44	.310	-.253	.246	-.750	.243
	Equal variances not assumed			-.978	29.420	.336	-.253	.259	-.783	.276
The teacher emphasises key points of the lesson	Equal variances assumed	8.551	**.005**	-1.311	44	.197	-.213	.163	-.541	.115
	Equal variances not assumed			-1.267	33.839	.214	-.213	.168	-.556	.129
The teacher has an educational focus	Equal variances assumed	.095	.760	-2.545	44	.014	-.486	.191	-.870	-.101
	Equal variances not assumed			-2.546	42.682	.015	-.486	.191	-.871	-.101
The teacher uses a brisk pace	Equal variances assumed	3.142	.083	-2.139	44	.038	-.469	.219	-.910	-.027
	Equal variances not assumed			-2.105	39.070	.042	-.469	.223	-.919	-.018
Pupils are appropriately challenged	Equal variances assumed	4.452	.041	-1.700	44	.096	-.303	.178	-.662	.056
	Equal variances not assumed			-1.640	33.228	.110	-.303	.185	-.678	.073
The teacher clearly explains tasks	Equal variances assumed	.123	.727	-.935	44	.355	-.177	.189	-.559	.205
	Equal variances not assumed			-.914	37.064	.367	-.177	.194	-.570	.216
The teacher offers effective assistance to individuals/groups	Equal variances assumed	.482	.491	-3.209	44	.002	-.535	.167	-.871	-.199
	Equal variances not assumed			-3.151	38.422	.003	-.535	.170	-.879	-.191
The teacher checks for understanding	Equal variances assumed	.001	.978	-.244	44	.809	-.042	.172	-.388	.305
	Equal variances not assumed			-.241	39.949	.811	-.042	.174	-.394	.310
The teacher re-teaches if error rate is high	Equal variances assumed	6.856	**.012**	-1.715	44	.093	-.402	.234	-.874	.070
	Equal variances not assumed			-1.659	34.105	.106	-.402	.242	-.894	.090
The teacher is approachable for students with problems	Equal variances assumed	4.645	**.037**	-2.139	44	.038	-.312	.146	-.607	-.018
	Equal variances not assumed			-2.136	42.402	.039	-.312	.146	-.607	-.017
The teacher uses a high frequency of questions	Equal variances assumed	.042	.838	-2.121	44	.040	-.526	.248	-1.025	-.026
	Equal variances not assumed			-2.143	43.825	.038	-.526	.245	-1.020	-.031
The teacher asks educational questions	Equal variances assumed	2.345	.133	-.374	44	.710	-.069	.183	-.438	.301
	Equal variances not assumed			-.361	33.443	.721	-.069	.190	-.455	.318
The teacher asks open-ended questions	Equal variances assumed	2.377	.130	-2.114	44	.040	-.421	.199	-.822	-.020
	Equal variances not assumed			-2.079	38.849	.044	-.421	.203	-.831	-.011
The teacher probes further when responses are incorrect	Equal variances assumed	.020	.888	.501	44	.619	.116	.232	-.351	.583
	Equal variances not assumed			.505	43.559	.616	.116	.230	-.348	.580
The teacher elaborates on answers	Equal variances assumed	1.467	.232	-1.420	44	.163	-.259	.182	-.627	.109
	Equal variances not assumed			-1.400	39.512	.169	-.259	.185	-.633	.115
The teacher asks pupils to explain how they reached their answer	Equal variances assumed	4.168	**.047**	-1.422	44	.162	-.213	.150	-.516	.089
	Equal variances not assumed			-1.388	36.930	.173	-.213	.154	-.525	.098
Students are asked for more than one answer	Equal variances assumed	5.031	**.030**	-.822	44	.416	-.110	.134	-.381	.160
	Equal variances not assumed			-.804	37.552	.426	-.110	.137	-.389	.168
The teacher uses appropriate wait time between questions and responses	Equal variances assumed	.004	.948	-.480	44	.634	-.118	.246	-.614	.378
	Equal variances not assumed			-.485	43.925	.630	-.118	.243	-.608	.372
The teacher notes pupils' mistakes	Equal variances assumed	.046	.831	-.698	44	.489	-.088	.126	-.341	.165
	Equal variances not assumed			-.708	43.996	.482	-.088	.124	-.337	.162
The teacher guides pupils through errors	Equal variances assumed	3.505	.068	-2.547	44	.014	-.524	.206	-.938	-.109
	Equal variances not assumed			-2.514	39.805	.016	-.524	.208	-.945	-.103
The teacher clears up misconceptions	Equal variances assumed	1.732	.195	-2.193	44	.034	-.263	.120	-.504	-.021
	Equal variances not assumed			-2.126	34.711	.041	-.263	.124	-.514	-.012
The teacher gives immediate academic feedback	Equal variances assumed	1.602	.212	-.402	44	.689	-.040	.099	-.240	.160
	Equal variances not assumed			-.379	26.657	.708	-.040	.105	-.257	.177
The teacher gives accurate academic feedback	Equal variances assumed	1.703	.199	-.157	44	.876	-.025	.157	-.342	.293
	Equal variances not assumed			-.153	35.044	.880	-.025	.162	-.354	.305

