Between the global and the national

The concept of competence in the national curriculum of Brazil and Norway

Ana Lucia Lennert da Silva

Master of Philosophy in Comparative and International Education, Department for Educational Research

UNIVERSITY OF OSLO

May 2017

Between the global and the national

The concept of competence in the national curriculum of Brazil and Norway

Ana Lucia Lennert da Silva

A thesis submitted as a partial fulfillment for the requirement of the award of a degree of Master of Philosophy in Comparative and International Education

Department for Educational Research, Faculty of Educational Sciences

UNIVERSITY OF OSLO

May 2017

2017

Between the global and the national: The concept of competence in the national curriculum of Brazil and Norway

Ana Lucia Lennert da Silva

http://www.duo.uio.no/

Trykk: Reprosentralen, Universitetet i Oslo

Abstract

The aim of this study was to see the influence of the concept of competence on the national curriculum of Brazil and Norway. The competence framework, developed by the OECD (Organization for Economic Co-operation and Development), which serves as a theoretical foundation for the PISA (Programme for International Student Assessment), was chosen to approach this issue. This study is a qualitative multiple-case study, using document analysis and semi-structured interview with teachers as research tools. This study showed that Brazil and Norway adopt the concept of competence in curricular documents and practice. On the other hand, the way Brazil and Norway adopt this concept varies according to their national contexts, as the current educational situation, the national history and heritage, the connectivity with global questions, the teachers' perceptions, working and pedagogical conditions.

The use of this concept appears more clearly in the curricular documents than in the teachers' perceptions about curriculum because of the subjectivity involved in the latter. The Norwegian curriculum is more connected to global questions (as the OECD competence framework) than the Brazilian curriculum. The working and pedagogical conditions in Norway are also more favorable to the performance of a work related to the development of multiple students' competences than in Brazil. The Brazilian curriculum gives more attention to national issues as the improvement of the quality of education with access and permanence of children and young people in the educational system, and the social and cultural diversity of the country. Although the documents and teachers' interviews use the competences defined and selected to serve as a theoretical foundation for PISA, this international survey is not explicitly discussed by the documents or teachers as a factor affecting curriculum design or practice. According to the teachers, there are other factors that influence their work in the classrooms, such as experience, students' needs, competences defined in the curriculum of the subject (Norway) and competences assessed in national large-scale evaluation tests (Brazil). It is possible to say that the concept of competences is a common idea or *"world model"* shared by countries with different economic and cultural backgrounds, as the study's cases, even though this concept is adapted to their national contexts, according to national particularities.

Acknowledgments

I would like to express my sincere gratitude to my supervisor Tove Kvil for the insightful comments and warm encouragement through the learning process of this master thesis.

Furthermore, I would like to thank the Senior Executive Officer Camilla Bakke for the quick and efficient help with practical issues related to my studies, submission and defense of the thesis.

I would also like to thank my mother, Suely A. O. Silva, and my friend, Letícia Lima, for the positive words and big help to find Brazilian teachers to participate in this research.

I would also like to offer my thanks to the research participants who have willingly shared their precious time during the process of interviewing.

I have greatly benefited from the professors and colleagues of the Master Programme in Comparative and International Education who have made this field of study lively and exciting because of the exchange of ideas and experiences from all around the world.

Finally, I would like to offer my special thanks to my husband, Flávio Ivan da Silva, for providing me with unfailing emotional and practical support, also sharing housework and childcare to allow me free time to study. I thank my daughter, Mariana, and my son, Sebastian, for bringing joy to my life.

This accomplishment would not have been possible without you all.

Ana Lucia L. Da Silva

Table of Contents

List of Tables

List of Figures

Acronyms

BT1: Brazilian Teacher 1

BT2: Brazilian Teacher 2

BT3: Brazilian Teacher 3

BT4: Brazilian Teacher 4

DeSeCo: Definition and Selection of Competences Project

EJA: Educação de Jovens e Adultos (Education of Youth and Adults)

ETA: Education and Training for Adults

ENCCEJA: Exame Nacional para Certificação de Competências de Jovens e Adultos (National Exam for the Certification of Young and Adult Skills)

ENEM: Exame Nacional do Ensino Médio (National Secondary Education Exam)

IMF: International Monetary Fund

NT1: Norwegian Teacher 1

NT2: Norwegian Teacher 2

NT3: Norwegian Teacher 3

NT4: Norwegian Teacher 4

OECD: Organization for Economic Co-operation and Development

PISA: Programme for International Student Assessment

TIMSS: Trends in International Mathematics and Science Study

TVET: Technical and Vocational Education and Training

Vg: Videregående (Secondary Education)

WB: World Bank

1 Introduction

As a teacher, I have always been interested in discussing questions related to curriculum, such as what types of knowledge are valued, why and to whom the curriculum is designed. I have also been concerned about the factors that facilitate or hinder the achievement of the curriculum in the classroom, as the working conditions and the relationship between the teacher and students.

Between 2009 and 2011, I worked in two public schools in Brazil, experiencing very different working conditions with respect to remuneration, teaching tools, school facilities and students' socioeconomic background. These factors greatly influenced the content and methodology of my lessons, even though they were based on the same curriculum and I had the same values and beliefs about teaching.

In 2014, when I became master student in the Comparative and International Education Programme at the University of Oslo, other questions came to light, such as the features and influences of the global on education. This master thesis deals with this issue, more precisely, the features and influences of globalization on curriculum design and implementation.

> *I believe that the adoption of a focus on globalization contributes to a great understanding of the dynamics of school-society relations as well as the potential and limitations of educational systems to contribute to individual and societal advancement* (Arnove, 2007:1).

The OECD (Organization for Economic Co-operation and Development) and PISA (Programme for International Student Assessment) were chosen as examples of globalization in education. The first part of this introduction addresses the meanings of globalization and two main theories in the field of Comparative Education that deal with this issue. Then, the legitimacy of international agendas in education is discussed from a *"world institutionalist perspective"* (Meyer, 1997; 2007).

Globalizations is a complex and multifaceted process which includes the following elements: transition from national closed and regional economies towards global free trade and open markets; the diminishing importance of geographical, national, and cultural borders and boundaries leading to a greater interdependence of people and countries worldwide; bigger connection and interconnectedness through information and communication technologies, such

as the internet and cheaper transportation including shipping and air travel; broader global networks of companies, universities, students, migrants, etc.; a growing increase in global flows of goods, money, services, music, film, knowledge, people, information, ideas, tourists, etc.; more comprehensive and rapid diffusion of technologies, knowledge, and ideas; the compression of time and space across the world (Arnove, 2007; Dale; 2007; Lauder et al., 2006).

In the field of Comparative Education, the issue of the relation between globalization and education is mainly studied by two theories: The World Institutionalist and the Culturalist theory (Dale, 2000; Mceneaney & Meyer, 2000; Waldow, 2012).

The World Institutionalist theory argues that globalization has led to increased standardization in educational arrangements, programmes and policies without regard to national contexts and history:

> *The world institutionalists' major demonstration of their theory is to be found in the massive and rapid spread of national educational systems and in the unexpected global isomorphism of curricular categories across the world; this isomorphism occurs irrespective of national economic, political and cultural differences* (Dale, 2000:430).

The world institutionalists consider that curriculum is a manifestation of the broad culture in which all countries of the world are immersed and *"as opposed to approaches aiming to explain variation, institutionalist theories seek to explain isomorphism or standardization of social phenomena, often as it occurs at the global level"* (Mceneaney & Meyer, 2000:192).

It is important for these theorists to show that similar educational and curricular forms and content can be found in countries that differ widely in economic development or traditional cultural roots because they have similar idealized models of society around which education and curricula are built such as, for example, the model of a modern and rationalized society against a traditional society (Ibid.).

On the contrary, the Culturalist theory is concerned to *"point out to the importance and perseverance of local contexts, showing how world culture may be resisted or processed, adapted and appropriated to local conditions, leading to hybridizations and new local particularities"* (Waldow, 2012:413).

The culturalists argue that the mechanisms through which globalization affects national policy vary, producing different types of responses from national governments. According to them, if, on the one hand, the governments have lost to certain degree the capacity to make national policy independently because they have to respond to *"the global"*; on the other hand, policy responses are not identical and national differences remain (Arnove, 2007; Dale, 2007).

Many of these theorists are also interested in studying the relation between local and global forces and how they affect educational systems and curricula at the local level, contributing to social stratification and the maintenance of power by the dominant groups in society (Arnove, 2007; Arnove et al., 2007; Mceneaney & Meyer, 2000; Morrow & Torres, 2007).

Globalization also refers to the educational agendas promoted by international organizations, such as the International Monetary Fund (IMF), the World Bank (WB), the Organization for Economic Co-operation and Development (OECD), etc. (Arnove, 2007; Lauder et al., 2006).

These organizations are carriers of *"world models"*. This concept was created to describe a set of ideas, standards and values accepted and defended by many national governments all around the world, for example, *"citizen and human rights, the natural world and its scientific investigation, socioeconomic development and education"* (Meyer, 2007:148).

The promotion of educational agendas or *"world models"* can also be explained by the legitimacy of these organizations. They are places of *"scientific investigation"*. Therefore, their advices, analyses and expert reviews are usually perceived as scientific, objective, neutral and professional unquestionable. As indicated by Dale (2000:442-443):

> *It is these two features, the authority of science as the basis of its legitimation and the international organizations that act as the mechanisms for its dissemination, that form the basis of the theory of how and why nation-states embrace the world culture-derived curricular categories.*

The dissemination of educational agendas may also involve power relations (Arnove, 2007; Arnove et al., 2007; Dale, 2000, 2007; Morrow & Torres, 2007; Sjøberg, 2014; Waldow, 2012). The following excerpt shows how OECD uses its *"scientific authority"* as a powerful instrument to lend policies and set the standards others should follow:

> *Andreas Schleicher, head of the Indicators and Analysis Division of OECD's Directorate for Education (the unit responsible for PISA), usually ends his presentations with the sentence: 'Remember, without data you are just another person with an*

> *opinion'. Following talks that typically contain large amounts of data, often in conjunction with policy recommendations, this statement implies that Schleicher and the OECD are uniquely positioned to be policy lenders, and set the standards others should follow. This is a classic example of externalization to the principles and results of science, as a way of legitimizing oneself and undermining one's critics' legitimacy* (Waldow, 2012:423).

Among the various international organizations is the OECD one of the best positioned to promote its educational agenda worldwide. OECD carries what is called *"the externalization to the principles and results of science"* (Ibid.) or *"soft power"* (Sjøberg, 2014). Such power is also referred to as *"governing by numbers"* and recognized as part of a global trend of educational and curricular standardization (Ibid.).

OECD also publishes country and thematic reviews, seeks to identify *"best practices"*, and, since the year 2000, to evaluate educational systems through the Programme for International Student Assessment (PISA) (Lauder et al., 2006).

PISA is an influential and controversial international survey aimed to test the skills and knowledge of 15-year-old students. Since 2000, every three years, students from randomly selected schools all around the world take tests in the subjects of Reading, Mathematics and Science, with a focus on one subject in each year of assessment. According to the PISA webpage, around half a million students in 65 countries took part in the 2012 assessment, representing about 28 million 15-year-olds globally; and more than 70 countries took part in the 2015 assessment focused on Science.

PISA develops tests which are not directly linked to the school curriculum. The tests are designed to assess to what extent students can apply what they learn in and out of school to real-life situations, rather than knowledge by itself (OECD, 2013; Hálasz & Michel, 2011; PISA webpage). The goal of PISA is to assess how prepared the students are to face complex challenges in the globalized and modern world:

> *Globalization and modernization are creating an increasingly diverse and interconnected world. To make sense and function well in this world, individuals need for example to master changing technologies and to make sense of large amount of information. (…) In these contexts, the competencies that individuals need to meet their goals have become more complex, requiring more than the mastery of certain narrowly defined skills* (OECD, 2005:4).

The idea of preparing individuals to the globalized world is a *"world model"* quite accepted and adopted by national governments all around the world. Today, national governments are very concerned to integrate their students in the global economy with the aim of growing economically and becoming competitive at the global level (Dale, 2007; Dahle & Sjøberg, 2012; Sjøberg, 2014).

According to Dahle & Sjøberg (2012), PISA is having negative effects on educational systems, *"risking turning learning into drudgery and killing the joy of learning"*. As Hálasz & Michel (2011:1) explain:

> *This more pragmatic view greatly influenced curricula worldwide, given the impact on public opinion of the international ranking of students' performance which was amplified by the newspapers despite the methodological warnings of OECD regarding an excessively superficial interpretation of the surveys' results.*

According to Sjøberg (2014):

> *At the publishing of the results lists from PISA (and to some extent TIMSS[1]), it looks as if it virtually occurs paranoia among both politicians and business people, constantly assisted by the media. Even in countries that are near the top of the ranking there will be panic if they fall one position on the list. Everyone wants to be on the podium, and no one wants to be below average*.[2]

The concern with international comparisons has led very different countries to implement curricular changes which involve, among other things, the incorporation of competences assessed in PISA, pointing to a convergence of curricular categories as envisaged by the World Institutionalists.

According to Kennedy (2007), the intentions of focusing on the development of competences in such a diverse continent as Asia range from the goal of favoring economic growth and competitiveness in a *"knowledge society"* to the goal of creating a sense of citizenship as a means of developing social cohesion, common values and political stability. *"There are thus twin impulses at work in the region: innovation for the world of work and stability for social*

[1] Trends in International Mathematics and Science Study (TIMSS) is an international assessment of Mathematics and Science Studies for students in the 4th and 8th grades. TIMSS was developed by the International Association for the Evaluation of Educational Achievement (IEA) for member states to compare the student's knowledge levels across national borders.

[2] Translated by the researcher. Original text: «Ved publisering av resultatlistene fra PISA (og til dels TIMSS) ser det ut som om det nærmest oppstår en paranoia blant både politikere og folk i næringslivet, hele tiden hjulpet av media. Selv i land som ligger nær toppen i rankingen blir man grepet av panikk hvis de faller én plass på lista. Alle vil helst ha pallplass, og ingen vil være under snittet».

and political life. These twin impulses have informed curriculum and instructional reform across the region" (Ibid.:813-814).

In the case of a European country as Belgium, globalization and the participation in instruments of internal comparison, such as PISA, are factors that contribute to the design of new curricular policies focused on the development of competences. Mangez (2010:64) explains that the *"concern with performance in a global world"* has led different ideological groups in the Belgian society to come together to respond to international comparisons provided by international organizations.

Yates & Collins (2010:90) also point to the influence of globalization and international organizations, like OECD, on the reframing of curriculum policies in Australia.

> *… in Australia, the combination of a rather utilitarian and progressivist child-centred mind-set on the one hand, and a growing impact of 'evidence-based' auditing and bench-marking on the other, have been at work in the two important approaches to curriculum we examine, one using a language of 'Statements and Profiles', and the other a formulation of 'Competencies', 'Capabilities' and 'Essential Learnings'.*

In the last ten years, the Latin American countries have increased their participation in international assessments, specially, PISA. According to Ravela (2011), the participation in international assessments has two effects. Firstly, it allows the analysis of the educational situation of Latin American countries in a broader context, contributing to better understand their own situation in relation to other countries of the region and other parts of the world. Secondly, it impacts on national assessments, changing a diversity of technical aspects, such as the test design, the elaboration of questions with open answers, the design of tools that allow comparisons over time, the implementation and correction of tests, etc. Ravela (2011) also mentions the potential of PISA to change national education policies and teaching practices to improve the quality of education.

1.1 Problem Statement

The impact of globalization on educational systems is mainly studied in two different ways: the first one advocates a standardization of educational structures and policies irrespective of local circumstances and history; the second one focuses on how the international influence on education may be adapted and appropriated to local contexts.

Although these two approaches have sometimes been presented as mutually exclusive, they may be possible to reconcile. Therefore, comparative studies in education can combine these two approaches in order *"to qualify and nuance the results of one type of approach by the results of the other. Local developments can thus be seen in a wider, international context. Conversely, it is possible to see how global developments play out locally, in context, with particular conditions"* (Waldow, 2012:414).

As previously mentioned, the adoption of international educational agendas has affected educational systems and curricular policies all around the world. However, these educational agendas are not always uniformly implemented. According to Arnove (2007) and Dale (2007), the effects of globalization on education are mediated by existing national patterns and structures in complex ways. This is the reason why policy responses to globalization vary according to national contexts.

Therefore, it is relevant to examine how countries with different economic and cultural backgrounds receive and implement educational prescriptions like the competences defined by OECD and tested in PISA. What are the similarities and differences in the adoption of competences in the national curricula of different countries?

