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To my family, my friends and the people who loves me and I love, who supported me all this time here and in the distance.

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Abstract

The PISA test launch by the OECD measures skills for life and it is supposed to be an instrument for educational improvement. Despite that, in reality it has become an instrument to classify the countries in a ranking in which Latin America is always at the bottom of the table and usually teachers are blame for those results without considering their circumstances.

Considering the research on the field that shows that teachers’ beliefs influence the curriculum implementation, the purpose of this study was to explore Chilean teachers’ beliefs about skills for life in order to find out if they consider the skills measured by PISA as important, if they teach those skills, the problems they face when teaching skills, if they have any, and the level of awareness that they have about PISA. The participants were seventy teachers from different area of the country who teach different subjects in different levels of the Chilean educational system. All this was done by using an online self-completion questionnaire that included closed and open ended questions.

The outcomes of the questionnaire show that these Chilean teachers do consider skills important and they teach them but the reason to justify this are diverse. At the same time, they point out the multiple problems they think they face when teaching skills and the reasons they provide for not teaching some of them. Finally it shows that although Chilean teachers know about the PISA test, this is not actually a benchmark, which means that even though they teach at some level the skills measured by PISA is not because they follow their guidelines.
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Chapter 1
Introduction

The big aspiration of governments in developing countries is to achieve the category of developed which according to an holistic approach of the United Nations Development Project (UNDP) (as cited in Phillips and Schweisfurth 2006) includes on the one hand economic growth, which usually is seen as the final goal and, on the other, people’s freedom.

Following the previously given definition, education has a vital role in the process of achieving both aspects of development. This is recognised by authors such as Phillips and Schweisfurth (2006 p.79) who state that “theoretically at least, education has the potential to contribute to economic growth and social and human well-being, and is itself a human right”. Despite this recognition, it is also important to point out that education per se will not lead to development, as Hanushek and Woessmann (2009 p.3) argue: “Schooling appears relevant for economic growth only insofar as it actually raises the knowledge that students gain as depicted in test of cognitive skills”. These authors point out a relevant issue related to education which is that not because a country has formal educational system there is a guarantee of economic growth and development. Nevertheless, the capacity of those educational systems to develop appropriate cognitive skills in their students is what really counts.

Recognising this importance of education for development, the Organisation for Economic Cooperation and Development (OECD) started the Programme for International Student Assessment (PISA) in 1997. Every three years (since 2000) the PISA test is implemented to evaluate skills and knowledge achieved by 15 years old students in 70 countries and economies. This test has the particularity that is not directly related to the school curriculum and it is designed to evaluate if the students are able to apply their knowledge to real-life situations and their ability to fully participate in the society.
Taking into account the theoretical contribution of education to development, countries like Chile have invested in their educational programmes. But this significant effort has not been reflected in the PISA test outcomes. Although there have been some improvements since the first edition, the skills of 15 years old students in Chile remains below the average of OECD countries.

From a theoretical perspective, these skills and knowledge assessed by PISA should be taught to students at schools but, the reality in the classrooms is not necessarily equivalent to the theory. As Hargreaves (1994 p. ix) clearly states “it is what teachers think, what teachers believe and what teachers do at the level of the classroom that ultimately shapes the kind of learning that young people get” Considering that, it becomes relevant to determine which skills Chilean teachers are developing in their students to contrast that with what, according to the OECD, students should learn by the age of 15.

Taking into account this situation, the purpose of this research is to explore Chilean teachers' beliefs and perceptions about the skills that they think should be taught in the classroom and how that matches with the skills measured by the PISA test and the educational goals of the Chilean government.

Considering the previously explained purpose of the research, the research question that will lead this work is:

• **Is it important for Chilean teachers to develop skills in their students during their lessons?**

This main research question is the big frame within which to explore other more specific issues underneath this question such as:

• **What skills Chilean teachers declare to teach to their students? And, how those skills match with the ones that OECD expects?**

• **What reasons do they have for choosing the skills that they claim to teach?**

• **What is the Chilean teachers’ awareness of the skills that the PISA test measures?**

These questions have been formulated to determine what are the skills that the Chilean teachers think are the most important to develop in the classroom. This, in order to determine how those are related to what students should be learning
according to the OCDE and finally whether the outcomes are related to teachers’ actions in schools.

1.1. - Why this topic?

The PISA test and its outcomes is an issue that has a major relevance for the participant countries. As Milford, Shelley and Anderson (2010) observe, media and governments are concerned about PISA results that can be used as publicity about the good outcomes or as an argument to attack the educational policies.

As Chile has become a member of the OECD since 2010, it is important for the government to achieve and show educational outcomes appropriate for an OECD participant country. Recognising education as a potential tool for development, the Chilean government, even before becoming and OECD member, has made great investments in education in order to improve the results in this area. Although it must be recognised that some advances has been done as Milford, Shelley and Robert (2010) state, pointing out that in 2006 Chilean students got the highest scores in Latin America in science and reading in the PISA test, it is also important to consider that the expected results have not been achieved as these are still below the OECD average.

Having had the opportunity to work as a history teacher in a public secondary school in Chile and as teacher trainer in a Chilean university, this topic is also close to me, because the educational outcomes of the students are always a main concern. What are we doing wrong as teachers in schools while we deliver lessons to our students or what are we doing wrong in the teachers’ training process are some questions that arise from the PISA results.

There could be a range of possible explanations and factors that might have an influence in the outcomes. Hargreaves (1994 p.11) clearly states that generally it is “presumed that educational standards are low and young people are failing or dropping out because the practice of many teachers is deficient or misdirected”. Hargreaves disagrees with this common opinion and practice of blaming teachers adding that is not that simple and there are many others factors that have an influence in why teachers teach in the way they do. I personally agree with this
author as it is really easy to blame teachers without knowing their context and the conditions in where they work.

Despite the previously stated fact, an explanation of why Chilean students perform below OECD average could be that maybe the skills measured by the PISA test do not have a correlation with the ones that Chilean teachers develop in their students. And this situation could be as Hargreaves (1994) mentions, because of teachers’ beliefs. For that reason the present research could be a contribution to find out if, in the case of Chile, the teachers’ beliefs about skills in the classroom have an influence in the results achieved by the students in the test.

For that purpose, a self-questionnaire with open and close questions was developed in order to collect and explore some opinions of Chilean teachers about skills in the classroom and their awareness on the PISA programme.

Those results will be explained later on this work and will start by presenting a literature review about the topics addressed in this research which are the PISA test and some studies in the area of teachers’ beliefs. After that, an explanation about the methodological issues related to the present research will be given. Then a presentation, analysis, discussion and critiques about the data and the findings and finally some conclusions.
Chapter 2

Review of background literature

For the present study there are two main areas of literature. On the one hand, studies related to the PISA test explaining what is it about and its importance in order to provide a general framework of the programme, to understand its purposes and why is it carried, on the other, studies related to teachers’ beliefs and opinions and how these can have an influence on the implementation of educational curriculums and in the skills that the students acquire. Both aspects will be covered in the following part of this dissertation.

2.1. - Programme for International Students Assessment: PISA

The Organisation for Economic Cooperation and Development (OECD) created in 1997 the Programme for International Students Assessment (PISA) in order to measure, through a test with everyday life situations, levels of reading, mathematics and scientific literacy of 15 years old and also, how the educational systems in the participant countries are preparing students to succeed in the future. This test is applied since 2000 every three years and the number of participant countries has been increasing through the time. According to Morgan (2011 p. 56) “the underlying objective that unified OECD members states was to be able to measure the international competitiveness potential of their labour force in a knowledge based economy”. So, although PISA appears as an instrument with educational purposes, it is at the same time an economic and political instrument for the participant economies and in some cases has a major influence in educational policies.

Following the previous idea, according to Popkewitz, (2011 p.31) “the assessment of the practical skills in everyday life situations is believed to be correlated to students’ eventual participation in the labour market and being productive citizens”. This means that the data collected by PISA can provide an idea on how well the educational systems are preparing their students to become active participants of the society and the economy.
Even though PISA could appear as an instrument that promotes economic competition, according to Schleicher (2007 p. 349), who is in charge of the programme, “PISA seeks to provide a basis for policy dialogue and for collaboration in defining and implementing educational goals, in innovative ways that reflect judgements about the skills that are relevant to adult life”. Following Schleicher statement, it can be understood that in the core of the programme there is an intention of improving the educational systems in order to align them to provide education that can meet the requirements of the knowledge society that needs citizens able to decode, read and comprehend different types of texts. These literacy skills are valuable because according to the OECD they help with personal development of the students and at the same time contribute to the economic and social performance, both key elements for development.

Despite that the OECD states that PISA has some specific objectives, it has, at the same time, many critics and opposites. Those aspects will be presented later in this work.

Although the OECD intention is to promote policy dialogue and improvement, this has not been necessarily the case, particularly in Latin America and Chile. This situation will be addressed in the next part.

2.1.1 – PISA in Latin America

OECD reports about the outcomes of Latin American countries have disappointed their governments because of their low performance. As Hanushek and Woessmann (2009 p.2) state, “the performance of Latin American countries on the worldwide student achievement tests has been truly dismal”. These authors suggest that Latin American countries perform so low and far from the OECD members that the outcomes are not even meaningful.