The teacher gives positive academic feedback	Equal variances assumed	.267	.608	-1.829	44	.074	-.392	.215	-.825	.040
	Equal variances not assumed			-1.823	42.018	.075	-.392	.215	-.827	.042
The teacher uses a variety of explanations that differ in complexity	Equal variances assumed	.478	.493	-1.711	44	.094	-.398	.233	-.867	.071
	Equal variances not assumed			-1.741	43.989	.089	-.398	.229	-.859	.063
The teacher uses a variety of instructional methods	Equal variances assumed	.582	.450	-.794	44	.432	-.192	.242	-.681	.296
	Equal variances not assumed			-.796	43.070	.431	-.192	.242	-.680	.295
The teacher uses manipulative materials/instructional aides/resources	Equal variances assumed	.438	.511	-2.057	44	.046	-.470	.229	-.932	-.009
	Equal variances not assumed			-2.067	43.333	.045	-.470	.228	-.929	-.011
The teacher communicates high expectations for pupils	Equal variances assumed	1.148	.290	-.791	44	.433	-.210	.265	-.743	.324
	Equal variances not assumed			-.778	39.039	.441	-.210	.269	-.754	.335
The teacher exhibits personal enthusiasm	Equal variances assumed	.333	.567	-1.448	44	.155	-.354	.245	-.847	.139
	Equal variances not assumed			-1.460	43.682	.151	-.354	.243	-.843	.135
The teacher displays a positive tone	Equal variances assumed	.004	.948	-1.821	44	.075	-.270	.149	-.570	.029
	Equal variances not assumed			-1.876	42.798	.067	-.270	.144	-.561	.020
The teacher encourages pupil interaction and communication	Equal variances assumed	4.636	**.037**	-1.205	44	.235	-.352	.292	-.942	.237
	Equal variances not assumed			-1.239	43.073	.222	-.352	.284	-.926	.221
The teacher conveys genuine concern for pupils (empathic, understanding, warm, friendly)	Equal variances assumed	.760	.388	-.104	44	.918	-.025	.238	-.504	.455
	Equal variances not assumed			-.106	43.886	.916	-.025	.233	-.495	.445
The teacher knows and uses pupil names	Equal variances assumed	.646	.426	-.397	44	.693	-.050	.125	-.301	.202
	Equal variances not assumed			-.400	43.577	.691	-.050	.124	-.299	.200
The teacher displays pupils' work in the classroom (ample amount, attractive displayed, current)	Equal variances assumed	6.834	.012	-1.123	44	.267	-.331	.295	-.926	.263
	Equal variances not assumed			-1.091	35.357	.283	-.331	.304	-.948	.285
The teacher prepares an inviting and cheering classroom	Equal variances assumed	.076	.785	-1.648	44	.106	-.345	.209	-.766	.077
	Equal variances not assumed			-1.624	39.427	.112	-.345	.212	-.774	.084

2e.6: Non-parametric independent sample t-test (novice and return teachers)

	The teacher corrects behaviour immediately	The teacher monitors the entire classroom	The teacher offers effective assistance to individuals/groups	The teacher asks open-ended questions	The teacher clears up misconceptions
Mann-Whitney U	171.500	164.500	149.500	165.000	199.500
Wilcoxon W	496.500	489.500	474.500	490.000	524.500
Z	-2.428	-2.435	-2.842	-2.419	-2.106
Asymp. Sig. (2-tailed)	.015	.015	.004	.016	.035