The literature on curriculum shows that countries have changed their curricula incorporating competences as responses to globalization and the participation in instruments of internal comparison (Hálasz & Michel, 2011; Kennedy, 2007; Mangez, 2010; Ravela, 2011; Yates & Collins, 2010). Nevertheless, this literature does not examine neither how this curricular category appears in the national curricula nor how it is implemented in the classrooms. There are also few comparative studies about the adoption of competences in the national curricula, and these studies usually compare countries with similar economic or cultural backgrounds, as the case of the Asian countries (Kennedy, 2007).

Therefore, this study's purpose is to examine and compare the influence of OECD's educational ideas, more precisely, the competences assessed in PISA, on the national curriculum of countries with different economic and cultural backgrounds. The countries chosen for this study are Brazil and Norway.

Figure 1.1 – *Location of Brazil and Norway in the World Map*

Brazil is the world's fifth-largest country by both geographical area (8,515,767 km2) and total population (205,338,000). Brazil was a Portuguese colony from 1500 to 1808, when the capital of the Portuguese Empire was transferred from Lisbon to Rio de Janeiro due to the Napoleonic Wars. In 1815, Brazil was elevated to the rank of Kingdom. In 1822, the country achieved Independence with the creation of the Empire of Brazil, a unitary state governed under a Constitutional Monarchy and a Parliamentary System. The country became a Presidential Republic in 1889 following a military coup d'état. An authoritarian military junta came to power in 1964 and ruled until 1985, after which civilian governance resumed. Brazil's economy is the world's ninth-largest by nominal Gross Domestic Product (GDP) and the 69th by nominal GDP per capita ($8,802) as of 2016. Brazil is in the 75th position in the Human Development Index (HDI) ranking of 2015.

Norway, officially the Kingdom of Norway, is a sovereign and unitary Monarchy whose territory comprises the western portion of the Scandinavian Peninsula plus the island Jan Mayen and the archipelago of Svalbard. Norway has a total area of 385,252 km2 and a population of 5,214,890 people (2015). Norway is a Constitutional Monarchy, and the power lies in the Parliament. The country has a Parliamentary system which entails that the head of state (King)

is a different person from the head of Government (Prime Minister) who is selected by the King based on the political majority in the Storting (Parliament). The Prime Minister then selects his Government (the King's Council). Although the Parliamentary system has evolved since 1884, it only became part of the Constitution in 2007 (previously it was a constitutional custom). From an economic and social perspective, Norway maintains a combination of market economy and a Nordic welfare model with universal health care and a comprehensive social security system. The country has the third-highest per capita income ($80,749) and the highest HDI ranking position in the world as of 2015.

Brazil and Norway have participated in PISA since the beginning, the year 2000. Moreover, Norway, as a country member of OECD, submitted a national report to complement and extend the examination of competences assessed in PISA as part of the DeSeCo - Definition and Selection of Competences Project (Knain, 2001).

1.2 Purpose of the Study

The main purpose of this study is to investigate and compare how the competences defined and selected by OECD and tested in PISA are incorporated in the national curriculum of Brazil and Norway. Under this overall purpose, this study, in addition looks at:

- Relating the adoption of competences in the national curriculum to national contexts;
- Accessing information about the implementation of competences in schools.

1.3 Research Questions

The research questions that guide this study are as follows:

- How do Brazil and Norway adopt the concept of competence in their national curricula?
- How is this curricular category implemented in schools of both countries?

1.4 Analytical Framework

This study is concerned with the relation between globalization and education, specifically, the impact of OECD's ideas on national curricula. Therefore, one of the frameworks chosen for this study is the competence framework which is used as a theoretical foundation for PISA (OECD, 2001, 2005). This framework will help to identify the types of competences in the national curriculum of these two countries. The competence framework comprises three general categories that form the basis for other categories, as shown in the Table 1.1 below:

Table 1.1 – *The OECD Competence Framework* (Elaborated by the researcher)

Key-competences	**What competences?**	**Why?**
1. Using tools interactively	1.a. Use language, symbols and texts interactively 1.b. Use knowledge and information interactively 1.c. Use technology interactively	The need to keep up to date with technologies The need to adapt tools to own purposes The need to conduct active dialogue with the world
2. Interacting in heterogeneous groups	2.a. Relate well to others 2.b. Co-operate, work in teams 2.c. Manage and resolve conflicts	The need to deal with diversity in pluralistic societies The importance of empathy The importance of social capital
3. Acting autonomously	3.a. Act within the big picture 3.b. Form and conduct life plans and personal projects 3.c. Defend and assert rights, interests, limits and needs	The need to realize one's identity and set goals in a complex world The need to exercise rights and take responsibility The need to understand one's environment and its functioning

Source: OECD (2005).

The first competence, which is using tools interactively, comprises other three categories or competences: using language, symbols and texts interactively; using knowledge and

information interactively and using technology interactively. The idea of interactivity refers to the active communication between the individuals and their environment, where they take some actions to keep up to date with technologies and adapt tools to their own purposes. This competence is important because *"the social and professional demands of the global economy and the information society require mastery of socio-cultural tools for interacting with knowledge, such as language, information, and knowledge, as well as physical tools such as computers"* (OECD, 2005:10).

The second category or competence is interacting in heterogeneous groups. This category includes the ability to relate well with others; the ability to cooperate and the ability to manage and resolve conflicts. The competence of interacting in heterogeneous groups refers basically to the individual's capability to deal with diversity in an increasingly pluralistic society. This competence is important for social cohesion and economic success *"as changing firms and economies are placing increased emphasis on emotional intelligence"* (Ibid.:12).

The third competence is acting autonomously. It includes three other competences: the ability to act within the big picture, that is, to understand and consider the wider context when acting or taking decisions; the ability to form and conduct life plans and personal projects and the ability to assert rights, interests, limits and needs. The competence of acting autonomously is relevant because individuals need to understand who they are and have the possibility of setting personal projects in a complex world. They also need to exercise rights and take responsibility for their actions, understanding the social norms and cultural practices of their society.

PISA employs the concept of *"literacy"* which relates to *"the reflective approach to knowledge and learning that underlies the competency framework"* (Ibid.:16). Therefore, reading literacy and mathematical literacy in PISA are illustrations of the key-competence *"the ability to use language, symbols and text interactively"*, which *"is an essential tool for functioning well in society and the workplace and participating in an effective dialogue with others* (Ibid.:10). Moreover, scientific literacy in PISA is as an illustration of the key-competence *"the ability to use knowledge and information interactively"*, which *"seeks to explore the degree to which students are willing to engage in and interact with scientific enquiry, including how interested they are in scientific questions, rather than just their ability to exercise cognitive skills as required"* (Ibid.:11).

This study is also interested in studying the impact of OECD's educational ideas on the curriculum. To this end, it employs the conceptual system described by Goodlad et al. (1986) as another analytical framework. This conceptual system defines five different dimensions of the curriculum, as illustrated in the Figure 1.2.

The first dimension is the *"ideological curriculum"* which refers to the levels of ideas, including knowledge, ideologies and values of curriculum developers. The *"ideological curriculum"* may not be officially approved, staying only in the level of idealistic planning.

The second dimension is the *"formal curriculum"* or the written document which gained *"official approval by a state and local school boards and adoption, by choice or fiat, by an institution and/or teachers"* (Ibid.:49). Goodlad et al. explain that *"it is in the formal curriculum that society's interests usually are embedded. (...) Presumably, in the analysis one finds beliefs, values, attitudes, and the like which society or some dominant group in society wishes the young to acquire"* (Id.).

The third dimension is the *"perceived curriculum"* which is related to *"what persons and groups perceive in their minds to be the curriculum"* (Ibid.:50). Goodlad et al. point out that the most important perceptions probably are those of the teachers, because they are primary participants in the educational process who have the best position to adjust the curriculum in practice.

The fourth is the *"operational curriculum"* which refers to how curriculum is operationalized in the classroom, that is, what teachers are teaching to their students. *"The operational curriculum is what goes on hour after hour, day after day in school and classroom"* (Ibid.:51). And, finally, the last dimension is the *"experiential curriculum"* or the curriculum experienced by the students, i.e., students' perceptions about what is being taught to them.

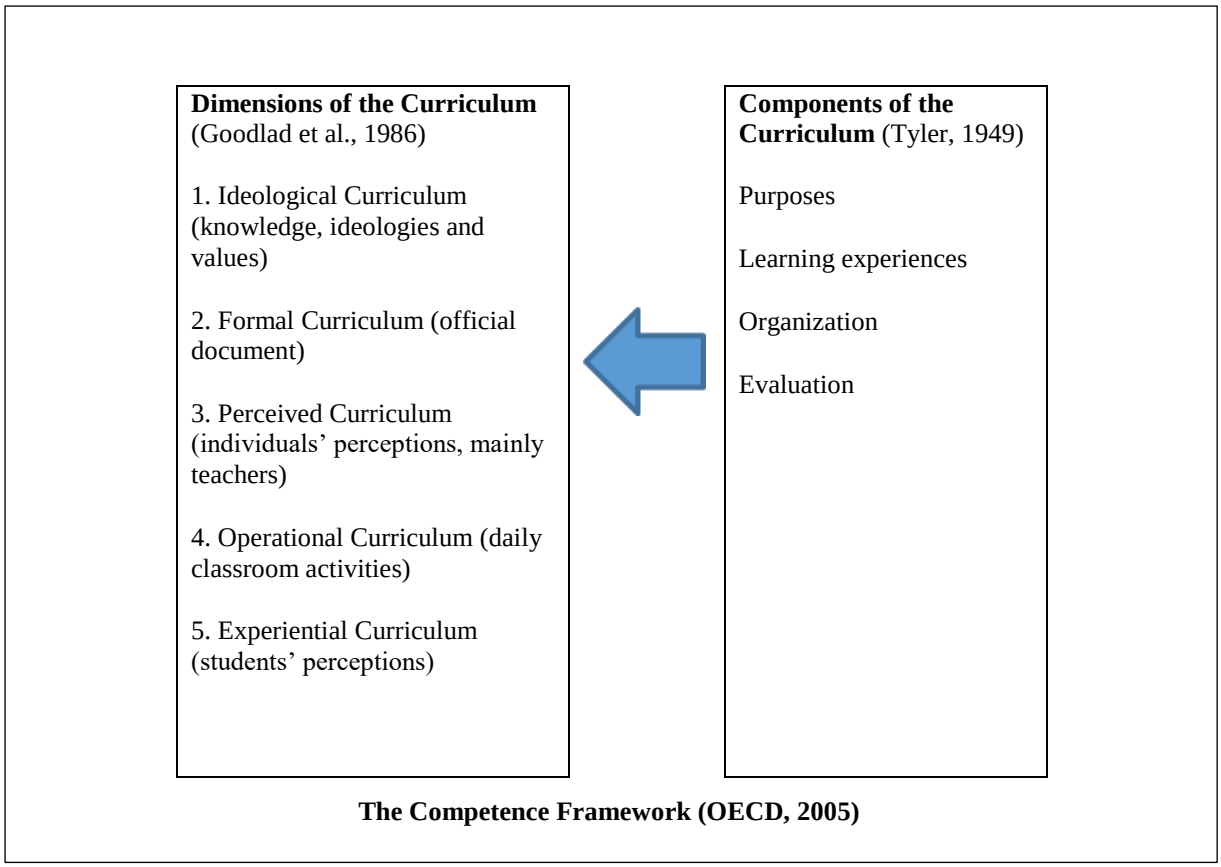

Figure 1.2 – *The Study's Analytical Frameworks* (Elaborated by the researcher)

Finally, in order to provide common ground to different curricular experiences, facilitating international comparison and exchange (Goodlad, 2001), this study employs Tyler's rationale (1949) as the third analytical framework. Tyler's rationale includes essential components of the curriculum, such as purposes, learning experiences, organization and evaluation.

These four components can be applied to study the different dimensions of the curriculum, for example, observing the *"operational curriculum"* or the daily activities of a classroom regarding purposes, types and organization of learning experiences and evaluation; asking teachers and students about their perceptions regarding educational purposes and their involvement in learning experiences and evaluation processes. Tyler's rationale can also be applied to study the *"ideological"* and *"formal"* curriculum, examining how these four components are described in educational plans and official documents.

Figure 1.2 combines the three different analytical frameworks of this study. The competence framework permeates the other two analytical frameworks, since this study is concerned with the influence of OECD's framework on different dimensions of the curriculum, using Tyler's rationale to approach these different dimensions.

1.5 Significance of the Study

This study aims to investigate both the similarities and differences in the adoption of competences in the national curriculum of Brazil and Norway, combining the two main approaches regarding the issue of the relation between globalization and education: The World Institutionalist and the Culturalist theories.

Therefore, if, on the one hand, this study focuses on competences as common educational ideas or *"world models"* that permeate the national curriculum of both countries, pointing to a global convergence on curricular categories and content; on the other hand, this study is also concerned with the relevance of the national contexts in the adoption and implementation of these educational ideas. This study understands that one approach helps to balance the results of the other. Hence, it is possible to see how local events relate to the international context, and, at the same time, how international processes happen and develop locally, according to particular contexts (Waldow, 2012).

Arnove (2007:4) explains that there is a dialect relationship between global and local processes by which global processes react to local processes to be changed by them and vice versa. *"(...) there is a dialectic at work by which these global processes interact with national and local actors and contexts to be modified and, in some cases, transformed. There is a process of give-and-take, an exchange by which international trends are reshaped to local ends"*.

Therefore, such a comparative study about the local adoption of competences as *"world models"* can broaden the understanding of the relation between globalization and education, adding to the construction of knowledge in the field of Comparative Education. Additionally, since this study deals with the adoption of competences in different dimensions of the curriculum, it can also contribute to theory building in the field of Curriculum Inquiry. And, finally, in a more pragmatic dimension, this study can help to discover what can be learned that will contribute to improve education policy and practice in different countries.

1.6 Scope and Limitations of the Study

This study chose the competences selected and defined by the OECD and used in the PISA as the common educational ideas or *"world models"* impacting national curricula worldwide. This

selection was due to the influence of PISA all around the world (Hàlasz & Michel, 2011; Mangez, 2010; Ravela, 2011; Sjøberg, 2014; Waldow, 2012; Yates & Collins, 2010).

Regarding the selection of research participants, this study selected teachers from public schools who work with 15 years-old students. This choice was made because PISA evaluates the skills and knowledge of 15-year-olds worldwide.

Regarding the selection of research sites, Brazil and Norway were chosen because the researcher is a Brazilian, living in Norway, and has knowledge and experience on the educational systems and national contexts of both countries. Brazil and Norway are also countries with different economic and cultural roots, serving the purpose of this study, which is to examine and compare the adoption of competences in countries with different economic and cultural conditions.

This study has some limitations. Regarding the OECD framework, it can be criticized for adopting a utilitarian perspective on knowledge over the intrinsic and formative value of education, based on the development of values and ethical reflection as the basis of action.

Regarding the curriculum based on competences, Moore and Young (2001:447) state that this type of curriculum weakens the knowledge, which becomes *"a means to an end, not an end in itself"*. Young (2000, 2008, 2010, 2011) affirms that this focus on generic skills tends to be present in less privileged institutions, maintaining the unequal access to knowledge and the social stratification. He is concerned with the social assumptions that control the production and circulation of knowledge in society through the educational process, interrogating what type of knowledge is transmitted, to whom and how. Young sees a correlation between distribution and exercise of power in society which tends to favor those with greater economic capital.

Regarding the term competence, it suffers from some lack of clarity as it usually appears associated with other notions:

> *There is some vagueness in the terminology used in different contexts and by various stakeholders: notions such as competence, competency, skill, ability, know-how, capacity, capability and aptitude are used associated with different meanings according to the context and are sometimes considered as more or less equivalent* (Halász & Michel, 2011:291).

The OECD's documents (2001; 2005) do not differentiate between the terms competence and competency. These documents also employ the notion of competences combined with others, such as skills, abilities, motivation and values, as illustrated below:

> *Many scholars and experts agree that coping with today's challenges calls for better development of individuals' abilities to tackle complex mental tasks, going well beyond the basic reproduction of accumulated knowledge. Key competencies involve a mobilization of cognitive and practical skills, creative abilities and other psychosocial resources such as attitudes, motivation and values* (OECD, 2005:8).

Therefore, to respond to this challenge, this study adopts the term competences in a flexible manner, that is, using this concept as similar to the terms competencies, skills, abilities, capabilities, etc. This flexibility can be a potential for analysis, leaving the researcher free to examine and compare different countries and documents, but, at the same time, a limiting factor due to the different meanings that the term may have.

This study adopts only two dimensions of the curriculum suggested by Goodlad et al. (1986). The dimensions are the *"formal"* and the *"perceived"* curriculum, that is, the national curriculum and teachers' perceptions about the curriculum and the implementation of competences in the classrooms. These two dimensions are adequate for the study's questions and purpose, and they also contribute to make the study feasible considering the time available and the complexity of a master thesis.