In addition to the low outcomes, is important to mention the fact that the outcomes of this test, as Bolívar (2011) mentions, place the different countries in rank order, defining winners and losers and the latter are usually Ibero American countries, particularly Latin American countries like Chile. Moreover, the press in Ibero American countries use this ranking to make strong statements about the educational systems, placing the test as a sport competition. In the case of the
countries with lower outcomes, this becomes an argument to criticise the educational model, the government and apportioning blame at the same time. As Figazzolo states (as cited in Bolívar 2009 p. 62) “the news media have generally adopted the perspective of the rankings when referring to PISA, sometimes blaming the teachers for the poor results”. Figazzolo is right when makes this statement, because blaming the teachers without knowing their conditions is really simple.

When trying to explain why Latin American countries perform so low, referring to the levels of development appear as an easy explanation. Despite the explanation of lower levels of development, different authors have tried to elucidate why Latin American countries have this low performance, all of them below the OECD average. According to Bolívar (2011) the reason goes beyond levels of development mentioning that studies on school effectiveness point out internal factors as a possible explanation. That is the case of a study carried out by Rodrigo in Argentina (2010) who indicates that those factors are the organisation of teaching in the school, the levels of academic requirement and the conditions in which the teachers work including low salaries, working in more than one school, problems of training and absenteeism.

These last aspects mentioned by Rodrigo (2010) could explain why the teachers do not have enough time dedicated to prepare lessons and teaching and, as a consequence of that the low levels in the quality of education that they provide. According to this explanation it is possible to claim that although the low outcomes are related to the teachers, is actually the external factors that affect them the real reason.

Rodrigo’s explanation matches with Hargreaves’ research (1994 p. 15) who mentions time as one of the main concerns of teachers and teaching, “scarcity of time make it difficult to plan more thoroughly, to commit oneself to the effort of innovation, to get together with the colleagues or to sit back and reflect on one’s purpose and progress”.

Although I have personally lived the constraints mentioned by Rodrigo, it is interesting to consider a different perspective given by Fuchs and Woessmann
(2004) who suggest that the low outcomes in international assessments like PISA in Latin America could be due an error in the measurement which as it will be stated later is one of the critics of the test, because Latin American schools do not give enough attention to skills’ development or the relationship between cognitive skills and growth that in the case of Latin America is curvilinear.

Despite the technical critics to PISA, that actually could influence the outcomes, as those technical aspects should affect developed countries too, and the unequal relation between cognitive skills and economical growth, the perspective on the importance that the schools systems in Latin America give to skills development appear as an interesting view. This explanation implies that when measuring skills in Latin American students, they perform lower because in their schools, developing those skills does not appear as a priority. This perspective place the focus not in the teachers or the students but on the whole educational system and the teachers would only be obeying it. Although this could be a reasonable explanation, Fuchs and Woessmann recognise do not have enough data to support any of the three possible theories they provide.

Either one or another reason, maybe a combination or none of them, the fact is that Latin American countries perform low in the ranking and it is certain that their performance is a concern for those governments because it means that 15 years old students are not developing their skills properly. At the same time, an improvement could have an impact in both political and economic level. At the political level because it will support governmental strategies in education and becomes a good propaganda. At the economical level, because will prove the competitiveness of the country worldwide from the human capital perspective. Although, a most important aspect emerge from this and is the fact that the students are not developing their whole potential and that should be the real reason to improve the educational systems.

2.1.2. – Chile and the PISA test

By the year 2000, when the first version of PISA was launched, Chile did not take part of the study, but it was invited to participate in 2001, when with the cooperation of UNESCO, the test was extended to eleven non OECD members in a study called PISA+. This study was considered part of the first cycle carried in 2000.
In that first cycle, according to the executive report of PISA for Chile, the results of the country activate the concerns about the educational system. Chilean scores were 410 points in reading, 384 in mathematics and 415 in science. By that time, OECD average was 500 points.

After the poor results obtained in the 2000 version, Chile did not participate in 2003. By that time, a reformed curriculum was been implemented in Chilean schools. According to Cariola et.al. (as cited in Bolívar 2011 p. 68) this reform was the cause that explains why in the 2006 cycle of PISA, when Chile took part again, the results were better than in the first version. The scores in that occasion were 442 in reading, 411 in mathematics and 438 in science. Although an improvement can be seen, the scores remained below OECD average, far from the most developed countries. A possible explanation on that could be given by the fact that, as it will be address later on, teachers’ beliefs have an influence in the curriculum implementation.

In May of 2010 Chile became an OECD member. It means that since that year the results of Chile in the PISA test were not categorised in the group of non-members. As the results of the 2009 version were presented on 2010, in this cycle Chile was listed as an OECD member. But these new status did not implied significant changes in the outcomes of the test. The scores were 449 in reading (OECD average was 493), 421 points in mathematics (OECD average was 496) and 447 points in science (OECD was 501). Even though the results were better than the previous version, the improvement was not significant and remained below the average and far from the top.

It must be stated that since the first edition of PISA in 2000, Chile has shown significant improvements, particularly in 2006 and the new curriculum implemented in this time had an influence in that. Although since that moment, the improvement was not significant in the following version. That means that even if the reform was good, it is not enough. So far, 2012 results have not been presented yet but, unless there is a significant improvement, the reform, by itself, reached the ceiling in its capacity of developing the skills that OECD measures.
2.1.3. - The problems and critics of PISA

Although PISA is a programme to improve educational systems, it has been object of different critics, pointing out its flaws and claiming that the test does not fulfil the expectations as the OECD states. Bonderup (2007) concludes that PISA does not assess “knowledge and skills for life” as it is stated by OECD, arguing that some methodological problems in the construction of the test invalid it. This was previously mentioned by Fuchs and Woessmann (2004) when mentioning reasons for the low outcomes in Latin America. As Bonderup present some interesting analysis of the items and states that the only “real life” situation that PISA assess is actually taking the PISA test. This author undermines the reliability of the test and for that reason PISA should not have the importance that holds currently. Even though these critics are valid, considering the current importance of the test for the participant countries, it seems that the governments are not paying attention to this aspect.

At the same time, Morgan (2011) calls PISA a fragile entity, mentioning multiple reasons to justify this. It includes cultural bias of the test, exclusion from the test of some students in the participant countries, the quality and expansion of the assessment, an over interpretation of its results and issues related to the construction of the items. Lundgren (2011), even though has a positive view of the programme, also points out the critics of different authors to the test mentioning problems of validation as the test does not belong to any objective or subject in national curriculums of the participant countries and translation problems plus the fact that it would not be possible to compare outcomes between different educational settings and curriculums which is the case of the participant countries.

On the other hand, Schleicher (2007), head of the PISA project, argues that although they recognise that PISA does not capture all the competencies that the students will require to be successful, the competencies that PISA actually measure are a good predictor of the success of the students. And that makes PISA a valuable instrument that overall it is supposed to help to measure the situation of the educational systems and should promote improvement based on the results.
These aspects related to PISA are important to consider in the present study as they provide a framework to understand what PISA is, its purposes, what is expected from the educational systems that take the test and implicitly what the teachers who work in those systems should be doing. Despite that, what actually happens in the classrooms, what is taught and what not, in the different educational systems is shaped by what the teachers think and believe. For that reason, the next section of the present study will address those aspects that will link the teachers’ beliefs with its possible influence in the outcomes in PISA.

2.2. - Teachers’ beliefs

As has been previously mentioned, teachers come to the spot when the results of the PISA test appear, especially on the press, although as has been stated there could be multiple causes explaining the outcomes. Although in the case of Chile, as it was previously mentioned, a curricular reform was implemented and there was an improvement in the PISA outcomes, those remain below the average. This could be because teachers have reasons for teaching in a certain way and the problems they face when teaching are not considered, even though, as it will be explained later, those aspects have an influence in their performance in the classroom and in the implementation of the curriculum.

The next sections of this study will start with some definitions about the concept of teachers’ beliefs and then presenting some research that has been done in that area that explains how those beliefs are relevant.

2.2.1. – Teachers’ beliefs, defining the concept

Teachers’ beliefs are an area that has been studied by many authors such as Pajares (1992), Hargreaves (1994), Fives and Buehl (2008) and others. However, an appropriate definition of the concept is required in order to establish what will be understood as that in the present research.

To start exploring the concept it is necessary to define first what a belief is. Pajares (1992 p.316) defines it as “individuals’ judgement of the truth or falsity of a proposition”. This definition implies that every person will assign determinate values to different situations and that person will act and take decisions according to those values.
Given the definition of belief, the next step is to explain how that applies to teachers in the professional area. Although many definitions can be found for the concept, one that covers the meaning properly is taken from Pajares’ (1992) work that considers teachers’ beliefs as all beliefs that teachers have about topics and/or constructs related to teaching, learning and education. As a consequence of those beliefs, all the actions undertaken by teachers in the classroom will take a one or another path.

The importance of this concept for the purposes of this dissertation is given by the fact that as Pajares (1992 p.307) suggests, beliefs “are the best indicator of the decisions individuals make throughout their lives”. This idea is also supported by Hargreaves (1994 p. X) who clearly state that “teachers teach in the way they do not just because of the skills they have or have not learned. The ways they teach are also grounded in their backgrounds, their biographies, in the kind of teachers they have become”. These means that in the case of teachers, the decisions that they make as professionals in the classroom about aspects such as planning, activities, curriculum and others will be strongly influenced by the personal judgements that they make about those aspects. And as a consequence of that, the outcomes obtained by the students may vary, regardless other factors, from one class to another.

Teachers’ beliefs play an important role in what happens in the classroom, even at the level of the content that they teach. As Pajares (1992 p. 309) points out “teachers often teach a content of a course according to the values held of the content itself”. That means that although in a very strict national curriculum that clearly indicates the knowledge that must be taught to the students, the beliefs of the teacher about that knowledge will shape the way is taught, the deepness in which that knowledge will be presented to the students and also the importance that students may attribute to that content.