Appendix 3: Qualitative Phase

3a. Semi-structured schedule interview (Parents)

Pupils' parents interview schedule

Preamble checklist:

- ✓ Thank the parent for his/her time and for allowing his/her child's participation in the study
- ✓ Make sure that the parent has signed consent form and if necessary remind him/her the measures taken to assure the most confidentiality and anonymity possible.
- ✓ Outline the aims of the visit: discuss his/her views on the school processes and his/her child's education as well as the factors influencing it.
- ✓ Explain that the interview should last approximately 30 minutes and make sure that the timing is not a problem for him/her.
- ✓ Ask the parent if he/she has any questions before the interview begins and check he/she is happy to move on to the interview.

A. Personal details

1. Name

2. Language(s) spoken/ethnicity

B. School determinants

Pupils' expectations

1. What kind of student is your child? Do you think he/she is a good student?
2. What occupation does your child want to become as he/she grows older? Is he/she excited about going to school?
3. What do you think about your child's future academic achievements? Do you expect him/her to pursue an academic career? What can hinder your child's academic future?

School characteristics

1. Why did you decide to send your child to a CONAFE school?
2. Do you think CONAFE schools are very different from general schools? Have any of your children attended other types of school existing in the area?
3. Do you know what the purpose of CONAFE schools is? How do you know that?

Views on his/her child's teacher

1. How do you feel about your child's teacher? Do you think he/she is a good teacher?

2. Do you think your child spend enough hours at school? Do you think he/she gets enough attention from his/her teacher?
3. How have you noticed your child's progress across the grades? Has he/she had good learning experiences that motivate her/him to go to school?
4. What are the main differences that you have noticed among teachers that have instructed your child in the last few years?
5. Does your child's teacher talk to you about your child's performance and/or behaviour in class? How does he/she let you know the marks your child gets and how to improve?

Leadership

1. Does your child's teacher make a lot of decisions on his/her own? Does he/she come up with ideas to improve the school climate? Does he/she ask parents to support or to contribute to his/her ideas?
2. Is your child's teacher limited to teaching?
3. Are there any meetings among parents and teacher to discuss or make consensus about school matters or issues related to pupils' achievement?
4. How often do CONAFE authorities visit the school? Can you get in touch with them if an issue arises? Can you rely on them for sorting some school issues?

Pupils' well-being

1. Do you think your child is happy and secure at school? Is there something that your child does not feel comfortable or happy about while being at school?
2. Is your child motivated to learn? Does he/she say to you what his learning goals and needs are?
3. Is your child responsible certain household matters (e.g. cooking, taking care of a sibling, washing dishes or clothes)? Does he/she spend a lot of time on such household chores?
4. How does your child get along with his peers at school? Have you heard of any major disagreement or quarrel between your child and his/her classmates or teacher?

3b. Semi-structured schedule interview (Teachers)

Preamble checklist:

- ✓ Thank the teacher for his/her time and for allowing the observation of the class
- ✓ Make sure that teacher has signed consent form and if necessary remind him/her the measures taken to assure the most confidentiality and anonymity possible.
- ✓ Outline the aims of the visit: discuss his/her views on teaching and the factors influencing it.
- ✓ Explain that the post-observation interview should last approximately 30 minutes and make sure that the timing is not a problem for him/her.
- ✓ Ask the teacher if he/she has any questions before the interview begins and check he/she is happy to move on to the interview.

A. Teacher's views on teaching

1. What do you value most in teaching? Do you have any goals related to your teaching?
2. What areas do you feel more confident of when teaching (e.g. classroom management, lesson planning, assessment, classroom discipline, clarity of instruction)?
3. What areas represent a challenge for your teaching practice (e.g. classroom management, lesson planning, addressing individual differences, assessment and evaluation, classroom discipline, clarity of instruction)?
4. Are there subjects/curriculum content /topics do you feel you teach better than others? How do you notice differences in your teaching across topic/curriculum content?
5. What are the main challenges in your teaching when teaching content/topics in a multi-grade environment? Are there grades/pupils that require more of your teaching skills than others?