However, this delimitation can also be regarded as a limiting factor, since other dimensions of the curriculum are not examined, such as the knowledge, ideologies and values behind the elaboration of the curriculum (the *"ideological curriculum"*), how the curriculum is implemented in classrooms (the *"operational curriculum"*) and the perception of students about what is being taught to them (the *"experiential curriculum"*). These dimensions could certainly be investigated in further studies, contributing to complement and enrich this study's findings.

Another limiting factor is the number of teachers interviewed (eight in total, four in each country). It was not an easy task to find teachers available to participate in this study, as will be described in Chapter 2. The number of teachers certainly makes the generalization of the findings difficult.

1.7 Structure of the Thesis

Chapter 1 introduces information and theories relevant to the research issue.

Chapter 2 refers to the Methodology, addressing topics like the different philosophical assumptions in relation to research strategy, the selection of research sites and participants, the use of data collection tools and methods of analysis, quality assurance strategies and research ethics.

Chapter 3 is the Literature Review about frameworks for competences developed in the last 20 years and curriculum as a field of study.

Chapter 4 describes the history of education and the current structure of the educational system in Brazil. It also discusses literature on the adoption of competences in the national curriculum. The final part of this chapter examines the adoption of competences in the official written document and through teachers' perceptions. Chapter 5 follows the same structure as the previous one, but to the Norwegian case.

Chapter 6 is the comparison and discussion about the two cases. And, finally, the last chapter refers to the concluding remarks.

2 Methodology

This chapter refers to the methodology. Firstly, different philosophical assumptions in relation to research strategy are discussed and assessed in line with the choices made in this study. Secondly, discussions about the research design are addressed, including practical matters, such as the selection of research sites and participants, the use of data collection tools and analysis methods. This chapter concludes with a description and assessment of the choices made in relation to quality assurance strategies and research ethics.

2.1 Research Strategy

The qualitative and quantitative strategies to social research are closely tied to different visions of how social reality should be studied. Bryman (2012:19) explains that *"methods are not simply neutral tools: they are linked with the ways in which social scientists envision the connection between different viewpoints about the nature of social reality and how it should be studied"*.

A first set of viewpoints is connected to what the social scientist believes about the nature of knowledge and its production (epistemology). There are two main orientations in this regard, which are positivism and interpretivism (Bryman, 2012). Usually, quantitative research assumes a positivist stance while qualitative research is most often located in interpretative research (Bryman, 2012; Merriam, 2009).

Bryman (2012:28) defines positivism as *"an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond"*. In contrast, interpretivism is defined as an epistemological orientation concerned with the meanings that people attribute to their actions and actions of others. In interpretative research, the social scientist should *"try to gain access to people's 'common-sense thinking'"* and *"to interpret their actions and their social world from their point of view"* (Ibid.:30).

A second set of viewpoints refers to what the researcher believes about the nature of reality (ontology). Objectivism is the ontological orientation that considers that social entities are *"objective entities that have a reality external to social actors"*. On the other hand, constructionism considers that social entities are *"social constructions built up from the*

perceptions and actions of social actors" (Id.). Constructionism is generally linked to qualitative research, while objectivism is associated with quantitative research.

Finally, a third set of viewpoints refers to the relationship between theory and research, which can be of an inductive or deductive nature. The inductive approach, commonly associated with quantitative research, occurs when *"the researcher, on the basis of what is known about in a particular domain and of theoretical considerations in relation to that domain, deduces a hypothesis (or hypotheses) that must then be subjected to empirical scrutiny"* (Ibid.:24). On the other hand, the deductive approach, which is usually associated with qualitative research, *"involves drawing generalizable inferences of observations"*, theory is not the start point but *"the outcome of research"* (Ibid.:26). The Table 2.1 shows the different viewpoints of social reality in relation to the qualitative and quantitative types of research strategy.

Table 2.1 – *Qualitative and Quantitative Research Strategies* (Elaborated by the researcher)

	Qualitative	**Quantitative**
Epistemology	Interpretivism	Positivism
Ontology	Constructionism	Objectivism
Relationship between theory and research	Inductive	Deductive

Sources: Bryman (2012); Merriam (2009).

Merriam (2009:5) also shows other relevant characteristics related to each type of research strategy: while quantitative research is concerned about *"determining cause and effect, predicting, or describing the distribution of some attribute among a population"*, qualitative research is interested in *"understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences"*.

Having these different viewpoints in mind, this study chose a qualitative strategy, adopting an inductive view of the relationship between theory and research, whereby theory and categorization is generated out of the collection and analysis of data; an epistemological position described as interpretivism, focusing on the understanding of the social world through the eyes of the research participants; and an ontological position described as constructionist, which means that social entities are products of the interactions between individuals, rather than entities existing *"out there"* and separate from those involved in their construction.

2.2 Research Design

The research design chosen for this study is a multiple-case study. Yin (2003:1) explains that case study has a distinct advantage in specific situations:

> *In general, case studies are the preferred strategy when "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on contemporary phenomenon within some real-life context.*

The conditions listed by Yin are also present in this study, since "*how"* questions are being asked about a contemporary educational phenomenon over which the investigator has no control, which is the adoption of the concept of competence in the national curriculum.

Merriam (2009:40) defines case as *"a single entity, a unit around which there are boundaries"*, and a case study as *"an in-depth description and analysis of a bounded system"*. According to her, the case could be a single person, a program, a group, an institution, a community, or a specific policy.

In this study, the case is the national curriculum studied in the formal and perceived dimensions, that is, the official written documents and teachers' perceptions about the curriculum (Goodlad et al., 1986).

The same study may contain more than a single case; when this occurs, the study has used a multiple-case design (Merriam, 2009; Yin, 2003). Figure 2.1 below shows the cases of this study: the current national curriculum in Brazil and Norway.

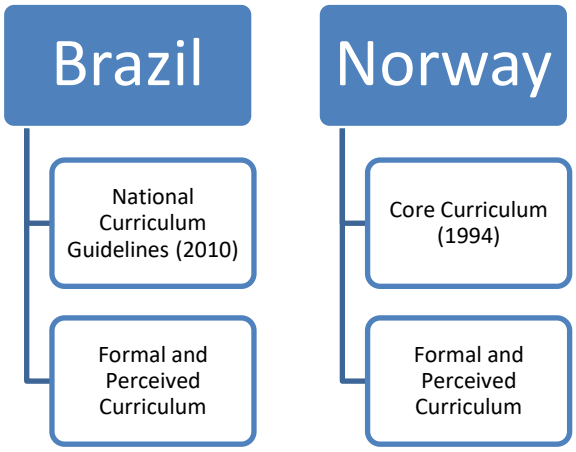

Figure 2.1 – *The Study's Cases* (Elaborated by the researcher)

In multiple-case studies, the individual cases share a common feature or condition (Merriam, 2009). In this study, the common condition is that the national curricula are still in force today. On the other hand, Merriam (Ibid.:49) points out that *"the more cases included in a study, and the greater the variation across the cases, the more compelling an interpretation is likely to be"*. Therefore, the fact that Brazil and Norway are countries with different backgrounds and that this may affect the incorporation of competences in the national curricula is also of relevance for this study. Yin (2003: 53) explains the benefits of multiple-case studies:

> *Analytic conclusions independently arising from two cases, as with two experiments, will be more powerful than those coming from a single case (or single experiment) alone. Second, the contexts of the two cases are likely to differ to some extent. If under these varied circumstances, you still can arrive at common conclusions from both cases, they will have immeasurably expanded the external generalizability of your findings, again compared to those from a single case alone.*

As shown in Figure 2.1, the level of comparison is spatial or geographic since this study compares the most recent national curricula in two different geographical locations: Brazil and Norway. The units of comparison are two and related to different dimensions of the curriculum: the formal curriculum (written official documents) and the perceived curriculum (teachers' perceptions about the curriculum) (Goodlad et al., 1986).

2.3 Research Sites and Participants and Selection Method

The research sites selected in this study are different public schools located in Brazil and Norway. The participants are teachers working with 15 years-old students who might be selected to take part in PISA that year.

In Brazil, the contact with teachers happened through colleagues who later suggested other teachers to be interviewed, which may characterize a snowball sampling.

> *Snowball sampling is a sampling technique in which the researcher samples initially a small group of people relevant to the research questions, and these sampled participants propose other participants who have had the experience or characteristics relevant to the research. These participants will then suggest others and so on* (Bryman, 2012:424).

The selection method tried to include teachers with different genders, age groups and ethnic backgrounds, as can be seen in Table 2.2. The researcher believes that these factors may affect

teacher's values and beliefs regarding teaching, and, thus, the operationalization of the curriculum in the classroom.

This study also tried to include all the subjects assessed in PISA (Reading, Mathematics and Science). However, in the case of Brazil, it was easier to find teachers from Humanities than from Mathematics or Science, since the researcher and her colleagues (all Humanities teachers) have a closer relationship with others from the same field of knowledge.

The subjects of the Brazilian teachers interviewed in this study are: Portuguese, Physics, Social Sciences and History. Two of these four subjects are directly assessed in PISA: Portuguese (Reading/Mother Language) and Physics (Science). The inclusion of a Mathematics teacher would have greatly benefited the discussion about the competences adopted in the classrooms and assessed in PISA. On the other hand, other subjects (such as Social Sciences and History) are also important to prepare students to face the complex challenges of the globalized and modern world, and develop competences such as *"Using tools interactively"*, *"Interacting in heterogeneous groups"* and *"Acting autonomously"* which are part of the OECD Framework (OECD, 2005).

In Norway, the researcher contacted public school teachers who had held a lecture at the University of Oslo. Direct contact with schools proved not to be fruitful in most cases. Firstly, the researcher did not have access to school facilities and direct contact with teachers, having to be limited to the administrative areas. Secondly, the schools were in preparatory period for examination and the staff explained that teachers were busy with the preparation and application of tests. The researcher sent several e-mails and personally delivered formal interview requests to schools' offices that have not been answered, with exception of one single case. This difficulty of finding teachers to be interviewed delayed the field work, which, in turn, delayed the transcription and systematization of the interviews and the analysis of the research findings, prolonging the time of elaboration of this master's thesis.

The Norwegian teachers were selected as follows: two teachers who gave a lecture at the University of Oslo, one teacher contacted directly in one of the schools where the researcher conducted an interview, and another teacher who answered the formal interview request delivered in the school. The subjects of the Norwegian teachers interviewed in this study are: Norwegian, Mathematics, Natural Sciences, Social Sciences and Geography. Therefore, all the

subjects tested in PISA (Reading, Mathematics and Science) were included in this study, strengthening the discussion about the adoption of competences assessed in PISA.

Table 2.2 – *Research Participants* (Elaborated by the researcher)

Participant	Acronym	Interview date	Description
Brazilian Teacher 1	BT1	17.04.2016	Female, 32 years-old, Subject Sociology, 6 years of experience, Valença, Rio de Janeiro, Brazil
Brazilian Teacher 2	BT2	25.04.2016	Female, afro descendant, 49 years-old, Subject History, more than 25 years' experience, Campinas, São Paulo, Brazil
Brazilian Teacher 3	BT3	03.06.2016	Female, 37 years-old, Subject Portuguese, 4 years of experience, Campinas, São Paulo, Brazil
Brazilian Teacher 4	BT4	07.06.2016	Male, 29 years-old, Subject Physics, 6 years of experience, Volta Redonda, Rio de Janeiro, Brazil
Norwegian Teacher 1	NT1	01.06.2016	Female, 27 years-old, Subjects Mathematic and Natural Sciences, 3 years of experience, Oslo, Norway
Norwegian Teacher 2	NT2	01.06.2016	Female, 43 years-old, Subject Norwegian, 18 years of experience, Oslo, Norway
Norwegian Teacher 3	NT3	07.06.2016	Male, immigrant background, 27 years-old, Subject Mathematics, 1 year of experience, Oslo, Norway
Norwegian Teacher 4	NT4	09.09.2016	Male, 55 years-old, Subjects Social Sciences and Geography, 6 years of experience, Oslo, Norway

2.4 Data Collection Tools

The data collection tools selected for this study are semi-structured interview and document analysis. These two data collection tools are aligned with the issues and cases of this study. As mentioned before, the cases are the national curricula studied in the formal and perceived dimensions (Goodlad et al., 1986).

2.4.1 Semi-Structured Interview

Bryman (2012:212) defines semi-structured interview:

> *It typically refers to a context in which the interviewer has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of questions. The questions are frequently somewhat more general in their frame of reference from that typically found in a structured interview schedule. Also, the*

interviewer usually has some latitude to ask further questions in response to what are seen as significant replies.

The advantage of semi-structured interview is that this type of interview is of relatively unstructured nature, being able to *"provide insights into how research participants view the world"* (Ibid.:471). In semi-structured interview, the researcher is able to keep the focus of the study while at the same time allowing room to research participants' views of the world, which is an essential feature of the qualitative research design, as previously mentioned in this chapter.

As Merriam (2009:90) explains: *"this format allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic"*. Also, in the case of multiple-case study research, semi-structured interview has *"some structure in order to ensure cross-case comparability"* (Bryman, 2012:472).

In the case of this study, semi-structured interview has some advantages in comparison with other data collection tools, such as observations and focus groups. If, on the one hand, interviews aim to understand the social world through the eyes of the research participants; on the other hand, observations seek to capture external factors to individuals, which is not the goal of this study. As mentioned before, this study adopts an interpretivist and constructionist position about the relationship between knowledge and its production, and the nature of reality, which is more aligned with the use of interview as data collection tool.

In addition, this study is concerned with individual perceptions about reality and not with shared meanings constructed in the group interaction, as the case of focus groups (Bryman, 2012). Therefore, this data collection tool does not seem to be the most appropriate for this study.

The first contacts with the Brazilian teachers were given by email or telephone and the interviews were conducted via Skype or telephone, in Portuguese. In the case of the Norwegian teachers, the first contacts were made by mail or in person at the school (in one case) and the interviews were conducted face to face in schools, in the Norwegian language. The researcher believes that teachers feel more comfortable and act more spontaneously speaking their mother tongue. The interview guides in English, Portuguese and Norwegian are provided in the Appendixes.

All interviews were audio-recorded and transcribed by the researcher and notes were taken after the interviews with information about how they went, attitudes that affected the interaction

between interviewer and respondent, new issues of interested to be explored in other interviews and documents, etc.

Accordingly, the researcher had to make some adjustments in the interview guide along the way. For example, in the Brazilian case, the question about the definition of the term competence (Question 2) was often moved to the middle or the end of the interview, since the Brazilian teachers, despite adopting different competences in the classroom, had problems defining the term, which caused some discomfort in the beginning of the conversation. In some situations, Questions 3 and 4 were also rephrased, using examples of competences, for example: What are the positive aspects of teaching students to work in groups? Is there any downside of this?

In the Norwegian case, teachers were more familiar with the concept of competence. However, Questions 3 and 4 were rephrased to increase their clarity: What are the positive sides of teaching competences to students? And the negative sides of this?

2.4.2 Document Analysis

The documents chosen for the document analysis are the current national curriculum of each country, which guide the objectives and learning goals of study programs in different educational levels and subjects.

- Brazil: National Curriculum Guidelines for the Basic Education *("Diretrizes Curriculares Nacionais da Educação Básica"*, 2010), General part, 79p.
- Norway: Core Curriculum for Primary, Secondary and Adult Education in Norway (1994), 40p.

In the case of Norway, the Core Curriculum was complemented by the *"National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training. The Quality Framework"* (2006). This document summarizes and elaborates on the provisions in the first one.

Bryman (2012) develops a set of criteria to judge about the quality of documents as showed in the Table 2.3.

Table 2.3 – *The Quality of National Curriculum Documents* (Elaborated by the researcher)

Criteria	**Description**
Authenticity	Genuine and of unquestionable origin
Credibility	May have problems, showing biases
Representativeness	Express the beliefs, values, attitudes and the like which society or some dominant group in society whishes the young to acquire
Meaning	Clear and comprehensible

Source: Bryman (2012).

Based on Bryman's typology, the researcher believes that national curriculum documents are good quality documents. Firstly, national curriculum documents have *"authenticity"* since they are genuine and of unquestionable origin. They originated in the central government of each country and are publicly available in the website of the Ministry of Education of both countries. Secondly, national curriculum documents have *"representativeness"* because they tend to express the beliefs, values, attitudes and the like which society or some dominant group in society wishes the young to acquire (Goodlad et al., 1986). Thirdly, national curriculum documents have a clear and comprehensible *"meaning"*. However, these documents may have some problems of *"credibility"*, showing biases, that is, they may emphasize some ideas rather than others. Nevertheless, as Bryman (Ibid.:550) explains, *"such documents can be interesting precisely because of the biases they reveal"*.