Following the previous idea, in the case of the literacy skills promoted by the OECD and that the Chilean government is trying to develop, teachers’ beliefs might have an influence too, because on the one hand are the skills that the government is
trying to promote through the national curriculum and in the other, the skills that the teachers believe are relevant for their students. And according to the research in the area, the latter have a stronger influence at the end.

Following the same path, studies of Ernest (as cited in Pajares 1992 p. 311) express clearly the influence of the beliefs in teachers’ practices in the classroom. According to Ernest, “two teachers might have similar knowledge but teach in different ways”. Those decisions about how to teach are determined by the “teaching knowledge”, which according to Alexander, Schallert and Hare (as cited in Fives and Buehl 2008 p. 137) is the “personal stock of information, skills, experiences, beliefs and memories related to the practice of teaching”. As every person will have its own personal stock according to their experiences, then every classroom will be completely different no matter if the content is the same.

Although Fuchs and Woessmann (2004) state that maybe Latin American school systems do not give enough importance to skills and that could explain the low outcomes, considering the statements of Pajares and Hargreaves could imply that the teachers beliefs are influencing the level of importance of skills in their educational systems but it also could be the case that the educational system influence teachers’ beliefs. Either one or another option is not the focus in the present research, although is a potential area of future research.

Applied to the present study, which intends to explore the teachers’ beliefs about the skills measured by the PISA test, to determine whether or not the Chilean teachers believe that OECD literacy skills are important to be taught to their students can help to elucidate if their beliefs are influencing Chilean PISA outcomes.

### 2.2.2. – Research about teachers’ beliefs

The field of teachers’ beliefs has been study for many authors and for different purposes. All of them agreed in one key aspect, beliefs have a major influence in teachers’ practice and although educational policies may dictate specific issues about curriculum implementation, teachers’ beliefs are what will finally give shape to those policies and for that reason any reform must always take into account this key aspect.
To cite an example of what has been previously stated, a study carried by Lederman and Abd-El- Khalik (as cited in Water-Adams 2006 p. 919) found that the beliefs of teachers related to education, teaching and learning are key factors in the decisions that teachers make about classroom strategies.

The same applies in the case of curriculum reforms. Roehrig and Kruse (2005) carried a study in the case of chemistry teachers in USA, in the school district of Ocean Valley, and how their beliefs influenced the implementation of a new chemistry curriculum based on a student centred approach. The findings on Roehrig and Kruse research where also consistent with previews studies in the area like the one of Powell and Anderson (as cited in Roehrig and Kruse 2005) that state that “if a teacher holds beliefs that are in opposition to the intents of the curriculum, the result may not be reformed- based instruction; the interactions of the teacher with the curriculum determine what actually happens in the classroom”.

In the same path than the previous one, another article made by Roehrig, Kruse and Kern (2007 p. 883), support the argument about teachers’ beliefs. The findings of the study were that “analysis of the data revealed that implementation of the curriculum was strongly influenced by the teachers’ beliefs about teaching and learning and the presence of a supportive network at their schools”.

There are many other studies supporting the same that has been stated before, like Wallace and Priestley (2011) studying the influence of teachers’ beliefs in Scotland or Mansour (2010) in Egypt, to name a few, and they conclude, despite the fact the subject, the high level of relevance of this issue in the teachers’ practices in the classrooms and the shape of the curriculum. For that reason, in the questionnaire used in the present study, Chilean teachers will be asked about their beliefs about the skills measured by PISA and the importance that they give to those skills to explore if those beliefs are influencing the curriculum.

2.2.3 Aspects that could influence the beliefs

Having stated the importance of beliefs, it is relevant to mention that although they play a major role in the classroom, these could be influenced by different factors. According to Lederman and Abd-El- Khalik (as cited in Water-Adams 2006 p.
there are situational constraints that influence teachers. These constraints would be a) the pressure to cover the content of their subjects b) the classroom management and organizational principles c) some concerns related to abilities and motivation of their students d) constraints related to the school e) their experience as teachers and f) lack of resources. These elements are constantly shaping their beliefs and in so influencing their decision making process.

On the other hand, as it was previously mentioned, Fuchs and Woessmann (2004) stated that another possibility is that the educational system does not give enough importance to the developing skills, which could be shaping teachers’ beliefs too. I personally think, based on my personal experience as a secondary teacher that could be a combination of factors, like the ones mentioned by Lederman and Abd-El- Khalik, the time mentioned by Rodrigo and at some point what Fuchs and Woessmann state. Despite my personal opinion, it would be relevant to find out what the Chilean teachers think to understand better which beliefs are shaping the implementation of the Chilean curriculum related to skills for life.

Considering that Lederman and Abd-El- Khalik mention the existence of situational constraints as influence in teachers, the questionnaire for the Chilean teachers will also ask about the problems they have when teaching skills to their students to explore what are the constraints that influence Chilean teachers beliefs.
Chapter 3

Methodology and design of the research

For the research design and methodology different aspects has been considered. In the core of the research there is an implicit question related to why Chilean students achieve outcomes under the average. To answer this enormous question there could be multiple options and it would take longer time and resources. Considering what has been previously stated and, based on Hargreaves’s (1994) premise that teachers have a major influence in what students learn, the focus of the present study is on teacher’s opinions. By knowing what Chilean teachers think it could be possible to have an approach to understand what is happening in the Chilean classrooms related to skills for life. This brief approach could contribute to answer the bigger question stated above, but clearly will not answer it entirely.

Taking into account the purpose of the study, there would be different possibilities to answer the question, but it is important to consider issues like time, costs and the physical impossibility for the researcher to access the teachers in Chile.

According to Pajares (1992 p.314) “beliefs cannot be directly observed or measured but must be inferred from what people say, intend and do- fundamental prerequisites that educational researchers have seldom followed”.

As the intention of the research is to explore teachers’ opinions and beliefs, following Pajares suggestion, asking Chilean teachers their opinions appears as an appropriate option. Considering the previously mentioned issues as time, costs and distance and the importance to reach as many respondents as possible in order to have a wide range of answers, a survey with close and open ended questions allows collecting a wide sample of teachers’ opinions.

This cross-sectional design will try to describe the Chilean teachers’ current view about skills in the classroom and how those views are aligned with what OECD measures through the PISA test. This type of design, as Thomas (2009) explains,
seems to be appropriate considering that the intention is to get answers from a range of teachers that is representative and if it were possible, generalise the collective thoughts and views of Chilean teachers and some possible patterns. By doing a different type of design frame it will be difficult to reach a big number of teachers and generalisation would not be possible. A longitudinal study could work for the purpose too, but considering the time for the research, then the best option is the cross-sectional design.

After taking into consideration the above stated issues, the gathering data process includes a survey made through self-completion questionnaires to collect quantitative and qualitative data. This kind of questionnaires results appropriate as allows to collect a bigger sample of responses in a short period of time and do not require physical presence of the researcher with the teachers because of the possibilities that the internet provide, sending the link of the questionnaire on-line through Bristol Survey service to be answered in the place and time that it is more convenient for teachers.

The use of self-completion questionnaire, as Robson (2011) states, helps with the sense of privacy of the answer because considering that what teachers think it is the purpose, the possibility of answer alone and anonymously increased the chances to get more honest answers helping to ensure the reliability of the research.

Before the application of questionnaires a pilot version was made to ensure clarity of the questions and reliability. This pilot version was made during the month of March. It includes five teachers, male and females who were contacted by email and voluntarily agreed to collaborate with the study. After this trial, the teachers sent their feedback via email. Using that information the questionnaire was fixed to be launched.

3.1 The questionnaire

The questionnaire design process was made following Robson (2011) guidelines and took into account the intention of finding out the skills that the teachers develop in their students. As has been previously stated, the questionnaire was launched using the Survey Bristol platform and includes 21 questions, 12 of
them closed and 9 open questions distributed in four different sections. The entire questionnaire is presented in the annex part of this dissertation.

The first part of the questionnaire was developed in order to find out some demographic data of the participant teachers such as gender, region where they work, type of school, courses which they teach, subject taught, years of experience, institution of teacher training, professional development courses taken and type of professional development. This socio demographic data becomes relevant because as Thomas (2009 p. 174) states, “Sometimes, these factors, while they may not have seemed important on the outset, become important after your “eyeballing” of your data. They can add an additional dimension for very little extra work, particularly if you are analysing your responses statistically”. For that reason, these opinions will also be crossed with information of the respondents to see if it is possible to find any pattern among their opinions and these socio demographic issues.

The second part includes a first question that lists the nine skills that are measured by the PISA test. In this question they were supposed to mark all those skills that they think it should be taught in schools. Then, a second question listing the same skills but, they were asked to mark all those ones that they actually teach in their classes. After that, an open question asking reasons of why they do not teach those skills that they did not mark in the second question. Finally, an open question that allows the teachers to express if there is any skill that they teach to their students and it was not in the previous list. This section will allow to find out which skills they declare to teach, which they do not teach and the reasons and which other skills are they teaching to their students.

The third section it was oriented to ask straight out their opinions about the skills, to find out their beliefs. A first closed question asked if they think it is important to teach skills in the school with three possible answers: yes, no or it depends, followed by an open question asking reasons for their choice in the first question. After that, an open question asking how they select the skills that they teach in their classes and finally what are the main difficulties that they face when they have to teach skills to their students.
The final section of the survey it is directly related to the PISA test and it was developed in order to identify the levels of awareness that Chilean teachers have about PISA. There is a first closed question asking if they have ever heard about PISA. In the case of those who say yes, there is a closed question asking if they know what it is about. Then, for those who say yes there is an open question requesting to explain with their own words their knowledge about the test. Finally, a closed question that asked if they, when planning their lessons, have ever considered the PISA guidelines.