B. Teacher Efficacy

1. In your opinion, what factors influence your teaching most? How such factors may also affect your students?
2. How would you describe your role in making students achieve learning goals?
3. Do you feel you are able to help all your pupils to learn and achieve their academic goals? How confident do you feel about achieving the expectations/goals set for this year?
4. Do you feel motivated by CONAFE staff? What are the main factors leading your motivation in this school?
5. What would you change or modify in order to improve your teaching practices?
6. Could you comment on your current level of motivation, commitment, and job satisfaction? What factors have influenced such levels? How is your teaching effectiveness influenced by such levels of motivation, commitment, and satisfaction?

C. Impact of Leadership

5. What support do you receive from CONAFE staff to help you improve your teaching practices?
6. Could you briefly describe what your current professional development needs are? What CPD experiences are promoted among teaching staff?
7. How is motivation promoted by CONAFE staff members such as coordinators or training tutors? Are there other ways or factors that motivate teachers like you?

D. Well-being

6. What are the aspects of your life outside the school that help and hinder your teaching effectiveness (e.g. age, family, part time job, housework, etc.)?
7. The other way around, is there anything about your school or role as a teacher that helps or hinders your life outside the school (e.g. issues with discipline, disagreements with parents, multiple roles at school)?
8. Is there anything that CONAFE local authorities can do to help you have a better balance between work and life outside the school?

E. Teacher's views on pupils

4. How would you describe your pupils in terms of the achievement/skills, motivation, self-concept, and engagement at school?
5. What do you think they perceive themselves regarding their achievement/skills, motivation, self-concept, and engagement at school?
6. How would your perceptions about your students vary depending on their skills for different subjects? Why?
7. What are the main reasons behind your pupils' achievement (low and high)?

3c. Semi-structured schedule interview (CONAFE management staff)

Preamble checklist:

- ✓ Thank the participant for his/her time, make sure that he/she has signed the corresponding consent forms. If necessary remind him/her the measures taken to assure the most confidentiality and anonymity possible.
- ✓ Outline the aims of the interview: discuss his/her views on the school processes regarding CONAFE primary schools and the most important factors influencing such processes
- ✓ Explain that the interview should last approximately 60 minutes and make sure that the timing is not a problem for him/her.
- ✓ Ask the participant if he/she has any questions before the interview begins and check he/she is happy to move on to the interview.

A. Profile and background information

1. Gender, age, language(s) spoken, seniority in CONAFE, position (e.g. training tutor, pedagogical assistant, coordinator)
2. Education, qualifications, and recent training/diploma courses taken.

B. Teacher training

1. What are the main features of CONAFE's pedagogical approach for teaching in a multi-grade setting? How is this approach guided by National Curriculum?
2. What is expected from teachers to manage (e.g. multi-grade lesson planning, curriculum content, assessment) after the 6 week pre-service course?
3. What is the follow up procedure after pre-service course is completed? How is in-service training provided?
4. How is teacher assessment conducted? Who performs in-class observations? What are the guidelines for observing teachers?

C. Leadership

1. Who makes most school decisions in CONAFE schools? What decisions are teachers' responsible for?
2. How are pupils enrolled into CONAFE schools? How do you keep track of students' progress?
3. How do teachers get in touch with them when a school issue arises? How are teachers supported by local CONAFE authorities?
4. How do you get in touch with parents? How often do you meet with parents and teachers to find out about their needs and other school issues?
5. How are teachers recognised and supported across the school year?

D. Pupils' well-being

1. How important is it for CONAFE to provide pupils with safety at school? How do you manage safety procedures in each school?
2. What are the main issues regarding safety and wellbeing that teachers are likely to face (e.g. bullying, malnutrition, violence at home)? How are teachers trained to provide children with a safely and orderly environment?
3. Is student wellbeing as important as academic achievement in CONAFE schools?