Moreover, this study uses documents as means of understanding the incorporation of competences in the national curricula of two different countries, not focusing on language or power relations involved in the production of these documents, as the case of discourse analysis (Bryman, 2012).

Accordingly, the method of analysis selected is qualitative content analysis. This method was used for both interview transcripts and official written documents. Considering that the design of this study is qualitative and that it adopts an inductive approach regarding the relationship between theory and research, the data analysis process was conducted creating some general categories and, subsequently, refined them, generating new ones. These categories are presented in the Table 2.4:

Table 2.4 – *Categories for Document Analysis* (Elaborated by the researcher)

Categories	**Description**
Educational purposes	The purposes of education and the reasons for the adoption of competences
Definition of competences	Types of competences in the documents, meanings attributed to the term competence
Educational experiences	Relationship between teachers and different actors of the educational process, mainly students; working and pedagogical conditions. The effects of these factors on the development of students' competences.
Organization of educational experiences	Teaching methods and resources related to the development of students' competences, for example, through subjects or in an extracurricular format, using participatory teaching methods, using ICT tools, etc.
Evaluation	Types of assessment; types of competences being assessed in the evaluation processes

2.5 Quality Assurance Strategies

As can be seen in the Table 2.5, this study adopts three tests as quality assurance strategies.

Table 2.5 – *Quality Assurance Strategies* (Elaborated by the researcher)

Tests	**Description**	**Strategies**
Construct validity	Establishes accurate study's concepts	Using triangulation (official documents, semi-structured interviews with teachers from different subjects, schools, countries, etc.)
External validity	Establishes the domain to which the study's findings can be generalized	Providing a *"thick description"*
Reliability	Seeks to demonstrate that the operations of a study can be repeated with the same results	Developing a research database

Sources: Bryman (2012); Merriam, (2009); Yin (2003).

The first test is construct validity which aims at *"establishing correct operational measures for the concepts being studied"* (Yin, 2003:34). To construct validity, this study employed triangulation, which entails using multiple sources of evidence to confirm emerging findings (Bryman, 2012; Merriam, 2009; Yin, 2003). In this study, the triangulation included different documents, teachers, subjects, schools and countries.

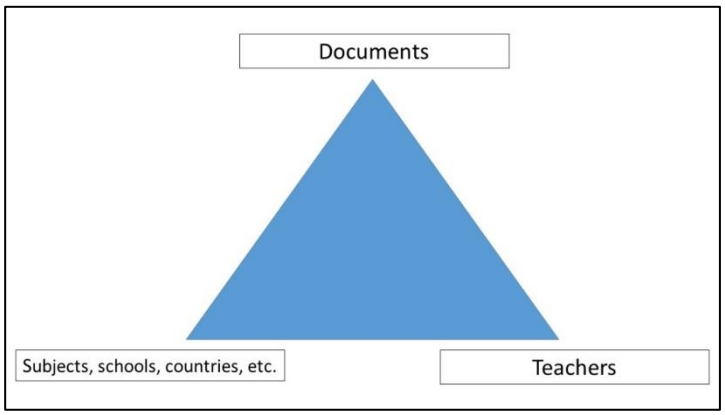

Figure 2.2 – *Triangulation* (Elaborated by the researcher)

Yin (2003:98) points out some benefits of triangulation:

> *(...) the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry. (...) Thus, any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information ...*

The second test is external validity which aims at *"establishing the domain to which a study's findings can be generalized"* (Yin, 2003:34). This study provided a thick description as strategy to achieve external validity.

Merriam (2009:227) explains what a thick description entails: *"...a description of the setting and participants of the study, as well as a detailed description of the findings with the adequate evidence presented in the form of quotes from participant interviews, field notes, and documents"*.

The goal of the thick description is to provide material to other researchers judge about the possible transferability of the findings to other contexts (Merriam, 2009; Bryman, 2012), for example, other national curricula, schools, countries, etc.

The final test is reliability which aims at *"demonstrating that the operations of a study – such as the data collection procedures – can be repeated, with the same results"* (Yin, 2003:34). Yin (Ibid.:37) explains that *"the goal of reliability is to minimize the errors and biases in a study"*. Therefore, in order to ensure reliability, this study adopted an *"auditing approach"*, developing a database with complete records of all phases of the research process so that the material can

be judge by others (Yin, 2003; Merriam, 2009; Bryman, 2012). Yin (2003:38-39) describes the *"auditing approach"*:

> *The general way of approaching the reliability problem is to make as many steps as operational as possible and to conduct research as if someone were always looking over your shoulder. In accounting and bookkeeping, one is always aware that any calculations must be capable of being audited. In this sense, an auditor is also performing a reliability check and must be able to produce the same results if the same procedures are followed.*

2.6 Research Ethics

This study has been approved by the Data Protection Official for Research at the Norwegian Social Science Data Services (*"Norsk Samfunnsvitenskapelig Datatjeneste"* - NSD). In addition, some procedures were followed during and after the data collection processes taking into consideration ethical matters.

During the data collection process, the researcher asked the consent of the participants, explaining the background and purpose of the study, and what the participation in the research implied, i.e., being interviewed about the adoption of competences in the classroom.

After the data collection process, all personal data were treated confidentially. Firstly, only the researcher and her supervisor had access to personal data. Secondly, the researcher did not identify any participant by name in any reports using information obtained from the interviews. Thirdly, by the end date of the project, all collected data were anonymized. Making the data anonymous entailed processing it in such a way that no individuals can be recognized. This was done by deleting all direct personal data (such as names), deleting indirectly identifiable data (such as work place), and, finally, deleting digital audio files.

2.7 Summary

This chapter presented and discussed philosophical assumptions in relation to the research strategy made in this study. It also addressed the research design, including practical matters, such as, the selection of research sites and participants, the use of data collection tools and methods of analysis. This chapter also provided a description and assessment of the choices

made in relation to quality assurance strategies and research ethics. The next chapter discusses selected literature which is relevant to the study's purpose.

3 Literature Review

As mentioned in Chapter 1, the study's purpose is to investigate and compare how Brazil and Norway adopt the concept of competence in their national curricula. This study also aims at accessing information about the implementation of this curricular category in schools of both countries. This chapter discusses selected literature which is relevant to the study's purpose. The literature was selected considering three main topics: the first topic is an overview of the frameworks for competences developed in the last 20 years with the aim of showing the relevance of this concept in the globalized world. The second topic discusses curriculum as a field of inquiry with the intention of locating this study within the field of Curriculum. The third topic deals with factors that affect curriculum practice and that may end up influencing the adoption of competences in the classrooms. This last topic will provide elements to the analysis of the study's cases in Chapters 4 and 5.

3.1 An Overview of International Frameworks for Competences

According to Halász & Michel (2011), the term competence has been traditionally used for Vocational Education and Training (VET) because of its direct connection with the labor market and the description of skills and attitudes required for some specific tasks and responsibilities. However, they also point out that, since the 1990s, this term has been increasingly applied to Basic and General Academic Education at Lower and Upper Secondary levels.

A report published by OECD in 1994 advocates a redefinition of the curriculum to meet the challenges of the 21st century. This report mentions the need of a basic core curriculum that provides every student with a *"survival kit"* in terms of knowledge, competences and values (Halász & Michel, 2011; OECD, 1994).

The report *"Learning: The Treasure Within"*, published in 1996 by UNESCO, suggests four pillars of education which could serve as an agenda for policy-makers and people working in education. The first pillar is *"learning to know"*, understood as the ability to combine *"sufficiently broad general knowledge with the opportunity to work in depth on a small number of subjects"* (Delors, 1996:37). It also means learning to learn throughout life. The second pillar

is *"learning to do"* which deals with the capability to not only acquire an occupational skill, but also the competence to work in teams and deal with many situations in various contexts. The third pillar is *"learning to live together"* which is the ability to understand other people, appreciate the interdependence, carry out joint projects and learn to manage conflicts. The fourth pillar is *"learning to be"* which relates to the development of one's personality and the ability *"to act with ever greater autonomy, judgement and personal responsibility"* (Ibid.).

The DeSeCo (Definition and Selection of Competences) programme, started in 1997 by OECD, had the aim of developing a conceptual framework for identifying and defining key-competences *"needed for the individual to lead an overall successful and responsible life and for contemporary society to face present and future challenges"* (OECD, 2001:5). This conceptual framework was described in Chapter 1. It features many similar ideas to the Delors' Report (1996) showing the influence of the notion of competences *as "world models"*.

The PISA project started in the same year that this programme and adopts its conceptual framework as a theoretical foundation (Halász & Michel, 2011; OECD, 2005; Voogt & Roblin, 2012).

The incorporation of competences has also been present at the European level with the adoption of the Lisbon Agenda, an action and development plan devised in 2000 for the economy of the European Union. The Lisbon Agenda underlines the relevance of some key-competences for the well-being of citizens, social cohesion, economic development and competitiveness in the global knowledge-based society (Halász & Michel, 2011; Hozjan, 2009).

The works of the European Commission related to the Lisbon Agenda resulted in the *"European Reference Framework on Key-competences for Lifelong Learning"*. This framework was developed to promote individuals' knowledge, skills and competences to enhance their mobility within and outside Europe. It builds on the outcomes from the OECD-DeSeCo programme and has two main goals: the first one is to identify and define key-competences that are necessary in the knowledge society; and the second one is to provide a European-level reference for supporting member states' efforts towards ensuring the development of these key-competences across all age groups (Hozjan, 2009; Voogt & Roblin, 2012).

Table 3.1 provides a non-exhaustive list of the initiatives taken in the last 20 years related to the selection and definition of competences in Basic and General Academic Education.

Table 3.1 – *Overview of International Frameworks for Competences in the Last 20 years* (Elaborated by the researcher)

Initiative	**Description**	**Participant countries**
Definition and Selection of Competences (DeSeCo) Programme	Project undertaken by OECD. It started in 1997 with the aim of developing a conceptual framework for identifying key-competences needed in the knowledge society and serve as a theoretical foundation for PISA.	OECD countries
International Commission on Education for the 21st Century/Report "Learning: The Treasure Within"	The International Commission on Education for the 21st Century was formally established at the beginning of 1993 and chaired by Jacques Delors. The resulting report, *"Learning: The Treasure Within"* was published in 1996.	United Nations member states
Lisbon Agenda /Key-Competences for Lifelong Learning Framework	European reference framework developed within the Education and Training 2010 work programme and approved by the Council and European Parliament in 2006. This framework builds on the outcomes from the OECD-DeSeCo programme.	European Union member states
Programme for International Student Assessment (PISA)	International Survey carried out by OECD. It aims to test the skills and knowledge of 15-year-old students required in the globalized and modern society.	OECD countries
Redéfinir le curriculum: un enseignement pour le XXIème siècle	Report published in 1994 by OECD advocating a redefinition of the curriculum to meet the challenges of the 21st century.	OECD countries

As shown in the Table 3.1, the initiatives include member states of the European Union, United Nations and OECD, indicating the wide reach of the notion of competences across the world. The number of countries involved in the development of individuals' competences shows the importance of this concept or *"world model"* in today's world, which includes some of the following ideas: individuals should be prepared to face the complex challenges of the globalized and modern world, use knowledge and technology effectively, interact in heterogeneous groups, learning to learn throughout life, etc. The second main section of this chapter discusses curriculum as a field of study.

3.2 Curriculum as a Field of Study

Curriculum is a vast field of study, comprising different aspects of education, such as *"the courses of study mandated by nations, states, and school districts; the course offerings listed in the schedules and catalogs of educational institutions; the activities actually arranged and conducted by teachers; and what students experience"* (Goodlad, 2001:3187).

However, despite the wideness of this field of study, it is still possible to identify three dominant sectors of curriculum inquiry, which are: studies about child- or subject-centered curricula; studies about curriculum practice; and practice-oriented or theoretical studies on curriculum.

3.2.1 Studies about Child- or Subject-Centered Curricula

The first dominant sector is characterized by the discussion about how much the curriculum should be child or subject oriented: *"the dominant curricular issue has been whether the needs and interests of children or the 'essentials' of subject matter should be of first priority"* (Goodlad, 2001:3188).

This dominant sector of curriculum inquiry had the contribution (not always recognized by contemporary studies) of 17th- and 18th-century thinkers, such as Jean Jacques Rousseau (on children following their own interests as illustrated in the book *Émile*), Johann Heinrich Pestalozzi (on teaching directed to the natural powers of the individual), and Herbert Spencer (on the nature of knowledge, with particular attention to his work, *'What knowledge is of most worth?'*).

In the first half of the 20th century, the tension between child-centered and subject-centered curricula was mainly studied by philosophers and psychologists. However, from the second half of the 20th century onwards, the child versus subject debate has also been studied by anthropologists, sociologists, feminists, historians, etc., as can be seen in the program of the 1999 conference of the American Education Research Association, enjoying a large international membership (Ibid.).

3.2.2 Studies about Curriculum Practice

The second dominant sector of curriculum inquiry focuses on practice, specifically *"on the school subjects, with accompanying argument regarding priorities with respects to topics*

within them" (Ibid.:3188). The discussions revolve around issues such as the general education of all children in elementary schools and the priority and relevance of subjects, considering the increasing numbers of children coming to school and staying there longer. According to Goodlad (2001), three other domains can be identified within this sector:

The first one corresponds to the *"pure"* study of curriculum, which was a central stream of curriculum inquiry throughout the first half of the 20th century. This domain focused on: *"aims, purposes, and objectives; subjects and the balance of attention to them; scope and sequence of subjects and the curriculum as a whole; and measurement of student progress"* (Ibid.:3188). However, Goodlad (2001) underlines that the discussions concentrated much more on technical matters of curriculum construction than on the reality of the classroom.

The second domain is regarding the impact of the public context on institutional curricula, a topic mainly studied by economists, historians, philosophers, and political scientists. The third domain refers to the psychological inquiry into learning and the scientific ordering of what was to be learned, having as contributors Pavlov, Thorndike, Watson, Piaget, Skinner, Bruner, and more. In the end of the 20th century, it was possible to find studies addressing both practice as proposals for practice:

> *During the concluding decades of the twentieth century, one would as likely find—in curriculum conferences and journals at least—as many papers on the social context and the scientific processes of curriculum making and measurement as on the description and analysis of curricular commonplaces in practice* (Ibid.:3188).

3.2.3 Practice-Oriented or Theoretical Studies on Curriculum

The third dominant sector of curriculum inquiry is characterized by the tension between practice-oriented and theoretical studies. From the 1950s to the 1970s, many studies addressed curriculum practice, but they were not based on empirical evidence since *"marketing rhetoric triumphed over empirical evidence"* (Ibid.:3189). This was the case of studies concentrated on critical investigation about the values embedded in curriculum policy, for example. According to Goodlad (2001), the shift from discussions about the practice to discussions about proposals for practice blurred the borders of curriculum inquiry, weakening curriculum as a field of study.

Nevertheless, few practice-oriented studies still constituted *"the source of a legitimate mainstream of curriculum inquiry"* (Ibid.:3189). This was the case of the study of Ralph Tyler (1949), which proposed four questions to guide research on practice:

- What educational purpose should the school seek to attain?
- What educational experiences can be provided that are likely to attain these purposes?
- How can these educational experiences be effectively organized?
- How can we determine whether these purposes are being attained?

The questions phrased by Tyler are still in use as a procedural tool or rationale for curriculum investigation (Goodlad, 2001), as shown in the Figure 1.2 in the introductory chapter. As stated by Goodlad (2001), the essential components of curriculum construction listed by Tyler (purposes, learning experiences, organization and evaluation) provide common ground to different curricular experiences, facilitating international comparison and exchange of knowledge.

This study is focused on the third dominant sector of curriculum inquiry, being, at the same time, concerned with discussions related to proposals for practice and the practice itself. These two dimensions are captured through the national curriculum of Brazil and Norway and the examination of factors that influence the adoption of competences in the classrooms according to the teachers' views about this topic. These factors will be described next.

3.3 Determining Factors in Curriculum Practice

3.3.1 The Role of Teachers in Curriculum Practice

Curriculum design and delivery face one fundamental problem in schools: when the door is shut and nobody else is around, the classroom teachers can select and teach just about any curriculum they decide is appropriate (English, 2000:1).

Teachers play a central role in putting the curriculum into practice (Goodlad et al., 1986; English, 2010; Schleicher, 2016) because they generally work alone *"in self-contained classrooms with children"* and can make independent decisions about what to teach. Thus, *"if*

teachers don't like a curriculum or an unpopular curriculum leader, they can simply way them out" (English, 2000:1-2).

Taylor & Richards (1985) write that teacher's conceptions of knowledge, children and learning affect decisions of what to teach and how to relate with students.