As the language of Chilean teachers is Spanish, the questionnaire was developed in that language and then their answers were translated into English for the purposes of this dissertation.

3.2 The participants: Chilean teachers

The sample of the present research consists of seventy Chilean teachers who are currently working in the school system. They were reached through contact with the head teacher of their schools who invite them to take part of the research by accessing the Bristol Survey web site. Each teacher accessed voluntarily into the web site where they were informed, before they started to complete the survey, about the purposes of the study and their right to withdraw whenever they want it without further explanations. They were also informed about the anonymity of their answers and the voluntary character of the survey and an email address was provided for further question or comments in case they would require it. These ethical issues were made by following the British Educational Research Association (BERA) guidelines.

Regarding geographic distribution it must be stated that Chile is geopolitically organised in fifteen regions from north to south. These seventy teachers who finally agreed to participate are 23 men and 47 women working in 8 of the 15 regions of Chile. Seven of them from the region of Arica y Parinacota, seventeen from the region of Tarapacá, twenty nine from the region of Valparaiso, four from the region Del Maule, three from the region of Los Ríos, four from the region De los Lagos, two from the region of Magallanes y la Antártica Chilena and four from the region Metropolitana de Santiago.
In Chile, teachers working in primary education teach all the subjects until year 8, in secondary education there are teachers for every specific subject but they are also allowed to teach in primary their subjects from year 5 to 8. In the case of secondary schools, there are two options, the humanistic-scientific curriculum oriented to prepare students to attend universities at the end of their school cycle or, technical curriculum that teach students the mandatory subjects like math or language but, include technical courses to prepare them to work straight away when they finish their studies. The sample includes teachers from both, primary and secondary school teaching humanistic-scientific subjects and technical subjects because, as PISA states, the content of the test is not related to any particular subject or curriculum. Instead, it assesses skills for life which should be taught by all teachers, despite the subject content. The distribution of the teachers in the different subjects is shown in the figure 1. It must be stated that given the fact that primary teachers teach all the subjects, they were organised together as one category.

Figure 1 Subject taught by participant teachers

Q. 5 Subjects taught by participant teachers

![Chart showing the distribution of subjects taught by participants.](chart.png)
Related to the type of funding, in Chile, schools are divided in three types: state schools that receive funding from the government and administrated by the municipalities, subsidized schools which funding comes from the government and from the parents and the administration is in charge of the owner, an administrator or a non profit foundation and, particular schools which funding comes entirely from the payments made by the parents. The sample of this study includes teachers working in the three types of schools as shown in figure 2: 43 teachers (61, 4%) in state schools, 22 teachers (31, 4%) in subsidized schools and 5 (7.1 %) in particular schools. Although some of the teachers work in more than one type of school, it was required for the study to mark the type of school where they work the majority of their time.

Figure 2: Type of school in which the teachers work

![Type of school in which the teachers work](image)

After collecting the data, all the answers were organised in an excel worksheet. This sheet helped with the eyeballing process and the filters function and colour tags were particularly useful when cross tabulating the data. After that, the open answers were analysed in order to classify them in different categories created according to every question. The results and the analysis of the data are presented in the next chapter.
Chapter 4

Findings of the questionnaire

This section will refer briefly to the answers provided by the Chilean teachers to the questionnaire. These findings are presented question by question starting with section 2 because the first section of the questionnaire requested demographic data that has been already explained in the methodological section.

The answers are presented using tables including the response rate. In the case of the open ended questions, the answers were organised in categories and the tables include the number of responses in each category. It is important to mention that in some cases the number of responses is higher than the total of respondent teachers. This is because some of their open ended answers can be included in more than one category. At the same time, in some questions there is a lower response rate because some of the closed questions act as filters and depending on the answer it will lead to one or another question giving the chance of skip some of them. After that, the next section of the dissertation includes the analysis and comments on the findings presented in this part of the dissertation.

Table 1: Question number 10

<table>
<thead>
<tr>
<th>Skills</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recover information from a text</td>
<td>40</td>
</tr>
<tr>
<td>Infer information from a text</td>
<td>61</td>
</tr>
<tr>
<td>Assess information from a text</td>
<td>44</td>
</tr>
<tr>
<td>Use information for basic operations</td>
<td>39</td>
</tr>
<tr>
<td>Connect information with daily life</td>
<td>59</td>
</tr>
<tr>
<td>Logical reasoning</td>
<td>62</td>
</tr>
<tr>
<td>Identify scientific topics</td>
<td>33</td>
</tr>
<tr>
<td>Explain phenomena using the scientific method</td>
<td>36</td>
</tr>
<tr>
<td>Use of scientific evidence</td>
<td>32</td>
</tr>
<tr>
<td>None of the above</td>
<td>0</td>
</tr>
</tbody>
</table>
### Table 2: Question number 11

<table>
<thead>
<tr>
<th>Skills</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recover information from a text</td>
<td>50</td>
</tr>
<tr>
<td>Infer information from a text</td>
<td>62</td>
</tr>
<tr>
<td>Assess information from a text</td>
<td>39</td>
</tr>
<tr>
<td>Use information for basic operations</td>
<td>41</td>
</tr>
<tr>
<td>Connect information with daily life</td>
<td>63</td>
</tr>
<tr>
<td>Logical reasoning</td>
<td>53</td>
</tr>
<tr>
<td>Identify scientific topics</td>
<td>30</td>
</tr>
<tr>
<td>Explain phenomena using the scientific method</td>
<td>26</td>
</tr>
<tr>
<td>Use of scientific evidence</td>
<td>27</td>
</tr>
<tr>
<td>None of the above</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of respondents: 70  
Response rate: 100%

### Table 3: Question number 12

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number of responses and percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belong to other subjects</td>
<td>12 (30, 7 %)</td>
</tr>
<tr>
<td>Do not correspond to the level</td>
<td>7 (17, 9 %)</td>
</tr>
<tr>
<td>Lack of knowledge to teach it</td>
<td>7 (17, 9 %)</td>
</tr>
<tr>
<td>Lack of time</td>
<td>5 (12, 8 %)</td>
</tr>
<tr>
<td>Lack of space or resources</td>
<td>3 (7, 6%)</td>
</tr>
<tr>
<td>Religious reasons</td>
<td>2 (5 %)</td>
</tr>
<tr>
<td>Methodological reasons</td>
<td>2 (5 %)</td>
</tr>
<tr>
<td>Some skills are not relevant</td>
<td>1 (2, 5 %)</td>
</tr>
</tbody>
</table>

Number of respondents: 39  
Response rate: 55, 7%

### Table 4: Question number 13

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive skills</td>
<td>6 (20 %)</td>
</tr>
<tr>
<td>Social skills</td>
<td>24 (80 %)</td>
</tr>
</tbody>
</table>

Number of respondents: 30  
Response rate: 42, 8 %
Table 5: Question number 14

<table>
<thead>
<tr>
<th>Question number 14: Do you think it is important teaching skills to the students in the classroom?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents: 70</td>
</tr>
<tr>
<td>Possible answer</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>It depends</td>
</tr>
</tbody>
</table>

Table 6: Question number 15

<table>
<thead>
<tr>
<th>Question number 15: Could you justify your answer in question 14?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents: 62</td>
</tr>
<tr>
<td>Categories</td>
</tr>
<tr>
<td>Help to improve learning process</td>
</tr>
<tr>
<td>Are useful for life</td>
</tr>
<tr>
<td>Because skills “are important”</td>
</tr>
<tr>
<td>Integral part of the students development</td>
</tr>
<tr>
<td>The answer is not related to the question</td>
</tr>
<tr>
<td>Skills remain by the time</td>
</tr>
<tr>
<td>It justify teachers’ work</td>
</tr>
</tbody>
</table>

Table 7: Question number 16

<table>
<thead>
<tr>
<th>Question number 16: When you teach skills, how do you select them? Explain briefly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents: 69</td>
</tr>
<tr>
<td>Categories</td>
</tr>
<tr>
<td>According to the type of content</td>
</tr>
<tr>
<td>According to the students</td>
</tr>
<tr>
<td>According to the national curriculum or classes plans</td>
</tr>
</tbody>
</table>

Table 8: Question number 17

<table>
<thead>
<tr>
<th>Question number 17: What are the main difficulties you face when teaching skills to your students? Explain briefly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents: 69</td>
</tr>
<tr>
<td>Categories</td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Teachers</td>
</tr>
<tr>
<td>Lack of resources/ space</td>
</tr>
<tr>
<td>Lack of time</td>
</tr>
<tr>
<td>Family of the students</td>
</tr>
<tr>
<td>Assessment</td>
</tr>
<tr>
<td>National Curriculum</td>
</tr>
<tr>
<td>Keeping the routine</td>
</tr>
<tr>
<td>Students’ easy access to information</td>
</tr>
</tbody>
</table>
Table 9: Question number 18

<table>
<thead>
<tr>
<th>Options</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>44 (62.9%)</td>
</tr>
<tr>
<td>No</td>
<td>26 (37.1%)</td>
</tr>
</tbody>
</table>

Table 10: Question number 19

<table>
<thead>
<tr>
<th>Options</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31 (66%)</td>
</tr>
<tr>
<td>No</td>
<td>16 (34%)</td>
</tr>
</tbody>
</table>

Table 11: Question number 20

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A test to measure skills</td>
<td>17 (40.4%)</td>
</tr>
<tr>
<td>An international test</td>
<td>15 (35.7%)</td>
</tr>
<tr>
<td>A standardised test</td>
<td>7 (16.6%)</td>
</tr>
<tr>
<td>An OECD test</td>
<td>2 (4.7%)</td>
</tr>
<tr>
<td>Does not remember</td>
<td>1 (2.3%)</td>
</tr>
</tbody>
</table>

Table 12: Question number 21

<table>
<thead>
<tr>
<th>Options</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>9 (12.9%)</td>
</tr>
<tr>
<td>No</td>
<td>61 (87.1%)</td>
</tr>
</tbody>
</table>

The answers shown on the above tables will be analysed and commented in deep in the next chapter in order to answer the research questions that led the present dissertation.
Chapter 5

Analysis and comments on the findings

This part of the dissertation intends to answer the four research questions of this study using the data from the previous section which is analysed and commented. To do this, this section is organised in four parts, one for each research questions of this dissertation. Table 13 shows the research questions of this study and the questionnaire questions used to answer them.