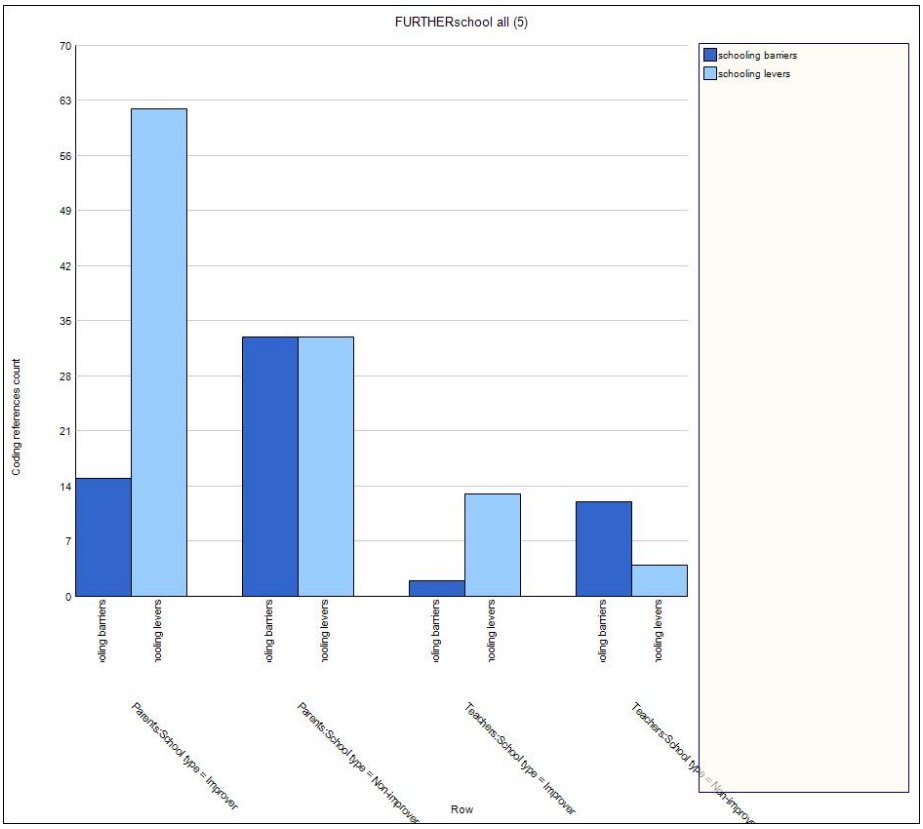
E. School characteristics

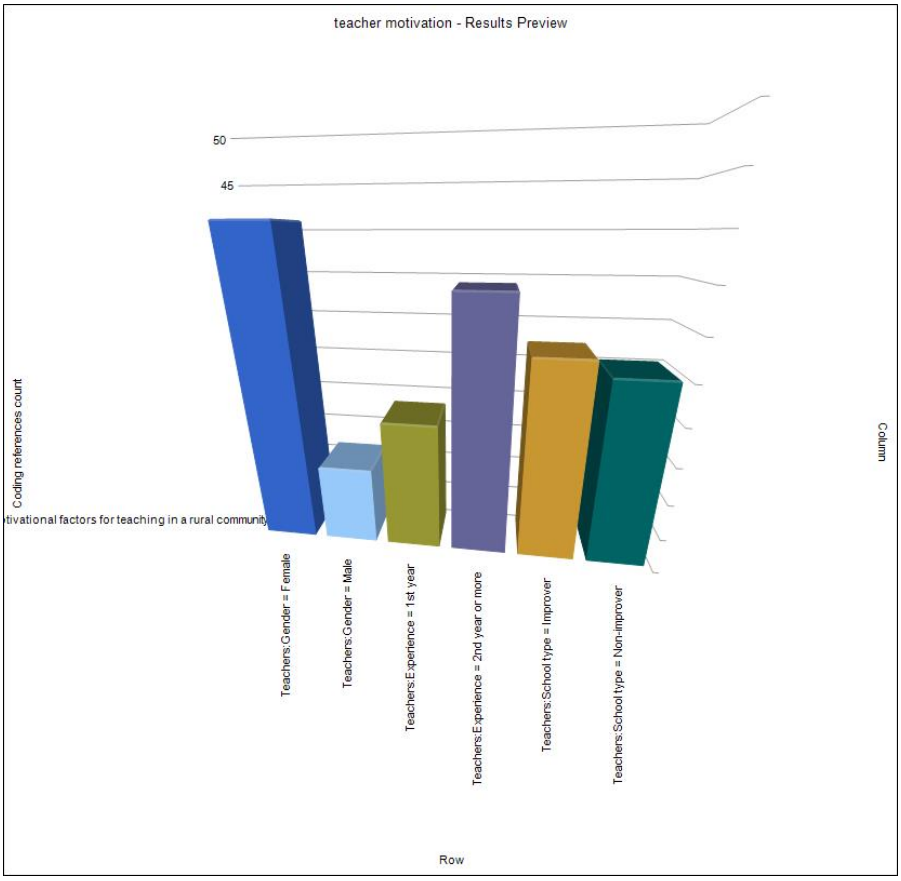
1. What resources and/or infrastructure are CONAFE schools lacking to provide instruction?
2. What is the vision of CONAFE schools? How is academic achievement defined and assessed?
3. What are the main compensatory programmes (e.g. *Oportunidades* aid programme) that make up for the lack of resources in pupils' families? What other programmes support CONAFE's aims?