They refer to Barnes (1976) to describe two types of teachers: transmission teachers and interpretation teachers. These two types of teachers relate to the first dominant sector of curriculum inquiry described by Goodlad (2001) which is characterized by discussions about child- or subject-centered curriculum. The transmission teachers are those who have the subject knowledge as the focus of their work:

> *(...) knowledge is contained in academic subjects, the content of which is verified against objective standards or criteria of truth. These teachers judge what their pupils do in accordance with these criteria and see their job as one of correcting the pupils' work so as to bring it more and more into line with the standards of the subject. Pupils are regarded as novices, yet to be taught how to think and understand* (Taylor & Richards, 1985:120).

Usually, transmission teachers have strict control over the selection, organization and implementation of the knowledge in the student-teacher relationship, being those who ask the questions and possess the knowledge, while students are just respondents and receivers of this knowledge.

On the other hand, interpretation teachers are those who have the child as the core of their work:

> *(...) what matters are pupils' abilities to organize thought and action so as to come to understand what they are experiencing (...) Pupils, they believe, do not start from ignorance but already possess knowledge though as yet they are unable to appreciate what criteria may be applied to give their understanding order and form. Interpretation teachers see themselves, not as authorities, but as mediators of the interaction necessary to pupils' understanding of experience* (Ibid:120).

Interpretation teachers focus on active student participation in learning. The student-teacher relationship is much more flexible and the teacher can be respondent as well as asker, receiver and possessor of the knowledge, likewise the student.

Schleicher (2016:9) draws attention to the fact that nowadays teachers should be like interpretation teachers:

> *Teachers have to do more than transmit educational content: they have to cultivate students' ability to be creative, think critically, solve problems and make decisions; they have to help students work better together, by developing their ability to communicate and collaborate; they have to build students' capacity to recognize and exploit the potential of new technologies; and they have to nurture the character qualities that help people to live and work together.*

It is also expected that teachers act at different levels performing complex activities, for example:

- At the individual student level, teachers should initiate and manage learning processes, responding to the learning needs of individual students; they should also use different types of assessment.
- At the classroom level, teachers should be able to teach in multicultural classrooms, emphasize cross-curricular studies and integrate students with special needs.
- At the school level, they should be capable of working and planning in teams; evaluating and planning for improvement; using information and communication technologies (ICT) for teaching and administration; developing projects between schools and international co-operation; managing and sharing leadership.
- At the level of parents and the wider community: they should be able to provide professional advice to parents and build partnerships for learning (Schleicher, 2016:17-18).

In order to fulfill these various expectations, teachers need to acquire certain knowledge, skills and character qualities, such as:

- versatility; adaptability;
- communication skills;
- subject-specific knowledge;
- pedagogical knowledge or teaching methodology;
- the ability to continue learning throughout the life or constantly processing and evaluating new knowledge relevant to their practice;
- the ability to serve as moral agents;
- motivation, commitment and a sense of self-efficacy in their daily work with children;
- cooperative, leadership and organizational skills; ICT skills; etc. (Ibid.:19-27; 90).

Hence, high expectations in relation to knowledge, skills and character qualities are attributed to the teachers when putting the curriculum into practice. There are also other factors that influence teachers' work and, consequently, curriculum practice, as will be described next.

3.3.2 Schools' Facilities and Resources

The school's facilities and resources may facilitate or hinder the teachers' work regarding the selection of what to teach and the methods to be used in the classroom.

The facilities are basically the buildings and tools available in the schools. The sufficiency of buildings and tools, such as computer rooms and computers, may facilitate the adoption of curricular proposals involving ICT skills, which are very important in today's global society (OECD, 2005).

The resources are: *"textbooks, curriculum guides, scope and sequence charts, computer programs, accreditation guidelines, state department of education or state board guidelines, local board policies or their specifications"* (English, 2000:2).

The nature of the resources affects the adoption of curricular proposals, for example, proposals that involve radical restructuring and organization are much more difficult to be assimilated by teachers than those involving only small variations on current practices (Halász & Michel, 2011; Taylor & Richards, 1985).

Professional development activities, such as in-service training and further education programmes, can also be considered resources affecting the implementation of new curricular proposals. The participation of teachers in these activities may increase their motivation and sense of self-efficacy and, as result, contribute to the adoption of curricular changes (Schleicher, 2016).

3.3.3 Teaching Environment

The teaching environment is very important in the adoption of curricular proposals, as clarified by Taylor & Richards (1985:97):

> *The stability of an institution, its leadership, its formal structure, its patterns of communication and decision making and the roles taken by its teachers all play a part in influencing an awareness of possible changes, a willingness to examine existing*

> *practice critically and a capacity to adopt (and adapt) new proposals in a way which endures their effectiveness.*

According to Taylor & Richards (1985), an autocratic and bureaucratic organization is likely to suppress creative response to problems. On the other hand, an organization operating along participatory decision making is likely to generate change by being open to pressure from various groups, but is unlikely to gain the support of all staff members and students to implement new curricular proposals.

Schleicher (2016:47;91-92) underlines that teachers feel much more motivated and committed to implement curricular changes when they participate collectively in the school decision making.

3.3.4 Evaluation

Evaluation also affects both proposals for practice and the practice. There are evidences that external tests like PISA are affecting curriculum building all around the world (Mangez, 2010; Ravela, 2011; Therrien & Loyola, 2011; Yates & Collins, 2010). English (2000:89) points out that the use of external tests as the sole source of curriculum development has negative effects on learning:

> *Using tests as the source to develop curriculum runs the risk of accepting and defining learning only in terms of what can be assessed on a paper and pencil test within a multiple-choice format. The means to assessment, and its inherent limitations, become the ends themselves and place a cap on the possibility of learning outside that which tests are assessing.*

Tyler (1949) also underlines that external evaluation has a powerful influence upon learning. He mentions the case of a state examination in the New York State that has more effect upon what is taught in the classroom than the curriculum as such. *"Students are influenced in their study by the kind of evaluation to be made and even teachers are influenced in their emphasis by the sort of evaluation which they expect to be made"* (Tyler, 1949:124). The evaluation may become the focus of the students' attention and even of the teachers' attention rather than the curriculum planned by the school members.

Therefore, external evaluation may put pressure on teachers to perform well and end up defining what should be taught and assessed in the classroom. Dahle & Sjøberg (2012) state that PISA is having negative effects on curriculum policy and practice, *"risking turning learning into*

drudgery and killing the joy of learning" because of the focus on this international assessment. This statement needs to be verified by the study's cases.

Evaluation is also linked to educational objectives set by the school. It involves different methods to assess whether the desirable objectives are being realized and to indicate places where these changes are not actually taking place (Tyler, 1949). Some examples of evaluation procedures linked to educational objectives are:

- paper and pencil tests to find out what knowledge students have, to get the ability of students to analyze and deal with verbal problems, vocabulary, reading, etc.;
- observations of students' behavior to verify their personal-social adjustment;
- interviews to throw light upon changes taking place in attitudes, interests, appreciations and the like;
- questionnaires to get evidence about interests, attitudes and other types of behavior;
- collection of products as paintings to get evidence of students' behavior, and many other ways of getting evidence about the kinds of behavior represented by the educational objectives set by the school (Tyler, 1949:107-108).

3.4 Summary

This chapter was divided in three main sections: the first was an overview of the frameworks for competences developed in the last 20 years. It showed the relevance of this idea in today's global society. The second presented the three dominant sectors of curriculum inquiry, which are: studies about child- or subject-centered curricula; studies about curriculum practice; and practice-oriented or theoretical studies on curriculum. This study focuses on the practice-oriented dimension, that is, the examination of proposals for practice and teachers' experiences. The third main section addressed factors that influence curriculum practice and that may affect the adoption of competences in the classrooms. Some of these factors are teachers' values and beliefs; teachers' knowledge, skills and character qualities; school's facilities and resources; teaching environment and evaluation. The next chapter examines the adoption of competences in the Brazilian formal curriculum and teaching practices.

4 Competences in the Brazilian National Curriculum

This chapter is divided into four sections: the first section briefly describes the history of education in Brazil and shows the current structure of the Brazilian educational system. The second section presents the literature review on the adoption of competences in the national curriculum, addressing topics such as the impact of globalization on the educational system and curricular documents; the rationale behind the incorporation of competences in the formal curriculum and the role of teachers in the implementation of this concept in the classrooms. The third and fourth sections examine the adoption of competences in the official written curriculum and the meanings teachers attribute to this topic.

4.1 Education in Brazil

The first classrooms in Brazil were created in the 1500s by the Society of Jesus to evangelize the indigenous people. The main goal of the Jesuits was to teach reading and writing so that students could learn to read the Bible and disseminate the word of God to their families.

During the 16th and 17th centuries, the number of schools increased and the curriculum content expanded, covering topics equivalent to the Secondary Education. The focus of the Jesuit education shifted from the indigenous people to the farmers' children because this group could pay for education, ensuring financial profits for the Jesuits. Additionally, as indicated by Marçal Ribeiro (1993), many students would become priests, joining and maintaining the Society of Jesus.

In the first half of the 18th century, Portuguese Minister of the Kingdom Marquis of Pombal (1699-1782) implemented educational reforms that affected the colony. The Jesuit schools were closed and the Jesuits expelled from Portugal and Brazil. For the first time, education became State's responsibility. The public nature of education was reinforced with the country's Independence from Portugal in 1822 and, later, the Proclamation of the Republic in 1889. Nevertheless, the State was not able to provide enough education for all. According to Scachetti (2013), the illiteracy rate in 1920 was 80%.

In the 20th century, Brazil went through many political and economic changes, such as the urbanization process and industrial development, and two periods of dictatorship (1937-1945 and 1964-1985). These changes affected the structure and organization of the national system of education.

Since the beginning of the 20th century, educational plans and proposals have suggested curricular changes and, also, an expansion of the free public education. The content of the curricular changes has varied according to the dominant groups in power, for example: in the 1930s, proponents of the New School (*"Escola Nova"*) advocated a public and free education where students could learn to know beyond the limits of the religious-moral upbringing; in the 1960s, the military government supported Technical-Vocational Education as a way to foster students' abilities to join the labor market; in the 1990s, Catholic groups opposed the centralized provision of education by the State; etc.

These different dominant groups and ideologies are still present in the Brazilian educational system manifested, for example, in the different types of schools, such as the private religious schools and universities and Technical-Vocational institutions; and the different types of pedagogical initiatives, such as the rural and bilingual schools, traditional teaching projects with subject-centered curriculum and proposals based on progressive ideas with a child-centered approach.

In Brazil, it is the State, through the Ministry of Education, that rules the definition of curricula and curricular contents to be adopted by schools all over the country. According to the Law of Guidelines and Bases of the Brazilian Education 9394/1996 (Art.9, IV), it is the central government that defines competences and guidelines for all levels of education with the purpose of ensuring common Basic Education for all Brazilian citizens. As regards the structure of the current Brazilian educational system, the formal education consists of: Basic Education, formed by Childhood, Elementary and Secondary Education, and Higher Education.

Levels				Modalities	Grades	Duration (years)	Age (years)
		TVET	Higher Education	PhD *strictu sensu*		4	
				Master *strictu sensu*		2	
				Bachelor		4	18 and over
Basic Education	EJA		Secondary Education (compulsory)	General Studies and Vocational Programmes	3	3 (minimum)	17
					2		16
					1		15
			Elementary Education (compulsory)	Final Grades	9	9	14
					8		13
					7		12
					6		11
				Initial Grades	5		10
					4		9
					3		8
					2		7
					1		6
			Childhood Education (compulsory from age 4)	Preschools			4-5
				Kindergartens			0-3

Figure 4.1 – *Structure of the Brazilian Educational System* (Elaborated by the researcher)

Source: Law of Guidelines and Bases of the Brazilian Education 9394/1996.

As can be seen in Figure 4.1, Childhood Education provides education for children up to five years-old and is divided into kindergartens (up to three years) and preschools (four and five years). Compulsory Elementary Education lasts for nine years and is divided in Initial Grades (from 1st to 5th grades) and Final Grades (from 6th to 9th grades). Children start school the year they become six.

Secondary Education normally takes three years and may prepare students for the exercise of technical-vocational occupations. Technical and Vocational Education and Training (TVET) can be developed in an integrated, concurrent or subsequent way to the Secondary Education. Both Secondary Education and middle-level Technical-Vocational Education qualify students for Higher Education. The Brazilian educational system also comprises Education of Youth and Adults (*"Educação de Jovens e Adultos"* - EJA) for those aged 15 and older who did not have access or did not complete their studies in Elementary and Secondary Education (Law of Guidelines and Bases of the Brazilian Education 9394/1996).

The Law of Guidelines and Bases of the Brazilian Education of 1996 shows the efforts of the Brazilian State to promote free public education for all. Some examples of the Brazilian governments' efforts are the inclusion of Childhood Education as the first stage of Basic Education and the recommendation that students with special needs should be preferably attending the regular public educational system (Scachetti, 2013).

In 2009, a new Constitutional Amendment (no.59/2009) changed the 1996 Law, establishing the Basic Education as compulsory and free from four to 17 years-old, also including its free offer to all those who did not have access to it in the proper age.

Despite the efforts of the Brazilian government to ensure free public education for all, the access to education is still a problem in the country. In 2015, the enrollment rate of children aged zero to three years and four to five years-old was 25.6% and 84.3%, respectively. In Brazil, in 2015, 15.0% of the young people aged 15 to 17 years-old did not study, totaling about 1.6 million young people. Among the young people who had dropped out early without finishing Secondary Education (1.3 million young people), 61.4% dropped out of school without completing Elementary Education, 22.1% finished Elementary Education and 16.4% had incomplete Secondary Education. The illiteracy rate among people aged 15 years and over was 8% (about 10 million people) in 2015 (IBGE, 2016). The most affected groups are those from rural areas, the poor, slum residents, indigenous and African-descendants and people with special needs (IBGE, 2016; UNESCO/Brazil, 2008).

4.2 Literature Review on Competences in the Brazilian National Curriculum

The literature review shows that discussions about curriculum have gained greater importance in Brazil since the 1990s, mainly after curriculum reforms seeking to promote changes in educational processes in schools (Costa, 2005:52).

The National Curriculum Guidelines and Parameters of the 1990s and 2000s include a set of competences to be addressed along the different series of the Basic Education (da Silva, 2010; Gentile & Bencini, 2000). The main reason for teaching competences to students, according to these official documents, is the need to educate citizens prepared to face the new demands of the labor market and the current society (da Silva, 2010; Gentili & Bencini, 2000; Therrien & Loiola, 2001).

The importance of teaching competences to meet the demands of the labor market is highlighted by da Silva (2010:19): *"It is not, therefore, the accumulation of a set of knowledges, but the ability to combine them, integrate them and use them to respond to what is required by the context of work and production in contemporary capitalism"*[3].

Therrien & Loyola (2001:145) write that lowering costs with national education and improving performance in international comparisons are additional reasons for the adoption of competences in the national curriculum:

> *The set of curricular guidelines and parameters is, to the current government, a national curriculum defined by a Central State. In our perspective, this national curriculum is based on one rationale with two parts: first, the idea linked to a conception of pedagogy based on competences, and other, the idea linked to a concern with the evaluation of results. A parallel bureaucracy then emerges guided by the administrative culture of efficiency, lower cost and international comparisons*[4].

The literature also discusses the key-role of teachers in the adoption of competences in the classrooms (Gentile & Bencini, 2000; Therrien & Loiola, 2001). Gentile & Bencini (2000) argue that teachers should implement competences through activities involving the participation of students in the discussion of questions related to their real-life situations. According to they, teachers should also adopt an interdisciplinary approach to help students in the acquisition of competences. These suggestions may be indications that teachers are facing challenges to develop students' competences.

The vagueness of the term competence is another topic that emerged in the literature review. Costa (2005) and da Silva (2010) explain that teachers interpret and implement competences in very different ways. Costa (2005:58-59) also writes that although teachers fail to explain the concept in a clear way, they end up approaching the notion of competence as the ability to perform a task well, often linked to students' personal experiences.

[3] Translated by the researcher. Original text: "Não se configura, portanto, na justaposição de um conjunto de conhecimentos, mas na capacidade de combiná-los, integrá-los e utilizá-los de modo a atender ao que é requerido pelo contexto do trabalho e da produção no capitalismo contemporâneo".

[4] Translated by the researcher. Original text: "O conjunto de diretrizes e parâmetros curriculares é, para o governo atual, um currículo nacional definido por um Estado Central. Na nossa leitura, esse currículo nacional está assentado em uma lógica de duas vertentes: primeiro, uma lógica ligada a uma concepção de pedagogia por competências, e outra, uma lógica ligada a uma preocupação com a avaliação de resultados. Surge assim uma burocracia paralela, guiada pela cultura administrativa da eficiência, do menor custo e das comparações internacionais".

Regarding the adoption of the concept competence in the national curriculum, Macedo (2011) gives some indications about how the national curriculum deals with issues related to national and international influences on education, which may help to address this question.