Table 13: Research questions and related questionnaire questions.

<table>
<thead>
<tr>
<th>Research question</th>
<th>Questionnaire questions to answer it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it important for Chilean teachers to develop skills in their students during their lessons?</td>
<td>Q. 10: From the following list of skills, which one(s) do you think should be taught in schools? You can select all the ones that you want.</td>
</tr>
<tr>
<td></td>
<td>Q. 11: From the following list of skills, which one(s) do you teach to your students in the classroom? You can select all the ones that you teach</td>
</tr>
<tr>
<td></td>
<td>Q. 14: Do you think it is important teaching skills to the students in the classroom?</td>
</tr>
<tr>
<td></td>
<td>Q.15: Could you justify your answer in question 14?</td>
</tr>
<tr>
<td>What skills Chilean teachers declare to teach to their students? And, how those skills match with the ones that OECD expects?</td>
<td>Q. 11: From the following list of skills, which one(s) do you teach to your students in the classroom? You can select all the ones that you teach</td>
</tr>
<tr>
<td></td>
<td>Q. 13: Is there any other skill not listed above that you teach to your students? If so, mention it.</td>
</tr>
<tr>
<td>What reasons do Chilean teachers have for choosing the skills that they claim to teach?</td>
<td>Q. 12: In the case of those previously listed skills that you do not teach to your students, could you explain briefly the reasons?</td>
</tr>
<tr>
<td></td>
<td>Q. 17: What are the main difficulties you face when teaching skills to your students? Explain briefly</td>
</tr>
<tr>
<td>What is the Chilean teachers’ awareness of the skills that the PISA test</td>
<td>Q. 18: Have you ever heard about the PISA test?</td>
</tr>
</tbody>
</table>
The next part of the present dissertation will present the answers to the four research questions mentioned in table 13 by analysing and discussing the data provided by their respective questionnaire questions.

5.1. Is it important for Chilean teachers to develop skills in their students during their lessons?

This was presented in the introduction as the main research question. To answer these question the data provided by questions 10, 11, 14 and 15 will be used.

As the questionnaire shows in questions 10 and 11, on the one hand all the teachers think that, at least one of the listed skills in the questionnaire should be taught at schools. On the other hand, the vast majority (97 %) declare to teach at least one of the listed skills and 3% declare not teaching any of the listed skills. These answers provide a first clue to state that in this group of teachers, there is a belief that skills must be taught in the classroom and in accordance to that they make the decision to teach them.

Question number 14 asked “do you think it is important to teach skills to the students in the classroom?” The big majority of teachers (98, 5%) answered yes and only 1% it depends. These answers resonate with the findings provided by questions 10 and 11 about the high level of teachers’ awareness on skills. For that reason it would be possible to state that skills are part of the teachers’ practices and they recognise the importance of teaching them to their students.

Despite the previously stated recognition, question 15 asks participants to justify their answers to question 14. As 98, 5 % of the teachers think that skills are
important, this question provided answers to find out the reasons they have to hold this belief. The reasons they give to recognise that importance are diverse. This open question was answered by 62 teachers, including the teacher that said that the importance of skills “it depends”.

It must be stated that it was not simple to organise all the answers into categories, especially because some of them provide arguments that did not answer the question and finally were categorised as “provide an answer not related to the question”. Despite this last aspect, the answers gave by the teachers can be classified in the next categories: a) skills help to improve the learning process, b) because skills are useful for life c) skills are important “because are important”, d) skills are an integral part of the students’ development e) provide an answer not related to the question f) because skills remain longer than contents g) it justify the teachers’ work. The distribution of the answers is presented in the figure 3 and the categories are analysed and commented on one by one.

Figure 3: Justifications for question 14

Q. 15 Justifications for question 14
5.1.1 Skills help to improve learning process

The most commonly mentioned argument (42%) by teachers to explain why teaching skills is important is to state that they help to support the learning process. In this case, the teachers recognise skills as the base of any learning and without them it would be more difficult to teach the students. Following this idea, then learning requires the use of skills.

From this answers it could be stated that this group of teachers identify the importance of skills not because of themselves but as a tool they can use to support the students’ learning process. Actually, one of the teachers clearly stated that “I prefer content as the focus and skills to complement”

In this case skills are seen as a means to achieve other purposes but not necessarily an objective. It could also imply that the learning process of other contents would be more important than teaching skills which are used only for the purpose of teaching content. If that was the case, this could be a first hint to clarify why Chilean students do not perform as is expected when their skills for life are measured by the PISA test.

5.1.2 Skills are useful for life

The second most recurrent answer to explain the importance of teaching skills in the classroom is that these are useful for students’ lives. 37% of the teachers mention that skills will help students to develop in the society, in their future studies and in their future jobs. This type of answer actually matches with the purposes that OECD gives to skills, a tool for life.

From these answers it is possible to infer that this group of teachers are aligned with what OECD states about the importance of developing skills in the students. They hold a belief that skills are important to be developed in the students as these will support them in their future life.

In this case, as a difference with the first group, skills would be an objective by themselves, in which case teaching them would be relevant as they understand these skills play a key role in the students development.
Although it is possible to infer an alignment it is not possible to state that this is intentional. When cross checking these answers with the question that asks if they have heard about the PISA test, only 8% said yes. Then, 39% of them declare to know what PISA test is about but, just 8 of them explained the test purpose. The lack of responses for this answer could be on the one hand because they did not the answer or because they simply did not want to write an answer.

Finally, none of them acknowledge using PISA as a guideline. Considering these answers it can be stated that although 37% of the teachers believe that skills must be taught to their students as this will help them in their lives, this belief is not held because they are following OECD guidelines about it. Later on in the dissertation this issue will be addressed again.

5.1.3 Repeat the question stating that skills “are important”

The answers provided by 8% of the teachers are not actually useful as they literally justify that they consider important teaching skills because skills are important. They did not give any other justification for their answers than repeating the question. This type of answer reinforces the fact that teachers believe in the importance of skills but in the particular case of this group of teachers it is not possible to find out the reason on why they hold this belief or they do not have a clear argument to justify it.

5.1.4 Skills are an integral part of students’ development

A small 6% of the teachers reply that skills are important as they help for students’ integral development. Following these answers it could be stated that these teachers understand that students’ development is a process that includes many aspects.

They think that the learning process would be incomplete without skills, otherwise it would only be a transfer of content. One of the teachers actually states that “teaching contents over skills only generates subjects for production” implying that skills will give the students the chance of thinking instead of only following orders. Following the same idea, another teacher also makes a statement relating skills with long term objectives of the students “skills allow to achieve a more integral learning and provide tools to achieve long term objectives”.

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Even though it is not explicitly mentioned by these teachers, it could be deduced that these teachers see skills as useful too for life but although three of them actually know what PISA test is about, none of them acknowledged that they follow its guidelines.

5.1.5 The teachers provide an answer that is not related to the question

A small 3 % of teachers that although tried to justify why they think teaching skills is important, they did not provide an answer to the question giving arguments related to other issues. These could be for three possible reasons, that they cannot provide a proper argument to justify their answer as they do not have one, they misunderstood the question or they did not wanted to write down an answer.

5.1.6 Skills remain longer than content

Only 2 % mention that teaching skills is relevant because they remain in the students longer as a difference on other content that are easily forgotten. At certain level this teacher implies that skills have a purpose beyond school life but is not explicit.

Multiple interpretations of this answer could be made but this teacher does not provide any other clue to clarify the reasons for holding this belief.

5.1.7 Skills justify teachers’ work

One teacher says that teaching skills is important because that is what teachers do. This teacher states that teaching just content could be done by anybody. The answer provided by this teacher points out that teaching skills is at the core of the teachers’ work and differentiate their work from just transferring knowledge. Following this answer this teacher points out that the teaching activity requires teaching skills to be accomplished.

Despite this recognition about the importance of skills, it must be stated that this is a justification for teachers’ work and not from the perspective of the students or the learning process.
5.2 What skills do Chilean teachers declare to teach to their students? And, how those skills match with the ones that OECD expects?

To answer this, question number 11 of the questionnaire request to the teachers mark all the skills that they teach to their students. As it was previously stated, a vast majority (97%) declare to teach at least one of the listed skills. From this it is possible to infer that the skills that Chilean teachers teach match, in theory, from the perspective of teachers’ beliefs, with the ones that OECD measures but as question 13 exposed, this are not the only ones. Question 13 asked if there were any other skills that they teach which were not included in the list.