3d. Qualitative results (*NVivo* coding and output)

Themes

Name	Sources	References
Community parents engaging for school governance n partnership w CONAFE	44	513
Governance of the school and its resources	43	317
CONAFE's yearly provision of resources n staff	27	66
School Infrastructure (current state n needs)	36	55
Readiness to construct agreements and collaborate to take care of school resources	28	45
Response to teachers' work proposals n requests	25	41
Comitee's members, responsibilities n leading skills	17	36
Collecting funds, approaches for fundraising n getting external aid	19	35
Internal relationships and bonding	13	22
Attendance to meetings	14	17
Managing and collaborating with teachers	37	196
Reception, supervision, rules, complaints	17	49
Expected behaviour n traits in 'good' teachers	21	49
Satisfactory experiences w teachers	18	36
Open to engage with teachers (building trust)	15	32
Unsatisfactory experiences with teachers	10	16
Misleading communication, trust barriers	10	14
Parental involvement	44	451
Further schooling expectations	40	181
schooling levers	33	118
encouraging discourses, high expectations (upper secondary or more)	21	33
kids willing to go and remain at school (motivated, with expectations for the future)	23	32
managing to afford n access education at higher levels (resourceful)	18	21
pupils' elder siblings studying at present time (former CONAFE students)	10	20
role models in the family or community	10	12
schooling barriers	25	63
low expectation discourses (basic education, labour over education)	13	16
lack of monetary support	9	16
kids unwilling to pursue education	11	14
other issues	8	9
drop out cases in the family	5	8
Capacity to assist and encourage children to progress in school	30	158
Remarks on pupils' achievement n progress	23	57
Somehow unable to assist much (relying on students' effort n skills, external aid)	19	28
Making sure students do hmk (time provided, resources, prompts, reminders)	16	21
Somehow able to assist or interact w children while hmk (available, encouraging, commited, resourceful)	15	20
Remarks on the importance of school n academic performance	11	18
Reinforcement of good behaviour n focus while in class	10	14
Support, communication n collaboration with teacher	38	112
Response to teachers' feedback, advice and requests (pupils performance n behaviour)	33	62
Response n participation in workshops	27	50
Teacher and teaching	21	420
teacher in-class	17	247
Managing lesson planning	16	93
subject knowledge, creation of tasks, ability to explain	14	34
managing scheme of work and handbook	13	24
considerations while planning	11	19
availability of class resources	6	10
use of journal	6	6
Difficulties when delivering lessons	16	69
Managing task, assessment n feedback	14	57
Managing pupils in class (behaviour, tasks, conflicts)	12	28
Motivational factors for teaching in a rural community	16	67
Kids' learning n teaching experiences	10	19
Building skills n character for the future	9	16
Highly motivated by HE sponsorship	7	11
Age issues	9	11
Parents' praise, disposition and value of work	5	10
teacher-pupil interactions	16	53
aid provided to low achievers, slow learners	14	23
expectations regarding pupil achievement	8	12
ownership and influence on pupils' performance	5	8
undestanding and sympathy towards pupils	5	7
building pupils' self concept (encouragement)	3	3
Professional Development (on n off site)	16	53
In-service CPD	15	29
Teachers' agreements n peer support on site	8	13
Pre-service training	7	11
Community n context	28	53
CONAFE and general school choices availability n criteria	21	36
Geographical factors	8	9
Economy and family income sources	7	8


FURTHERschool all (5)
schooling barriers
schooling levers
Coding references count
70
63
56
49
42
35
28
21
14
7
0
Parents:School type = Improver
Parents:School type = Non-improver
Teachers:School type = Improver
Row


teacher motivation - Results Preview
50
45
Coding references count
tivational factors for teaching in a rural community
Teachers:Gender = Female
Teachers:Gender = Male
Teachers:Experience = 1st year
Teachers:Experience = 2nd year or more
Teachers:School type = Improver
Teachers:School type = Non-improver
Row
Column