Macedo (2011) argues that discourses related to nation and national features are much more valued in the Brazilian curriculum than those related to globalization, which seems to be in the opposite direction than those ideas defended by the World Institutionalists, described in Chapter 1.

According to Macedo (2011:52), *"the few references to globalization were made in the context of affirmation of the place and of the national"*. And:

> *It is possible to perceive the superficiality of the argument that neoliberal globalization would destroy national identities. In Brazil, the projection of a national identity under the focus given to training for citizenship was not relinquished: the preferential identity defined in the different documents forming the policy, is the citizen, countless times describe as Brazilian* (Ibid.:48).

Nevertheless, it is important to draw attention to the fact that Macedo (2011) analyzes the 1998 National Curriculum Parameters and that this scenario may have changed.

To sum up the main points of the selected literature, it showed that the Brazilian formal curricula of the 1990s and 2000s adopt the term competence as a curricular category. It also described the reasons and intentions behind the incorporation of this term in the formal curriculum: educating citizens prepared to face the new demands of the labor market and the current society, lowering costs with national education and improving performance in international comparisons. The central role of teachers in putting competences into practice was also addressed, including problems they meet in defining this term in a precise way. However, the literature did not go into detail about what types of competences appear in the Brazilian formal curriculum or teaching practices, and how these competences appear. These topics will be examined next.

4.3 The Formal Curriculum

4.3.1 Educational Purposes

The Brazilian formal curriculum states that it aims to contribute to an educational improvement, considering new educational demands resulting from social and economic transformations and the accelerated production of knowledge, which are elements of globalization described in the introductory chapter:

> *In preparing these guidelines (...) to promote the improvement of national education, bearing in mind the compliance with new educational demands resulting from social and economic changes and the accelerated production of knowledge* (Brazilian Ministry of Education, 2010:5)[5].

On the other hand, this document does not explicitly mention the concern with international comparisons as a contributing factor in setting educational goals (such as the case of Belgium and Australia discussed in Chapter 1).

The Brazilian National Curriculum is based on three main educational purposes, which are: access, inclusion and permanence of children and young people in the educational system. These three purposes help to improve the quality of education, as shown below:

> *The quality standard assurance with full access, inclusion and permanence of the learning individuals in school and their success, with reduction of the evasion, the retention and distortion of age/year/grade, result in the social quality of education, which is a collective achievement of all individuals of the educational process* (Brazilian Ministry of Education, 2010:64)[6].

The inclusion of different social groups in relation to physical conditions, genders, ethnicities, beliefs, social classes and cultural contexts is one of the educational purposes set by the Brazilian government (Ibid.:25,35). The Brazilian National Curriculum explains that individual differences have resulted in processes of social exclusion that need to be reversed:

[5] Translated by the researcher. Original text: "Na elaboração dessas diretrizes (…) com o objetivo de promover o aperfeiçoamento da educação nacional, tendo em vista o atendimento às novas demandas educacionais geradas pelas transformações sociais e econômicas e pela acelerada produção de conhecimentos".
[6] Translated by the researcher. Original text: "A garantia de padrão de qualidade, com pleno acesso, inclusão e permanência dos sujeitos das aprendizagens na escola e seu sucesso, com redução da evasão, da retenção e da distorção de idade/ano/série, resulta na qualidade social da educação, que é uma conquista coletiva de todos os sujeitos do processo educativo".

> *It is urgent to bring to the debate the principles and practices of a process of social inclusion, ensuring access and considering the human, social, cultural, economic diversity of the groups historically excluded. These are the issues of class, gender, race, ethnicity, generation, consisting of categories that are intertwined in society - the poor, women, afro descendants, indigenous, disabled, rural populations, those of different sexual orientations, sheltered individuals, those in the streets, prison settings - all that make up the diversity that is the Brazilian society…* (Ibid.:16)[7].

According to the Brazilian formal curriculum, it is imperative to overcome the existing social, cultural and economic inequalities in the country (Ibid.). These inequalities date back to the colonial time with the exclusion of social groups such as women, indigenous and African-descendants from the educational process, a situation that has yet to be reversed, as shown before.

Another educational purpose is to educate students to participate in life and the labor market (Ibid.), which is also included in previous documents (da Silva, 2010; Gentili & Bencini, 2000; Therrien & Loiola, 2001).

4.3.2 The Adoption of Competences as *"World Models"*

Different countries share idealized models of education and society around which curricula is built (Mceneaney & Meyer, 2000), for example, the idea that education should prepare individuals to actively participate in a world marked by social, economic and knowledge changes. The set of competences that enables individuals to integrate into this new social reality is a *"world model"* or idea greatly accepted and adopted by different countries, including Brazil.

The 2010 Brazilian National Curriculum describes all the competences defined by different frameworks for competences (Delors, 1996; OECD, 2005). The Brazilian document also describes competences not listed in these frameworks, such as curiosity, development of inventiveness and ecological literacy. Table 4.1 shows the similarities between the key-

[7] Translated by the researcher. Original text: "Torna-se inadiável trazer para o debate os princípios e as práticas de um processo de inclusão social, que garanta o acesso e considere a diversidade humana, social, cultural, econômica dos grupos historicamente excluídos. Trata-se das questões de classe, gênero, raça, etnia, geração, constituídas por categorias que se entrelaçam na vida social – pobres, mulheres, afrodescendentes, indígenas, pessoas com deficiência, as populações do campo, os de diferentes orientações sexuais, os sujeitos albergados, aqueles em situação de rua, em privação de liberdade – todos que compõem a diversidade que é a sociedade brasileira...".

competences of the OECD framework (OECD, 2005) and those included in the 2010 Brazilian National Curriculum.

Table 4.1 – *Competences in the OECD Framework and the Brazilian National Curriculum* (Elaborated by the researcher)

OECD Framework (2005)	**Brazilian National Curriculum (2013)**
1. Using tools interactively 1.a. Use language, symbols and texts interactively 1.b. Use knowledge and information interactively 1.c. Use technology interactively	Adopt strategies so that students can develop the emotional, social and ecological literacy; the relevant scientific knowledge to different times, spaces and senses; the understanding of the meaning of science, literature, arts, sports and leisure (p.33) Recognize that the media resources should permeate all learning activities (p.33) Consider curiosity and research as the core of learning, including carefully and systematically virtual learning references that occur in digital contexts (p.49) Value reading in all fields of knowledge, develop students' literacy ability (p.50)
2. Interacting in heterogeneous groups 2.a. Relate well to others 2.b. Co-operate, work in teams 2.c. Manage and resolve conflicts	Promote practical situations so that students can realize that there is not a single world view, therefore, a phenomenon, a problem, an experiment can be described and analyzed from different perspectives and schools of thought which vary in time, space and intentionality (p.33) Promote the understanding of conflicts, discrepancies and differences that characterize the human and social relations (p.49) Encourage ethical behavior and solidarity, recognizing, respecting and accepting each other's identity (p.50)
3. Acting autonomously 3.a. Act within the big picture 3.b. Form and conduct life plans and personal projects 3.c. Defend and assert rights, interests, limits and needs	Advance the understanding of the relationships between the individual, work, society and mankind, their limits and possibilities (p.33) Encourage close reading of the local, regional and global reality, through which students can see horizons, trends and possibilities of development (p.49) Stimulate student's ability to learn, develop their capacity to learn by themselves and autonomy (p.50)
	Stimulate curiosity for the unusual and the development of inventiveness (p.50)

The Brazilian formal curriculum deals with competences in a very broad and flexible way, not specifically adopting this term, but ideas that refer to it. For example, the conception that education should *"recognize that the media resources should permeate all learning activities"*

is similar to the competence *"use technology interactively"*. The idea that the educational process should *"encourage ethical behavior and solidarity, recognizing, respecting and accepting each other's identity"* corresponds to the competence *"relate well to others"*. Another example is the suggestion that education should *"advance the understanding of the relationships between the individual, work, society and mankind, their limits and possibilities"* which is like the competence *"act within the big picture"*.

4.3.3 The Role of Teachers in the Adoption of Competences

To achieve educational purposes and develop competences required in life and the labor market, the Brazilian formal curriculum suggests four methods to be adopted by teachers: (1) combination of education and care; (2) creation of methods involving ICT; (3) inclusion of places, environments and tools outside the classroom and school and (4) use of thematic projects.

The first method is the combination of the work of teaching and the work of caring, repeated in many parts of the document (Ibid.:9,17-18,22,33,35,47,49,51,59). The combination of education and care is defined as follows:

> *Educating requires care; care is to educate, encompassing to embrace, listen, encourage, support, develop learning to think and act, take care of oneself, of the other, the school, the nature, the water, the Planet. (...) Educating with care means learning to love without dependence, develop human sensitivity in the relationship of one with oneself, with the other and with all that exists, with zeal, in a situation that requires caution in search of full human development* (Ibid.:18)[8].

The second method is the need to create new didactic and pedagogical methods involving ICT (Ibid.:25,27-28,31,35,50,67-68).

The third is the inclusion of places, environments and tools outside the classroom, including other school places and educational institutions, as well as socio-cultural and sports-recreational areas surrounding the city or the region (Ibid.:27,66).

[8] Translated by the researcher. Original text: "Educar exige cuidado; cuidar é educar, envolvendo acolher, ouvir, encorajar, apoiar, no sentido de desenvolver o aprendizado de pensar e agir, cuidar de si, do outro, da escola, da natureza, da água, do Planeta. (...) Educar com cuidado significa aprender a amar sem dependência, desenvolver a sensibilidade humana na relação de cada um consigo, com o outro e com tudo o que existe, com zelo, ante uma situação que requer cautela em busca da formação humana plena"

The fourth is working with thematic projects, developing interdisciplinary and contextual knowledge (Ibid.:27,30,67).

The methods 2, 3 and 4 are also present in documents developed by international organizations as OECD (Schleicher, 2016), as described in Chapter 3.

According to the Brazilian document, teachers are fundamental actors in the adoption of these methods. They are also expected to have certain knowledge, skills and character qualities to put these recommendations into practice, which are the following:

- ability to act autonomously, that is, to understand the school context and the students' needs when acting and taking decisions;
- ability to interact in heterogeneous groups, that is, to cooperate with students, colleagues, the community, families, etc. and participate in school decisions, such as in the elaboration of educational proposals;
- competence in the use of educational research's results to improve the quality of education;
- ability to use knowledge in multiple areas (not only in the subject); and
- ability to use ICT to provide attractive lessons and encourage students' creativity (Brazilian Ministry of Education, 2010:58-59;78-79).

These ideas are also aligned with the international agenda on education as discussed in Chapter 3.

However, the document mentions that teachers do not have enough knowledge on digital tools to use them in their lessons (Ibid.:25) and that they need to have adequate working conditions to acquire and develop competences to perform a quality work. Some examples of adequate working conditions described in the document are:

- satisfactory school facilities and teaching tools;
- participation in formal teacher-education programmes;
- support for in-service professional learning;
- adequate salaries and compatible with professionals with the same years of education;
- 40 hours/week of working hours in the same school;

- adequate relationship between the number of students per class and per teacher, etc. (Ibid.:23,58-59;78-79).

4.3.4 Evaluation

According to the Brazilian curriculum, the evaluation processes should be designed collectively by the school members, considering legal provisions; studies and comparisons produced by the Ministry of Education and experts; the diversity of the students' socio-cultural contexts (Ibid.:48-49).

The Brazilian formal curriculum emphasizes that the formative assessment should take priority over the quantitative and classificatory types of assessment. In this regard, the document suggests evaluation processes that consider students' individual differences, for example, offering partial progression for those students who have not passed in all subjects of a specific grade and study's acceleration for students who have school delay (Ibid.:52,76).

The Brazilian curriculum questions the efficacy of large-scale evaluation programmes developed by the national government:

> *...would they be in line with the reality of the schools? Do these programs consider the identity of each system, of each school? (...) Because of this external evaluation method, would not the students be punished with terrible results and terrible media reports? Moreover, would not the students of indigenous schools, and other specific situations, be adversely affected by these forms of evaluation?* (Ibid.:13)[9]

On the other hand, the document affirms that these large-scale evaluation programmes continue to subsidize the formulation of educational policies in the country, despite the problems they have.

[9] Translated by the researcher. Original text: "... teriam eles consonância com a realidade das escolas? Esses programas levam em consideração a identidade de cada sistema, de cada unidade escolar? (...) Como consequência desse método de avaliação externa, os estudantes crianças não estariam sendo punidos com resultados péssimos e reportagens terríveis? E mais, os estudantes das escolas indígenas, entre outros de situações específicas, não estariam sendo afetados negativamente por essas formas de avaliação?"

4.4 The Perceived Curriculum

4.4.1 Educational Purposes

The educational purposes mentioned by the Brazilian teachers are aligned with those described in the formal curriculum, for example: permanence of students in the educational system (BT2), inclusion of different social groups (BT1), participation in life (BT1, BT2, BT3, BT4) and the labor market (BT1, BT2, BT3). The two latter are part of the educational agenda promoted by international organizations, such as OECD and UNESCO, as can be seen in different documents (OECD, 1994, 2001, 2005; Delors, 1996).

To the BT1 and BT4 education should teach to read, write and count. The BT1 also mentions as educational purposes: promoting artistic skills; showing the diversity of the world; fostering respect for different cultures and walks of life. The BT3 says that education should develop students' ability to communicate effectively, understanding and making themselves understood by others.

To all the interviewed teachers, education should encourage students to think and act autonomously, forming and carrying out life plans and personal projects, participating and positioning themselves in decision-making processes, defending and asserting rights, etc. In the words of the BT3: *"So, when you get knowledge you can discern what you want, what you do not want, you can do this, you can form an ideology, a thinking, and demand, right?"*

These educational purposes are in accordance with the competences selected in the OECD framework (OECD, 2005), as shown in the Table 4.2:

Table 4.2 – *Brazilian Teachers' Perceptions on Competences* (Elaborated by the researcher)

OECD Framework (2005)	**Brazilian teachers**
1. Using tools interactively	ability to read, write, count and communicate ideas (BT1, BT2, BT4)
2. Interacting in heterogeneous groups	ability to respect different cultures and walks of life (BT1)
3. Acting autonomously	ability to think and act autonomously, forming and conducting life plans and personal projects (BT1, BT2), defending and asserting rights (BT1, BT3, BT4)
	ability to enjoy and experience different forms of artistic expression (BT1)

4.4.2 Definition of Competences

During the interviews, the Brazilian teachers had problems to define the term competence in a precise way. They only have used the term when asked by the researcher, focusing their explanations on the key-competence *"Using tools interactively"* (OECD, 2005).

According to the BT1, competence can be both the students' ability to learn subject contents and the goals set by the teachers to the subject. The BT4 sees competence as an isolated ability to carry out pieces of work, such as the evaluation and selection of parameters to solve specific problems. This teacher says that the development of competences is not necessarily connected with the acquisition of a broader vision of social reality:

> *If we develop the notion of competences in an isolated way, we are forming parts of a system, you know? And this blunts the person's head, takes away the enjoyment of life, right? (...) What I see of negative is to stick to it. Of course, the competences and skills are important. My criticism is when we close the eye on it.*

The BT2 and BT3 define competence as the ability to perform a task well (Costa, 2005). To the BT2, competence is the ability to identify and relate different types of information, distinguish between concepts, etc.:

> *... for example, skills: to recognize, identify, relate... You always have a lot of verbs. How am I going to do? In what way am I going to put this in practice, right? I think it is something like that, how and the way the students...*

The BT3 explains that competence is the ability to write and understand texts.

4.4.3 The Role of Teachers in the Adoption of Competences

Some of the Brazilian teachers see themselves as *"interpretation teachers"* (Taylor & Richards, 1985), willing to choose content and activities that promote active student participation in learning. The BT1 believes that students are *"partners"* in the construction of knowledge:

> *So, they bring me things, it is a channel of exchange, I show something to them and they show me thousands of other things that I have never heard before. Movies too, they give me suggestions. You need to be open to what come from them, right?*

The BT4 perceives students as very active and engaged in the lessons:

> *Well, in my lessons, I have a very good feeling, because I put them in the center of the process. And, because I put myself as a mediator, the situation is much less conflictive.*

> *Because, if the teachers put themselves as transmission teachers and they do not find receptors, the receptors are paying attention to other things or they find problems in the communication, the transmission teachers became worn out by this situation. (...) I do not expect that my students stay seated in class, static and passive, on the contrary. So, I end up taking advantage of the great potential for interaction, study together, collective work and stuff like that*.