This open question provides some interesting insights on the knowledge of the teachers related to skills. They point out some skills that can be categorised in two main groups, attitudinal and social skills on the one hand and cognitive skills on the other. The latter actually belong to the ones listed and assessed by PISA but the teachers call them using different names or are inserted in the listed skills, for instance reading comprehension or text analysis belong to the literacy domain or some steps of the scientific method are included in the domain of science. This could imply that some teachers have confusions in the terminology related to skills and have no clarity on what exactly implies every domain or skill.

The previously explained situation leads to different interpretations. Because of this confusion about what implies every skill, there is a possibility that the teachers on the one hand declare to be teaching some skills because they think they do it when actually they do not or, on the other hand are teaching some of the listed skills by PISA but they do not know they are teaching it. The first interpretation seems to be plausible as it was previously stated some of the skills mentioned by the teachers are included in the cognitive process of the listed skills.

Related to the first group, social and attitudinal skills are mentioned by many teachers but, as it is recognised by Andreas Schleicher (2007) PISA do not assess this type of skills, although it does not mean that are less important but, is not the focus of PISA. From this answer it can be stated that Chilean teachers of the sample give importance to this type of skills but as these are not measured by this test, this aspect is not reflected.
5.3 What reasons do Chilean teachers have for choosing the skills that they claim to teach?

Considering that the teachers were already asked if they think skills are important and the reasons on why they hold that belief, asking them directly the reason for choosing some skills would be reiterative. Despite that, although there were twelve teachers who declare teaching all the skills on the list, the rest of them only select some specific ones. Considering that, question 12 was formulated in order to find out the reasons they have for not teaching all the skills of the list. These answers will help indirectly to find out the reasons they have to choose some skills instead of others.

5.3.1 Reasons for not teaching all the listed skills

Question 12 “In the case of those previously listed skills that you do not teach to your students, could you explain briefly the reasons?” was answered by 39 teachers (55.7 %) who gave different reasons for not teaching all of the skills listed in the questionnaire. Based on the arguments they gave, their answers can be classified in eight categories as it is shown in figure 4: a) the skills belong to other subjects b) those skills do not correspond the level of the students c) lack of knowledge to teach those skills d) lack of time to teach those skills, e) lack of space or resources to teach those skills f) religious reasons, g) methodological reasons and h) some skills are not relevant for their students.

Figure 4: Reasons for not teaching all the skills of the list

Q. 12. Reasons for not teaching all the skills

- belong to other subjects: 12.8%
- do not correspond to the level: 7.6%
- lack of knowledge to teach it: 5.1%
- lack of time: 7.6%
- lack of space or resources: 17.9%
- religious reasons: 30.7%
- methodological reasons: 5.1%
- some skills are not relevant
5.3.1.1 The skills belong to other subjects

One of the issues that emerges from the answers to this question is that the main reason (30, 7 %) for not teaching some skills is because they think are not related to the subject they teach. These answers could imply that the teachers assume that some skills are to be taught exclusively in certain subjects. This situation can be seen when cross tabulating the question that asks about the subject they teach and the skills they teach. The answers show that in subjects like Language and Communication or History and Social Sciences, humanistic subjects, the skills related to the domain of literacy are marked by all the teachers but, the skills in the domain of science have lower or none mark. And the opposite in the case of the teachers of science, biology, physics and chemistry where all of them mark the skills of the domain of science but place lower marks in the literacy domain, although, according to PISA the skills measured by the test do not belong to any specific subject. In this case there is an influence of their beliefs.

Related to the second research question it can be stated then that a reason for teaching the skills they do it is because the teachers consider that the skills they teach should be taught in their subjects.

5.3.1.2. The skills do not correspond to the level of the students

The previously stated situation is repeated in other main reason (17, 9 %). They do not teach all the skills because they think those do not correspond to the level of the students. For this particular category there are two types of answers: the students are too young to learn some skills, -a reason used mostly by primary teachers- , or that some of the skills are too basic for the level of the students, -a reason used mostly by secondary teachers. From this kind of answers, it can be concluded that the teachers believe that some of the skills are more appropriate for certain ages than others and so, they must be taught only at certain levels.

Following the research question, in this case another reason for teaching only some skills of the list would be because they think those selected skills correspond to the level in where they are teaching.
5.3.1.3. Lack of knowledge to teach some skills

Lack of knowledge constitutes the third main reason (17, 9%) to explain not teaching all the skills of the list. This explanation matches with the research of Lederman and Abd-El- Khalik that point out this aspect as one of the constraints of teaching. This could be an honest recognition of personal flaws or a personal belief that is not necessarily certain. By looking closely, this group of 7 teachers have experience in a range that goes from 8 to 35 years, all of them have done professional development courses and all of them are primary teachers. In this group of teachers, lack of experience seems not to be the reason for the lack of knowledge, but although all of them have done professional development, the courses taken are related to a variety of areas of development such as management or IT, but only some of them related to strategies in the classroom. This means that in some cases, professional development has not been oriented in this aspect, but in others have not been enough to fill this gap.

A second interpretation could be related to the fact that all of them are primary teachers without specialisation in a specific subject like secondary teachers. That implies that even though they do not know in deep some specific subjects, they have to teach it without appropriate confidence and that could be influencing their beliefs. That does not necessarily implies that they do not know the skills associated to all of the subjects, it could be that they do not know what they actually know but the insecurity does not help.

A final interpretation points out the fact that is easier to recognise not to know how to teach some skills and use that as an excuse for not doing it. Either one or another interpretation for this answer, the fact is that all of them can be categorised as beliefs that teachers hold about their work and their pedagogic knowledge.

In order to answer the research question, in this case a reason for choosing specific skills to teach would be because they believe they have the knowledge required to teach them properly.
5.3.1.4. Lack of time

The fourth reason, time (12, 8%), is one of the issues that match with what Hargreaves (2004) mentions as an influence in teaching practices. This appears as an external problem affecting what happens in the classroom. In this group of teachers the arguments provided are complains about the lack of time to plan the lessons and to work and develop skills with the students.

The teachers mention this aspect for two main reasons, on the one hand related to the time into the classroom because it is not enough to do all what they should do with the students and develop skills with them. This means that they think that more weekly lessons would be appropriate to develop skills. On the other, outside of the classroom time is insufficient to prepare materials and activities that promote the development of skills in their students. According to this last view it is concluded that under the teachers perspective, planning classes to develop skills requires more time than classes that do not pursue this purpose.

Although it is clear from the literature and from the answers gave by the teachers that time is a constrain, it seems that in this case the reason why the teachers select only those skills is because those are the ones that they think it is possible to teach given the short time they have.

5.3.1.5 Lack of space or resources

In the category of lack of space or resources, also mentioned by Lederman and Abd-El- Khalik, 7, 6 % of teachers hold an implicit belief that to teach certain skills, special spaces or materials are required and because they do not have those specific things teaching some skills is not possible.

By analysing closely the answers of these teachers some curious aspects emerged. The subject taught by these three teachers is history in secondary schools which means they are specialist in that area. One of them argues that in the school there are not enough spaces to do practical activities. Despite that, the only skill that this teacher declares not to teach is use of scientific evidence that belongs to the science domain. That answer would imply that specific spaces are required to teach the students the use of scientific evidence. The second teacher argues that the
school does not have a photocopy machine to use different materials and does not have a computer room to work with the students. The third teacher points out the fact that the school does not have electric supply. The answer of this teacher, who actually teaches 3 of the 9 listed skills, implies that electric supply is a condition to teach certain skills but is not to teach the three listed.

Related to the research question, it could be stated that the reasons they have to teach the skills they select it is because they believe they have the resources or the spaces required to teach the selected skills of the list.

5.3.1.6 Religious reasons

In this group of 70 teachers, eight teach religion but, just two of them (5 %) explain that skills belonging to the domain of science are opposite to their faith and that is the reason for not teaching those skills in their classes. When cross tabulating their arguments with the question related to the skills that should be taught it is interesting that one of them actually think that the skills in the domain of science should be taught anyway but, the other teacher does not mark them at all, not even to be taught in other subjects.

As a consequence of these answers it would be possible to say that these two teachers select skills for their students following their personal religious beliefs.

5.3.1.7 Methodological reasons

In this category, 5 % mention methodological reasons for not teaching all the skills, one of them argues that the institution does not allow including different methodologies to teach them all, basically because this history teacher is in charge of preparing the students for the Prueba de Selección Universitaria (PSU) which is the national test to entry into Chilean universities when students finish secondary school. Those lessons are intended to train the students in secondary school to answer the multiple choice test and according to the institution where this teacher works, the teachers must follow specific guidelines. This argument is not necessarily related to this teacher’s beliefs and is not possible to contrast this answer against other teachers as this was the only teacher in this school who answered the questionnaire.
The second teacher explains that it is preferable to teach their students in a practical way to make the lessons more meaningful. As it is not always possible to teach all the skills in a practical way, their lessons do not include them all.

It is possible to infer from these answers that another reason for selecting specific skills from the list is due to methodological issues. It means that the selected skills are the ones that can be taught following the specific methodologies that they use.

5.3.1.8 Not all the skills are relevant

Finally, there is one teacher (2, 5%) who says that only teaches the skills that considers relevant for their students and the others are not included in their classes. This type of answer proves the influence of personal beliefs in the decisions that this teacher make in the classroom.

Although is only one teacher that provides this answer, it is relevant to find out that a reason for selecting some skills instead of others is because these teacher thinks that some skills are more relevant than others.

5.3.2 Main problems that Chilean teachers have when teaching skills

Question 17 also provides important information to complement the answer to the question related to the reasons the teachers have to choose some skills. This question asked about the main problems that the Chilean teachers face when they teach skills as, according to the literature, these problems could also influence the decision about teaching some skills and exclude others. This question was widely answered by 97% of the teachers who described the main difficulties that they face when they have to teach skills. Some of the teachers mentioned more than one issue and for that reason the number of answers is higher than the total of teachers. It is important to mention that some of the categories match with the research of Lederman and Abd-El Khalik but the teachers also added other issues that the mentioned authors did not mention. These answers were classified in nine categories of reasons as it is shown in the figure 5.
5.3.2.1 Students

More than half of the teachers (52%) mentioned the students as the main difficult to teach skills for different reasons. These reasons can be classified in five different groups that are explained below.

5.3.2.1.1 Students’ behaviour and attitudes

26% of the teachers mention reasons related to the bad behaviour of the students in the classroom, lack of interest on learning, lack of motivation, lack of self esteem of the students in their capability to learn. This category matches with the research of Lederman and Abd-El Khalik previously mentioned.

5.3.2.1.2 Students’ lack of skills

In a second place related to students, 19% of teachers mention the lack of skills of the students as a problem to develop skills. Basically they claim some basic skills such as reading comprehension, which the students should have at certain ages, have not been developed yet. This situation does not allow teaching skills with higher levels of complexity. As with the previous category, this type of constraint also was mentioned by Lederman and Abd-El Khalik as an aspect that influence teachers’ practices.
5.3.2.1.3 Level of vulnerability of the students

This is related to the levels of social vulnerability of the students, specifically the high level of this among the students of these three teachers (4%) who see this as a constraint to develop skills properly in the classroom.

5.3.2.1.4 Diversity of learning capabilities among the students

Two teachers (2%) mention the fact that having students with different learning capabilities makes complicated designing activities to develop skills. The answers do not allow identifying clearly why this is difficult. Considering the other answers given by teachers in other questions it could be because they do not know how to do it or because they do not have enough time to do it.

5.3.2.1.5 Level of cognitive development of the students

In this category 2% refer the level of cognitive development of the students. Both teachers think that if the students are too young and immature it is difficult to teach them skills. In this answer appears again the belief that some skills are more appropriate to be taught at certain ages, situation that was expressed previously for some teachers when they were asked about reasons for not teaching all the skills. When crossing these two answers with the previously mentioned question, these two teachers did not provide answers.

5.3.2.2 Teachers’ lack of knowledge to teach skills

The second most mentioned problem when teaching skills is related to the teachers themselves and it is also mentioned by the literature.

Almost one quarter of the answers (23, 1 %) mention abilities of the teacher as a key element that cause problems to teach skills. The explanations are related to the fact that the teachers need to know how to plan appropriate activities to develop certain skills and is not always easy to do this. At the same time, some of the teachers mention lack of knowledge to teach skills as a problem to teach them. When crossing this answer with the question about reasons for not teaching all the skills, only two of the teachers match their answers as they recognise not teaching all the skills because lack of knowledge to teach it.
5.3.2.3. Lack of time

The third reason given by the teachers is again “time” (6%). This problem is mentioned in the literature by Hargreaves, Rodrigo and Lederman and Abd-El Khalik. Chilean teachers mention lack of time as an explanation, mentioning that they do not have enough time of classes to develop the skills and do not have appropriate time to plan lessons that include this type of activity. When crossing this answer with the reasons given for not teaching all the skills there is only one teacher who also mention this issue before.

5.3.2.4. Lack of space or resources

The high number of students in the classroom appears as a problem for 5% of the teachers. For them, it is a constraint that does not allow them to teach skills properly. In this group, three teachers work in subsidized schools where the owner receives the subsidy from the government related to the number of students. That implies that a bigger number of students represent a bigger amount of money monthly. For that reason in subsidized schools there is a big number of students in every classroom, over 40 students, which represents a problem for the teachers when trying to develop skills.

In addition to the lack of space, there is also lack of resources in some cases. Three teachers (4%) mention lack of appropriate resources as problem to teach skills in the classroom. Although, when cross tabulating this answer with question 12 none of this three teachers mentioned this as an explanation for not teaching all the skills. Although this is not a recurrent answer, it was mentioned by Lederman and Abd-El Khalik as a constraint that influence the teachers.

5.3.2.5. Families of the students

Three teachers (4%) mention the families of their students as a problem to teach skills to the students. They state the lack of concern and support of the families. In this answers there is an implicit recognition of the teachers about the importance of having the support of the families in the learning process. By crossing this answer with the type of school in which the teachers work, the three teachers work in state schools.
5.3.2.6. Assessment

According to two teachers who mention assessment, this issue would be a constraint because it is difficult to assess the students when teaching skills. According to their answers, then teaching skills is not a problem by itself but the evaluation measurement of this becomes a problem. As there is no more information about it, it is not possible to find out which are the reasons on why the assessment of skills is a particular problem for this teachers.

5.3.2.7. National curriculum

One of the teachers says that constant reforms to the national curriculum make difficult to teach skills to the students. It must be stated that in the 90’s there was a big curricular reform but since then, some adjustments, as the one mentioned that had an impact on Chilean results in PISA, has been done. When crossing this question to the number of years of experience, this teacher has 8 years working, which means that this teacher was not working when the reform was made or when the adjustment was implemented. Considering this facts it is hard to interpret the answer.

5.3.2.8. Keeping the routine

One teacher said that it is hard to teach skills because it is not easy to keep the routine in the classroom. This difficulty to keep the routine would make difficult to develop skills with students. Although this teacher does not mention anything else it is possible to relate this problem with the issue of time. It would be interesting asking this teacher the reasons of why routine cannot be kept.

5.3.2.9. Students’ easy access to information

One teacher mentions that today the students have easier access to the information than in the past and that makes it difficult when teaching them skills. As in the case of the previous answers, the chance of deep questions about this answer would be useful to understand better what the belief that this teacher holds about the relation between accesses to information and developing skills in the classroom is.
5.4. *What is the Chilean teachers’ awareness of the skills that the PISA test measures?*

Answers from questions 18, 19, 20 and 21 are used to try to answer this question about the awareness of Chilean teachers about skills on the PISA test. These because although it has been already stated that Chilean teachers actually declare to teach skills measured by PISA the intention is to find out if this is because PISA is a benchmark for them.

Question 18 intended to find out the awareness of the Chilean teachers about the PISA test. This question only asks if they ever heard about the test because the level of knowledge about it is asked in the next questions.

**Figure 6: Have you ever heard about the PISA test?**

**Q. 18. Have you ever heard about the PISA test?**

![Graph showing 63% yes and 37% no](image)

It must be stated, as it was mentioned in the literature review, that the results of the test, every time they come out, are announced in the media and it is a subject of discussion because of the low scores. Despite that fact, although a majority of teachers (63%) declare at least that they have heard about it, a significant number (37%), more than one third of the teachers, recognise they have not ever heard of the test as it can be seen in figure 6. The group of teachers who said that they never heard about the test it is diverse in terms of years of experience, geographic location, teaching subject and level, so this lack of awareness is not related to any of those aspects. This implies that even though PISA is a current topic in the educational discussion and in the media every now and then, it has not reached all the teachers. Although 63% recognised that they have heard about it, it does not
mean that all of them necessarily know what it is about. This last aspect will be further explored and discussed in the next questions.

Question 19 intended to explore the level of awareness on the test, which goes beyond of just hear about it and find out if they know what the test consist on. This question was supposed to be answered only by those 44 teachers who recognised that they have heard about the test in the previous question. Within those teachers, 33 declared to know what the test is about.

Figure 7: Do you know what the PISA test is about?

Q. 19. Do you know what the PISA test is about?

As it can be seen on figure 7, from those teachers who heard about the test, 25% of them do not know what is it about. This statistic reduces the level of awareness of the teachers about the test. This means that although 63% of the teachers have heard about PISA (question 18), less than the half (47%) recognised to know what the test is about. This information will be crossed against the next question.

From the 33 teachers who stated to know what the test is about, 29 answered the question 20 that requires them to explain it with their own words. In this group one teacher recognised not been able of explain because he/she does not remember. Among the other 28 teachers, 35, 7% of them pointed out PISA as an international test and 4, 7% associated the test with the OECD. This reveals that although only 35, 7% of the teachers explained what PISA is, among this group there is a high level of knowledge and awareness with a few exceptions.
As it can be seen in figure 8, only 13% of the total of teachers acknowledged have ever considered PISA guidelines when planning their lessons according to the answers in question 21. Although from them, one of the teachers previously declared not to have heard or know about PISA and did not explain what the test was about so it can be assumed that a mistake was made when the questionnaire was filled. This reduces the number to only 8 teachers.

Figure 8: Have you ever considered PISA guidelines when you plan your lessons?

Q. 21 Have you ever considered PISA guidelines when planning your lessons?

In this final group of 8 teachers who declared to have considered PISA guidelines, 6 actually were accurate to explain with their own words question 20. From the other 2 teachers, one of them did not explain with his/her own words and the other is the teacher who was not able to explain and said not remembering what the test was about.

From the previously explained situation it can be stated that 11, 4 % of the teachers who actually know what PISA is, also consider its guidelines when planning their lessons. This implies that for a reduced number of teachers (8, 56 %) PISA is actually a benchmark and the awareness of the Chilean teachers about skills it cannot be associated with PISA or OECD reports. This could be due to other reasons that are not explored in the present research.
Chapter 6
Summary and conclusion

This final chapter of the dissertation presents a summary and conclusions that emerged from the research. This part includes an evaluation of the research design, that as any design it presents some aspects that could be done differently. Then, the contributions of the present research related to the topic and finally, some suggestions on potential areas for further research that appear from the present one.