The Brazilian teachers also employ teaching methods that encourage active students' participation and collaboration in the learning process, as group work (BT1, BT3, BT4). However, this method is also used by teachers that may be considered *"transmission teachers"* (Ibid.). This perception regarding knowledge, children and learning may create problems in the relationship with the students, as described below:

> *So, there is no interest. (...) But I give the same content to all of them. I do not make any distinction between them. The students who are interested, they should come to me, and, sometimes, the students who are not interested, I go to them and verify if it is possible for them to learn something, but sometimes it is impossible. (...) In a classroom with 35, I have a classroom with 37 students, 12 are interested, the others do the homework because they should do a minimum to get a grade. It is like this: 20% is interested, 50% is interested because they need a grade and the others 30% they absolutely do not care. Considering just the grades of these first two months, of 37, 14 students would fail in my subject because of their grades…*(BT3).

The Brazilian teachers also discuss the relevance of their knowledge, skills and character qualities to achieve educational purposes and develop students' competences. These knowledge, skills and character qualities are in line with ideas defended in the Brazilian formal curriculum and OECD's documents (Schleicher, 2016), for example: the ability to work with different actors; the ability to use ICT for teaching; mastering of pedagogical and subject-specific knowledge; the ability to care; motivation; etc.

The teachers talk about the ability to work with colleagues, the community, families, etc. According to them, they do not have a cooperative work culture in the school:

> *... the work in state schools is very solitary. We do not have the culture of working collectively. I think this is general, right? Each one doing his job, implementing his curriculum, his tasks, each one in his nest, you know? (...) In the state schools, because we have so many classes, many schools, too much thing to do, the knowledge is reproduced in a very fast way. (...) The state schools are like factories. Factory knowledge. As in the Chaplin's film, tighten the screw, next, tighten the screw, next and so on.* (BT1)

> *We still work very individually. The teacher is still very resistant to work together, organize a project…* (BT2).
>
> *I never achieved anything like that, is not our culture. Unfortunately, I feel that in our Cartesian training, everyone disciplinary and each one in their own area, it is very difficult to develop an interdisciplinary work. (...) So, I do not know if this only happens with us in Brazil, but I could never develop this kind of work* (BT4).

They also say that they do not work with the community and families to plan educational projects. The participation of parents in the school is limited to meetings organized by the school leadership and, usually, when students have problems of behavior and/or school performance (BT1, BT2, BT3, BT4).

All the interviewed teachers talk about the ability to use ICT for teaching. All of them use ICT tools to provide attractive lessons, such as music (BT1), films (BT1, BT4), short videos (BT2, BT3), internet (BT2, BT3), etc. They also mention the learning resources employed in the lessons, which are: poetry (BT1, BT2, BT3), newspapers' articles (BT2), comic magazines (BT3), textbooks (BT1, BT2, BT4).

The BT2 and BT3 discuss the relevance of subject-specific knowledge and pedagogical knowledge or teaching methodology to achieve a good learning experience:

> *I also think that it is not the media and technological tools that ensure a good lesson. (...) So, I think that the human resource can give a good lesson without this technology. It is not the technology that makes the lesson, but the teacher. It is obvious that it helps, it is one more tool. But, if the teacher is not a good teacher, does not have a good methodology, is not prepared, does not have control and confidence in what is being taught, the technology will not guarantee a good lesson* (BT2).
>
> *... if I have a beautiful table or if I have a broken table, it does not influence me. It should be the content, what is inside. This is much more important than if I have a school that the toilet lid is broken, you know? I think it is more the content ... Not that the other is not necessary, but the main thing for me is teaching …* (BT3).

These two teachers also see the ability to care as important to the educational process. The BT2 is a close confident to many students who trust and share their feelings and secrets with this teacher. The BT3 advocates that teachers should be willing to teach and share their personal experiences with students.

All the teachers explain the need of motivation to perform a quality work. They see their colleagues as unmotivated:

> *... the majority are in the classroom just for being there, they teach what they are supposed to teach, and if the students do not want to do the activities, no problem. (...) I have no collaboration from other colleagues* (BT3).

> *... the tendency of most of the teachers is to reproduce what is being done for 20, 30 years. (...) Well, everyone has their own reasons. But, basically, the person does not want to do differently because it takes energy, right?* (BT4)

This lack of motivation may be due to the inadequacy of schools' facilities and resources and the poor working conditions that many of them face in their everyday life, as will be addressed next.

4.4.4 Schools' Facilities and Resources

The lack of participation in professional development activities, such as in-service training and further education programmes, may decrease teachers' motivation and ability to perform a quality work. The BT1 and BT2 explain that teachers do not take part in professional development activities because of the intensive workload:

> *... Teachers suffer from something that I experienced which is the lack of contact with the university, they do not renew their knowledge, they work with several classes, a lot of work, they do not see students as partners, they have this distance…* (BT1)

> *The teacher should go through a qualification process, professional motivation. The teacher should seek to study, right? I finished my master's degree. I sought to do the master. Next year, I want to do a PhD, but it is difficult with this workload.* (BT2)

Regarding facilities, the inadequacy of places and tools may hinder the organization of educational experiences that promote different competences, for example, ICT skills. The BT1 complains about the lack of basic resources in the school, such as pen to write on the white board, textbook, personal computer, printer and audio-equipment. The BT3 says that the computer lab has only 13 personal computers for about 700 students. The teacher uses students' mobile phone as an alternative to the computer, and the mobile phone as a router so that students can have access to the internet.

The BT2 complains about the low salaries of the teachers: *"I think the problem is there, because lately we are with poorly paid teachers and a poorly paid teacher is an unmotivated teacher…"*

According to the *"Education at a Glance"* report (OECD, 2016), the Brazilian teachers who work in public schools earn about US$12.300 a year, which is less than half the average

remuneration of teachers of OECD countries and below the average remuneration of teachers from other Latin American countries, such as Chile, Colombia and Mexico. Furthermore, they are those who work the most number of weeks per year: 42. The average in the OECD countries is 40 weeks in Early Childhood Education and 37 weeks in Technical and Vocational Education.

4.4.5 Teaching Environment

The interviewed teachers have a difficult relationship with the school leadership. They mention that the school leadership is authoritarian and pedagogically outdated. The school principal gave the BT1's classes to other teacher because this teacher took part in a strike. The same happened with colleagues who took part in manifestations. The BT2 explains that the school principal does not allow teachers to talk about politics in the classroom. The BT2 and BT4 complain that they do not have opportunity to discuss pedagogical issues in pedagogical meetings, being restricted to the school principal's opinions and bureaucratic issues.

Therefore, the teaching environment may be described as autocratic and bureaucratic, likely to suppress creative response to problems (Taylor & Richards, 1985). The teachers state that their colleagues are not enough committed to the work, which may be a result of this teaching environment and the poor working conditions. They also have problems in working collectively and with different actors (parents, for example), which may affect the implementation of new pedagogical initiatives, including those related to the adoption of competences in the classrooms.

4.4.6 Evaluation

The Brazilian teachers use different types of evaluation, such as tests with essay questions (BT1, BT2, BT3, BT4) and multiple-choice questions (BT2), group work and presentations (BT1, BT2, BT4), observations of students' behavior (BT1, BT2, BT3, BT4) and student self-assessments (BT1).

These different methods of evaluation are linked to educational objectives set by the school leadership and the teachers (Tyler, 1949). Paper and pencil tests help to get the ability of students to use language, symbols and texts, and the ability to use knowledge and information (key-competence *"Using tools interactively"*, OECD, 2005). Group work and presentations

allow to verify students' ability to relate well with others, cooperate, manage and solve conflicts (key-competence *"Interacting in heterogeneous groups"*). Observations of students' behavior give evidence about their personal-social adjustment (Tyler, 1949). Student self-assessments allow to verify students' ability to realize their own identity, set goals, understand their environment and its functioning (key-competence *"Acting autonomously"*).

The BT2, BT3 and BT4 state that they plan the evaluation processes based on the skills and competences of large-scale evaluation programmes, such as the National Secondary Education Exam (*"Exame Nacional do Ensino Médio"* - ENEM)[10]. The BT1 is the only one who does not agree with large-scale examinations. This teacher explains that they are influenced by external tests and do not include teachers' perspectives in their planning:

> *…the external, international rankings exist, they just end up feeding up an idea of making a national ranking and, then, the States begin to prepare tests to measure this (…) This is like a domino, I think: first comes PISA, then a national assessment, then a state assessment, and one thing leads to another, until we get that in our hands, in our classrooms, in our curriculum…*

In general, the teachers know what PISA is, but they do not perceive the impact of this international survey on their practice, except for the BT1.

> *PISA is that international assessment, right? It does not totally influence me, you know? For example, since 2010, I take part in the planning of questions to ENEM and ENCCEJA[11], the part of Humanities, I help to plan the tests. I see that I learned how to do my tests taking part in these assessments. (…) So, these are the influences that I have in my work…* (BT2)
>
> *When I plan my activities, I only think about the ENEM, which is the access to the university (…) I prepare my students for the ENEM* (BT3).
>
> *Not necessarily PISA, but other large scale evaluation system in Brazil which is the ENEM (…) So, although I have my criticisms, because this test is against my ideologies, I seek to respond to the demands created by this national test. (…) And, fortunately, the ENEM, although it has not fully achieved its purpose. In fact, the interdisciplinary approach does not exist in the ENEM yet (…) but it seeks a contextualization, it seeks*

[10] ENEM was created in 1998 with the objective of evaluating students' performance at the end of Basic Education. As of 2004, it has also been used as a selection mechanism for admission to Higher Education.
[11] The National Exam for the Certification of Young and Adult Skills *("Exame Nacional para Certificação de Competências de Jovens e Adultos"* - ENCCEJA) is a free examination of voluntary participation offered to young people and adults living in Brazil and abroad who did not have the opportunity to complete their studies at an appropriate age. It is an examination to assess the competences, skills and knowledge acquired in the school process or in training processes equivalent to Elementary Education.

> *an interpretation, it seeks a link, contextualization, right? It demands of the candidate something more than just reproduction. So, luckily, the ENEM was contemplated with this evolution. So, in the end, my work, I consider contemplating the ENEM. In the case of PISA, I have never seen a test* (BT4).

Therefore, Ravela's (2011) idea that PISA may affect teaching practices in the context of Latin American countries does not seem to apply to the Brazilian case. On the other hand, there is a chance that PISA may have changed technical aspects of this national assessment, for example, the inclusion of competences and skills in the test design, but this idea needs to be investigated further.

4.5 Summary

This chapter discussed the adoption of competences in the Brazilian formal curriculum and teaching practices. Regarding the formal curriculum, the Brazilian document adopts the term competence in a very broad and flexible way, not using the term itself, but ideas that relate to it. The document does not explicitly mention the concern with international comparisons as factors influencing curriculum design or implementation, as the case of other countries discussed in Chapter 1. The focus is on the improvement of education, ensuring access, permanence and social inclusion in the educational system for children and young people. These purposes are linked to the history of education and the current educational situation of the country.

Regarding the adoption of competences in curriculum practice, some factors may help the implementation of these common ideas in schools, for example, the teachers' values and beliefs about knowledge, children and learning. The *"interpretation teachers"* (Taylor & Richards, 1985) or those who have the child as the core of their work may adopt curricular proposals related to active student participation in learning and the development of students' competences, as the case of the BT1 and BT4.

On the other hand, some factors may limit the adoption of competences in curriculum practice, such as the working and pedagogical conditions. Regarding teachers' working conditions, the low salaries and lack of participation in professional development activities may decrease their motivation and ability to perform a quality work. Additionally, the inadequacy of places and tools may hinder initiatives that involve different competences like ICT skills. Regarding their pedagogical conditions, the lack of a collective work culture may limit the development of an

interdisciplinary and contextualized work connected to students' real-life situations. Also, the teaching environment perceived as autocratic and bureaucratic may suppress the adoption of innovative curricular proposals related to current societal demands.

However, despite the challenges they face in their teaching work, the Brazilian teachers have educational purposes very aligned with the educational agenda promoted by international organizations (OECD, 1994, 2001, 2005; Delors, 1996). They also work with all the key-competences of the OECD framework (OECD, 2005). Furthermore, they use ICT to provide attractive lessons. In this case, they employ some strategies to overcome the insufficiency of teaching tools. For example, the BT3 uses mobile phones as substitutes for personal computers and the mobile phone as a router so that students can have access to the internet during the lessons.

The teachers are also concerned with national large-scale evaluation programmes, planning activities based on the skills and competences measured on these tests, which may be an indication that international assessments (like PISA) influence the design of national assessments (because they employ competences and skills as a framework). But this idea needs to be investigated further. The next chapter deals with the Norwegian case.

5 Competences in the Norwegian National Curriculum

This chapter follows the same structure as the previous one: the first section briefly describes the history of education in Norway and presents the structure of the current Norwegian educational system. The second section is the literature review on the adoption of competences in the national curriculum, addressing issues such as the impact of globalization on the educational system and curricular documents; reasons and intentions behind the incorporation of competences in the formal curriculum and the role of teachers in the implementation of this concept in the classrooms. The third and fourth sections examine the adoption of competences in the current national curriculum and teachers' views about this topic.

5.1 Education in Norway

The public-school system with compulsory attendance dates to 1739, when the Danish-Norwegian King Christian VI established a public school for all children aged 7-12. The school was organized as an ambulatory school emphasizing Christianity and the ability to read the Bible. The King's goal was that everyone could learn to be good Christians in accordance with the Pietistic Lutheran faith. Although the ambulatory schools were intended for all, wealthier groups and those living in the cities usually attended other types of school, such as the bourgeois and Latin schools.

The Peasantry Education Act of 1860 extended the period of education, expanded curriculum content, and replaced the former ambulatory schools by permanent schools. In 1889, folk schools were established as five year schools, free of charge, for children from all social classes. Although the folk schools had partially replaced the different types of schools, the moral and religious values continued to play an important role in the education of the young people.

After 400 years under Denmark, Norway entered a Royal Union with Sweden in 1814, and became an Independent Kingdom in 1905. The school was an important institution in the nationalist wave that led and followed the Norwegian Independence. The State's control over schools was reinforced through the introduction of a national curriculum with a detailed subject matter focused on topics such as national culture, history and language. It was important for the Norwegian State that the students could learn the national language and traditions, that is, that

they could learn to be Norwegians. In 1920, the period of compulsory education was extended to seven years.

During the interwar period and after the World War II, the Norwegian Labor Party (which governed from 1935 to 1965, except for during the war years and a few short interruptions) focused on the development of a Norwegian educational system for students from different backgrounds. In 1969, the Primary and Lower Secondary Education Act expanded Basic Education to nine years.

The idea of a school for all is present in Norway since the introduction of the first public schools in 1739. According to Imsen & Volckmar (2014:38), this idea was also very important in Norwegian society after the World War II: *"The main motive of post-war education policy was social integration and egalitarianism through establishing an equal right to education, regardless of geographic location or economic and social background"*. In 1997, the Basic Education was extended to ten years to everyone, starting at age six. This configuration remains the same today.

The structure of the current Norwegian educational system comprises: Kindergarten, compulsory Primary and Lower Secondary Education, Upper Secondary Education and Training, and Higher Education.

	Levels	Modalities	Grades	Duration (years)	Age (years)
	Higher Education	PhD		3	
		Master		2	
		Bachelor		3	19 and over
	Tertiary Vocational Education			From half a year to two	19 and over
	Upper Secondary Education and Training (Right)	General Studies and Vocational Programmes	VG3	3 (minimum)	18
			VG2		17
			VG1		16
	Lower Secondary Education (compulsory)		10	10	15
			9		14
			8		13
	Primary Education (compulsory)		7		12
			6		11
			5		10
			4		9
			3		8
			2		7
ETA			1		6
	Kindergarten (voluntary)				0-5

Figure 5.1 – *Structure of the Norwegian Educational System* (Elaborated by the researcher)
Source: Norwegian Ministry of Education and Research, 2007.

The first stage of the Norwegian educational system is Kindergarten which provides education, supervision and care to preschool children. Kindergarten is voluntary and intended for everyone who so wishes to attend a kindergarten. The following stage is compulsory Primary and Lower Secondary Education which lasts for ten years. Children start school the year they become six. Compulsory education is divided into two main stages: Primary Education (grades 1–7, from 6 to 12 years-old) and Lower Secondary Education (grades 8–10, from 13 to 15 years-old).

The next stage is Upper Secondary Education and Training which usually takes three years, divided into three levels: Vg1, Vg2 and Vg3 (in a few cases four years with a Vg4). This level of education is also divided into two main stages: General Studies and Vocational Programmes. Vocational Education prepares students for the exercise of specific trades or crafts. Both Upper Secondary Education and Vocational Education qualify students for Higher Education, but students in the Vocational Education track must take a supplementary programme for general university admission certification.

Tertiary Vocational Education is an alternative to Higher Education and is based on Upper Secondary Education and Training or equivalent informal and non-formal competence. The education consists of vocational courses lasting from half a year to two years and Higher Education entrance qualification is not required in this level.