6.1 Evaluation of the research design aspects

Although at the beginning of the research my intention was to do quantitative research, by exploring the topic I realised that when asking about opinions it was necessary to do qualitative questions to give the teachers the chance to express with their own words their beliefs. For that reason I designed a questionnaire to ask the teachers their opinions about skills, the reasons they have for teaching skills and their level of awareness of the PISA test and, also the problems they face when teaching skills. Even though this questions seems to be enough when the questionnaire was made, during the analysis process I realised that some other questions would provide more answers. But those additional questions would be more effective in an interview process than answering the self complete questionnaire because the answer rate in the open ended questions was lower than in the closed questions.

Even though some extra questions would complement better the findings, the questionnaire provided good information for the analysis. Also, considering that it was not possible to reach teachers personally, selecting this data collection method was really practical and allowed to reach a wide sample of teachers.

Despite that the questionnaire was useful and provided good information, one of the flaws of this instrument it was the fact that it was designed for self completion. This aspect was positive because it did not require my presence but, at the same time gave the freedom of not responding all the questions, especially the open questions. As a consequence, some of the teachers were able to leave without answers the questions that require justify options or explanation about what they
thought. In that sense, personal interviews would be more practical to get better answers from the teachers.

6.2 Contributions of the present research to knowledge in the area

The PISA test has become an instrument that is having more and more influence in the educational policies of the participant countries. Their results constitute a major concern for ministries of education and political leaders but, the low outcomes in Latin American countries like Chile also bring many questions.

Considering that PISA measures skills for life that does not belong to any particular subject but should be taught in schools, a question that emerges is if in the case of Chile, the teachers think it is important to develop those skills in their students. The reason for this is because, as the literature shows, teachers’ beliefs have an influence in curriculum implementation. This question became the main research question of the present dissertation. The findings related to this particular questions show that the Chilean teachers who answered the questionnaire think that skills are important in the school and they acknowledge teaching some of those skills. Fuchs and Woessmann stated that a reason for low outcomes in Latin American countries could be that the educational systems do not give enough attention to developing skills. In this case, if the educational system gives or not enough attention to developing skills, would not be relevant as the teachers actually think skills are important.

A secondary question asked about the skills that Chilean teachers declare teaching to their students and check how those skills match with the ones that OECD proposes. Although the teachers declare to teach some of the OECD listed skills, they also acknowledge teaching others that are not included in the listed ones. Some of those are social skills, that are not measured by PISA and other are cognitive skills that in some cases are the same listed ones with different names or are included in the skills measured by PISA. This type of answer gave some clues related to the fact that the teachers have confusions about what every listed skill implies.

The third research question asked the reasons they have for choosing the skills that they teach and the answers provided inform about a range of possible
reasons that were listed, explained and analysed in the present research but, none of them suggest OECD guidelines as a reason for choosing those skills. This last aspect was explored in the last research question that intended to find the Chilean teachers’ awareness of the skills that the PISA test measures.

Despite that as it was previously mentioned, skills are important for Chilean teachers and they teach those skills measured by PISA but, not because PISA stated it. Although their level of awareness on the existence of the test is 63% and 47% declare to know what the test is about, 40% was able to explain in their own words, at some level, what the test consist of, only 8, 6 % declared to actually follow the guidelines of PISA. Considering this numbers it would be possible to state that this test is not a benchmark for them. Even though, it is not possible to state that if a bigger number of Chilean teachers would follow PISA guidelines the outcomes in the PISA test would be better.

Another aspect that emerged from the literature is that the teacher’s beliefs are shaped by different circumstances and constraints that, as the answers of the Chilean teachers provided, match with the reality of the participant teachers but also add some other issues that affect the way they plan their lessons. Following the previous idea, it is not possible just to blame the teachers, as the press usually does, for the low scores of the Chilean students in the PISA test.

A different possible explanation about the low outcomes in the literature points out the level of importance that the educational systems give to teaching skills. Although the findings of this research show that the Chilean teachers actually think that skills are important, and they provided arguments to support that belief, the questionnaire did not allowed to find out the reasons on why they hold that believe. This aspect came to light when the data was been analysed and it was not possible to ask the teachers again but, considering the type of question, a deep interview with some of the teachers of the sample would be a good option.

As the literature explains that the teachers influence the implementation of the curriculum, which could be the case of Chile, the intention of the present research is not to blame the teachers for the low outcomes. Instead, the idea was to show the
beliefs they hold that are shaping the implementation of the curriculum and at the same time expose the many problems they face when teaching.

6.3 Areas of further research that emerge from the present work

As it was previously mentioned, one of the issues that emerged from the research is the fact that the teachers do not use properly the concepts related to skills. In that sense, it would be interesting to explore what the teachers understand for skills and what each skill implies. That could be observed by doing some class observation that on the one hand allows to explore what they mean when mention a skill and how is reflected in the classroom and on the other, find out if what they declare to teach match with what they actually do. That would be an interesting option that I actually considered at the beginning but, given the distance and lack of time and resources was not possible at this time.

Another possible aspect related to the previous one could be to explore the methods the Chilean teachers are using to develop the skills they declare to teach by doing class observation and find out if those methods are the appropriate to develop the skills.

Finally, an aspect that has been previously announced is that, although some interesting findings emerge from the teachers’ answers, explore the reasons on why they hold the beliefs they declare in the questionnaire would be an interesting area to cover in the future, because as the research on the area shows, the teachers’ beliefs shape the curriculum, so exploring the reasons behind those beliefs could help to understand better what is influencing the curriculum implementation in Chile.
References


### Questionnaire for teachers

#### Part one: Demographic data

<table>
<thead>
<tr>
<th>Question 1: Are you?</th>
<th>male</th>
<th>female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2: In which region do you work as a teacher?</td>
<td>I</td>
<td>II</td>
</tr>
<tr>
<td></td>
<td>VI</td>
<td>VII</td>
</tr>
<tr>
<td>XI</td>
<td>XII</td>
<td>XIII</td>
</tr>
<tr>
<td>Question 3: What type of school do you work in?</td>
<td>State</td>
<td>Subsidised</td>
</tr>
<tr>
<td>Question 4: What levels do you teach?</td>
<td>First cycle</td>
<td>Second cycle</td>
</tr>
<tr>
<td></td>
<td>Technical secondary school</td>
<td>Other: specify</td>
</tr>
<tr>
<td>Question 5: Which subject do you teach?</td>
<td>Language</td>
<td>Mathematics</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>Physics</td>
</tr>
<tr>
<td></td>
<td>History, geography and social sciences</td>
<td>philosophy</td>
</tr>
<tr>
<td></td>
<td>Technological education</td>
<td>music</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>Other (specify)</td>
</tr>
<tr>
<td>Question 6: How many years of experience do you have?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 7: In which institution did you do your teacher training programme?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 8: Have you ever done professional development?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Question 9: If you have done professional development, could you specify it?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Question number 10:
From the following list of skills, which one(s) do you think should be taught in schools? You can select all the ones that you want.

<table>
<thead>
<tr>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recover information from a text</td>
</tr>
<tr>
<td>Infer information from a text</td>
</tr>
<tr>
<td>Assess information from a text</td>
</tr>
<tr>
<td>Use information for basic operations</td>
</tr>
<tr>
<td>Connect information with daily life</td>
</tr>
<tr>
<td>Logical reasoning</td>
</tr>
<tr>
<td>Identify scientific topics</td>
</tr>
<tr>
<td>Explain phenomena using the scientific method</td>
</tr>
<tr>
<td>Use of scientific evidence</td>
</tr>
<tr>
<td>None of the above</td>
</tr>
</tbody>
</table>

### Question number 11:
From the following list of skills, which one(s) do you teach to your students in the classroom? You can select all the ones that you teach.

<table>
<thead>
<tr>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recover information from a text</td>
</tr>
<tr>
<td>Infer information from a text</td>
</tr>
<tr>
<td>Assess information from a text</td>
</tr>
<tr>
<td>Use information for basic operations</td>
</tr>
<tr>
<td>Connect information with daily life</td>
</tr>
<tr>
<td>Logical reasoning</td>
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<tr>
<td>Identify scientific topics</td>
</tr>
<tr>
<td>Explain phenomena using the scientific method</td>
</tr>
<tr>
<td>Use of scientific evidence</td>
</tr>
<tr>
<td>None of the above</td>
</tr>
</tbody>
</table>

### Question number 12:
In the case of those previously listed skills that you do not teach to your students, could you explain briefly the reasons?

### Question number 13:
Is there any other skill not listed above that you teach to your students? If so, mention it.

### Question number 14:
Do you think it is important teaching skills to the students in the classroom?

- Yes
- No
- It depends

### Question number 15:
Could you justify your answer in question 14?

### Question number 16:
When you teach skills, how do you select them? Explain briefly

### Question number 17:
What are the main difficulties you face when teaching skills to your students? Explain briefly
Part three: PISA test

<table>
<thead>
<tr>
<th>Question number 18: Have you ever heard about the PISA test?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question number 19: If your previous answer was yes, do you know what the test is about?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question number 20: Could you briefly explain what do you know about the PISA test?</th>
</tr>
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<tbody>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Question number 21: Have you ever followed the guidelines of PISA when you plan your lessons?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>