The last stage of the Norwegian educational system is Higher Education which is based on research and usually builds on three years completed and passed Upper Secondary Education. This level of education is divided into Bachelor with three years of duration, Master with two years of duration and PhD degrees with three years of duration.

The Norwegian educational system also includes Education and Training for Adults (ETA) for those who did not have access or did not complete regular programmes in Primary and Secondary levels or wish to take continuing and supplementary courses above these levels. Another feature of the Norwegian educational system is that students with special needs are attended in the regular educational system with support from special education resource centers (Norwegian Ministry of Education and Research, 2007). According to Imsen & Volckmar (2014), most children with special needs are included in the regular system, with only 0.3% of pupils attending special needs schools.

Regarding the definition of the national education policy, the Norwegian Ministry of Education and Research is responsible for carrying out national policy through legislation, regulations, curricula and framework plans (Norwegian Ministry of Education and Research, 2007).

Imsen & Volckmar (2014) call attention to the fact that Norwegian education policy has been strongly influenced by international experts and organizations, such as the OECD's annual reports as well as the results from international tests like PISA. However, the idea of social integration or a *"school for all"* is still important in curriculum policies of the 2000s (Ibid.).

The State's concern to provide education for all resulted in an educational system mainly public, with only 2.6% private compulsory schools, and 5% private Upper Secondary schools (Norwegian Directorate for Education and Training, 2011). Additionally, the enrollment rate of 3-year-olds in Early Childhood Education is 95% (OECD, 2015), and of 6-12-year-olds in Primary Education is 99.3% (UNESCO, 2015). From the children enrolled in Primary school, 98% will reach the last grade of Primary Education (Ibid.). Norway is also projected to achieve universal Primary enrollment by 2015 (Ibid.). The enrollment rate of 15-19-year-olds in Upper Secondary Education is 86.9% (Norwegian Directorate for Education and Training, 2011).

5.2 Literature Review on Competences in the Norwegian National Curriculum

Karseth & Sivesind (2011) examine the implications of globalization for curriculum design in Norway. By comparing documents of the two last reforms (1997 and 2006), they observe that curriculum policy-making responds to global demands by articulating national demands to external demands.

They explain that although the two reforms have some similarities regarding their content-orientation and the prolongation of long-standing traditions related to subject matter in terms of content, these reforms differ in the way of representing the subject matter. Hence, while the curriculum of the 1990s focuses on content and integration as a fundamental value, the one of the 2000s is more oriented towards learning outcomes and the individual learning as the main core, which reflects general ideas promoted by international organizations like OECD.

Payne (2002) gives indications about the reasons or intentions behind curricular reforms in Norway and UK in the 1990s. According to Payne (2002:118), the main aim of the curricular reforms is to create skilled workers to compete in a global, knowledge-intensive economy:

> *At the same time, UK and Norwegian policy makers have both signed-up to a now almost universal policy discourse across the advanced capitalist world centered on the pursuit of a high-skill, knowledge-driven economy and learning society. Both countries, therefore, have ostensibly sought to restructure their education and training (ET) systems with a view to producing the 'skilled' and 'adaptable' workforce upon which national economic competitiveness and social cohesion are increasingly said to depend.*

On the other hand, Payne mentions that the Norwegian curricular reform stretches far beyond the economic objective, embracing also the human, social and ethical aspects of education.

Knain (2001) underlines that many of the compulsory objectives in the Norwegian Core Curriculum of 1994 may be characterized as development of what OECD labels *"key competences"*. He explains that the 1994 Curriculum describes the objectives the student is supposed to work towards in a shape of six different *"types of human beings"* which are components of the so-called Integrated Human Being. Broad competences are necessary to create an Integrated Human Being. The types of human beings are: the spiritual human being, the creative human being, the working human being, the liberally-educated human being, the social human being, the environmentally aware human being. These different types of human beings show that the educational purposes encompass not only economic objectives but also human, social and ethical aspects.

The curriculum reforms of the 2000s also respond to international demands by specifying *"competence aims"* which should be measured considering pupils' learning outcomes, and by placing heavy emphasis on basic skills which should be integrated in all subjects and across all levels of the learning process (Imsen & Volckmar, 2014).

Dale et al. (2011:3) present the rationale behind the curricular reform of 2006 (*"Knowledge promotion"*): *"… the school as a social institution in the knowledge society has two tasks. The first is to develop each pupils' competence to lifelong learning. The second is the development of human social competence, where knowledge and creativity are crucial"*[12].

[12] Translated by the researcher. Original text: «… skolen som samfunnsinstitusjon i kunnskapssamfunnet får to oppgaver. Den første er å utvikle den enkelte elevs kompetanse til livslang læring. Den andre er utvikling av menneskenes sosiale kompetanse, hvor kunnskap og kreativitet er avgjørende».

Additionally, the literature mentions the ambiguity of the term competence in the Norwegian curricula. Dale et al. (2011) explain that the competence goals of the 2006 curricula do not necessarily give the precision and clarity that the government demands. According to them, in the years 2007-2008, neither the curricula nor information from the Ministry of Education and Research gave indications or orientations on how to work with competences in different school subjects. However, this situation has changed in 2009-2010, when the Ministry of Education and Research gave guidance and published information about the use of competences in different school subjects. On the other hand, they do not explain how this may have influenced curriculum practice.

Engelien et al. (2009) present the challenges met by teachers trying to implement educational technology in their teaching. The use of educational technology refers to the competence or ability to use technology interactively (OECD, 2005). They explain that one of the challenges met by teachers in the implementation of educational technology is the difficulty of establishing a common project involving different subjects due to pedagogical disagreements about the use of digital tools in the lessons. Another challenge refers to the teachers' lack of knowledge and skills on how to use software and digital tools. They also mention as a challenge the lack of clear objectives and methods to assess whether the technology literacy skill or competence has been reached.

To summarize, the literature review showed the reasons for the inclusion of competences in the formal curriculum: creating skilled workers to compete in a global knowledge-intensive economy as well as ethical and critical citizens. The literature also gave indications of the problems faced by teachers when implementing competences in schools, such as the lack of knowledge and skills on competences and the lack of clear objectives and methods to assess this curricular category. However, the selected articles only dealt with specific competences, such as digital literacy, and not a set of competences, as suggested in the OECD framework for competences (OECD, 2005). The next sections of this chapter consider in detail the adoption of competences in the formal and perceived curriculum.

5.3 The Formal Curriculum

5.3.1 Educational Purposes

The Norwegian National Curriculum aims to provide new guidelines governing the purpose and content of education due to both changes in society and the structural changes in education. According to this document, the changes in society are the fact that children spend more of their time in school, the great impact of international mass media on people's lives over the last decades, and the fact that schools have increasingly included students who have many different customs and beliefs. The structural changes in education are the introduction of a national program for after-school activities, lowering the school starting age to six years, and a three-year Upper Secondary Education for all (Norway, Royal Ministry of Church, Education and Research, 1994).

Moreover, the educational purposes addressed by the document are well aligned with ideas, values and standards disseminated by international organizations, as the goal of preparing students to take part in the global economy.

> *The aim of education is to furnish children, young people and adults with the tools they need to face the tasks of life and surmount its challenges together with others. (…) Education shall qualify people for productive participation in today's labor force, and supply the basis for later shifts to occupations as yet not envisaged. (…) Education must ensure both admission to present-day working and community life, and the versatility to meet the vicissitudes of life and the demands of an unknown future* (Norway, Royal Ministry of Church, Education and Research, 1994:5).

The document Subjects - Specialization - Understanding. A renewal of the Knowledge Promotion (*"Fag - Fordypning - Forståelse. En fornyelse av Kunnskapsløftet"*, 2016) reinforces the idea that education should respond to globalization:

> *The increasing diversity of society and new forms of communication challenge in different ways the education system. One of the most important aspects of globalization is that countries become more dependent on each other - economically and politically. Moving people contribute to more complex connections across borders and cultures, and to a more diverse Norwegian society* (The Royal Ministry of Education, 2016:6)[13].

[13] Translated by the researcher. Original text: «Samfunnets økende mangfold og nye kommunikasjonsformer utfordrer på ulike måter utdanningssystemet. En av de viktigste sidene ved globalisering, er at land blir mer

The educational purposes in the Norwegian National Curriculum are:

- providing students with the tools they need to face the tasks of life and deal successfully with its challenges together with others;
- developing their capability to act autonomously and help others;
- qualifying them for productive participation in today's labor market, and for later shifts to occupations as not yet envisaged;
- developing their ability to lifelong learning;
- promoting their diligence and cooperative work;
- promoting democracy, national identity and international awareness among the students;
- developing their creativity and imagination and stimulating their appreciation of art.

These educational purposes are also linked to the national government's aim of growing economically and becoming competitive at the global level (Dale, 2007; Dahle & Sjøberg, 2012; Sjøberg, 2014), such as the ambition of Norway to *"remain a creative member of the global community"* (Norway, Royal Ministry of Church, Education and Research, 1994:5) and to exert influence through networks *"to join in developing the common welfare in the world and protecting the environment of the earth"* (Ibid.:28).

5.3.2 The Adoption of Competences as *"World Models"*

The understanding of learning in the Norwegian curriculum often coincide with the understanding in the Definition and Selection of Competences (DeSeCo) project, which is based on the competence perspective of the curricula (Knain, 2001). It can be divided into four main competences: (1) understanding of fundamental Christian and humanistic values; (2) the ability to think in creative, critical and scientific ways; (3) the ability to actively participate in the labor market; and (4) the ability to understand environmental questions. These competences include and stretch beyond those of the OECD framework (OECD, 2005), as presented in the Table 5.1.

Regarding the development of Christian and humanistic values, this document shows that it has several purposes, which are: promotion of tolerance, solidarity, charity and hope; development

avhengige av hverandre – økonomisk og politisk. Mennesker som flytter bidrar til mer sammensatte tilknytninger på tvers av landegrenser og kulturer, og til et mer mangfoldig norsk samfunn».

of honorable and courteous behavior, political participation and debate in the democratic state; and promotion of progress through criticism, reason and research.

The Norwegian document explains that the Christian and humanistic values are part of the Norwegian history and tradition:

> *The Christian faith and tradition constitute a deep current in our history - a heritage that unites us as a people across religious persuasions. It has imprinted itself on the norms, world view, concepts and art of the people. It bonds us to other peoples in the rhythm of the week and in common holidays, but is also an abiding presence in our own national traits: in architecture and music, in style and conventions, in ideas, idioms and identity. Our Christian and humanistic tradition places equality, human rights and rationality at the fore* (Norway, Royal Ministry of Church, Education and Research, 1994:7).

The concern with social integration and equality (derived from the Christian faith) is an important trait of the history of education in the country and continues to be central in curriculum documents of the 2000s (Imsen & Volckmar, 2014).

The report to the Parliament Subjects - Specialization - Understanding. A renewal of the Knowledge Promotion (*"Fag - Fordypning - Forståelse. En fornyelse av Kunnskapsløftet"*) underlines the role of education in promoting Christian and humanistic values:

> *The basic education will provide students and apprentices with historical and cultural insight and anchoring. Training will build on founding values in Christianity and humanistic heritage and tradition, such as respect for human beings and nature, intellectual freedom, compassion, mercy, equality and solidarity, values that are expressed in different religions and beliefs and which are rooted in human rights* (The Royal Ministry of Education, 2016:6)[14].

Regarding the development of creativity, critical and scientific thinking, the Norwegian document mentions the relevance of respecting the cultural heritage and the achievements of the past, but also the need to develop an urge for the new and a desire to continue learning throughout life, which relates to different frameworks for competences (OECD, 2005; Delors, 1996).

[14] Translated by the researcher. Original text: «Grunnopplæringen skal gi elevane og lærlingane historisk og kulturell innsikt og forankring. Opplæringa skal byggje på grunnleggjande verdiar i kristen og humanistisk arv og tradisjon, slik som respekt for menneskeverdet og naturen, på åndsfridom, nestekjærleik, tilgjeving, likeverd og solidaritet, verdiar som òg kjem til uttrykk i ulike religionar og livssyn og som er forankra i menneskerettane».

Regarding the ability to actively participate in the labor market, the Norwegian formal curriculum explains that education should make students familiar with the history of technology, showing that the technological development has improved the quality of life, but has also increased the capacity for destruction and devastation. According to this document, the school must foster good learning and working habits to prepare students to take on tasks of working and social lives, such as the ability to work in teams.

Regarding the understanding of environmental questions, the Norwegian document points out the need to learn about technology and acquire knowledge on natural sciences along with other areas of knowledge, with the following goals: to increase the understanding of the relations between human and nature; to improve the awareness of the positive and negative effects of the technologies developed by humans on the environment; and to promote conscious and ethical behaviors that lead to the sustainable development of the world.

Moreover, this document mentions the special responsibility that industrial nations with a high level of education have in ensuring the common feature of the world, and the need of having brotherhood and solidarity with the world's poor as a driving force in the achievement of sustainable development.

Finally, the document emphasizes the role of education in developing students' sense of pleasure in physical activities and outdoor life. Table 5.1 shows the similarities between the key-competences of the OECD framework (OECD, 2005) and those of the 1994 Norwegian National Curriculum.

Table 5.1 – *Competences in the OECD Framework and the Norwegian National Curriculum* (Elaborated by the researcher)

OECD Framework (2005)	**Norwegian National Curriculum (1994)**
1. Using tools interactively 1.a. Use language, symbols and texts interactively 1.b. Use knowledge and information interactively 1.c. Use technology interactively	practical work and learning through experience (p.13) theoretical development presented in the study of languages, mathematics, social and natural sciences, development of thinking process (p.13) development of scientific thinking being familiar with technology
2. Interacting in heterogeneous groups 2.a. Relate well to others 2.b. Co-operate, work in teams 2.c. Manage and resolve conflicts	understanding of Christian and humanistic values (which include religious aspects too, such as promotion of tolerance, solidarity, charity and hope) (p.7) development of honorable and courteous behavior (p.7) the ability to work in teams development of brotherhood and solidarity with the world's poor (p.36)
3. Acting autonomously 3.a. Act within the big picture 3.b. Form and conduct life plans and personal projects 3.c. Defend and assert rights, interests, limits and needs	development of critical thinking political participation and debate in the democratic state (p.7)
	thinking creatively the ability to produce original and unusual ideas, or to make something new or imaginative (p.13) the ability to control oneself, consider others' and his/her own achievements as important (p.13)
	environmental awareness the ability to understand the positive and negatives effects of technology on the environment (p.36) the capability to promote conscious and ethical behaviors that lead to the sustainable development of the world (p.36)
	physical awareness the ability to enjoy physical activities and outdoor life (p.38)

The competences included in the Norwegian document are multiple and not only related to economic objectives, embracing also the human, social and ethical aspects of education as

described by Payne (2002) in the case of the curricular reforms of the 1990s and Dale et al. (2011) in the case of the curricular reform of 2006.

The National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training (Directorate for Education, 2006:3) mentions the need of developing students' social and cultural competences in order to promote *"an inclusive social community"* and *"a learning community where diversity is acknowledged and respected"*, linking the social and ethical aspects of education with the concern of a school for all, which is present in Norway since the beginning of the public-school system, as showed before.

Regarding the social competence, this document explains that *"the pupils shall develop as independent individuals who consider the consequences and take responsibility for their own actions. The education shall help to develop the sense of social belongingness and mastering of various roles in society, working life and leisure activities"* (Id.).

Regarding the cultural competence, the Curriculum of 2006 states that:

> *The education shall promote cultural understanding and develop self-insight and identity, respect and tolerance. The pupils shall experience art and cultural expressions that express humankind's individuality and togetherness, and which stimulate their creativity and innovative abilities. They shall also have the opportunity to use their creative powers through varied activities and forms of expression. This can lay the basis for reflection, emotions and spontaneity* (Id.).

These ideas are present both in the Curriculum of 1994 and OECD documents (OECD, 2005), as summarized in Table 5.1.

5.3.3 The Role of Teachers in the Adoption of Competences

According to the Norwegian formal curriculum, teachers should perform multiple and complex activities to develop students' competences, for example:

- connecting new knowledge with students' experiences and observations;
- presenting the knowledge in a progressive way to promote an overview and create coherence;
- considering each student individually, adapting the way of teaching to meet differences in ability and pace of development as well as differences related to social background, gender and local origin;

- showing concern for those who have individual or personal order difficulties;
- allowing students to observe the practical consequences of their choices through practical work and training;
- showing the way to skills that are attainable and materials that are manageable;
- being a role model for students by their dedication and enthusiasm;
- promoting group work opportunities and projects so that students can show consideration for each other, divide responsibility for the planning, implementation and evaluation of their own work;
- working with teachers from other subjects and fields of knowledge to complement their work with different professional and social skills, and promote a more integrated vision of the knowledge;
- involving parents, local firms and organizations in the teaching process (Norway, Royal Ministry of Church, Education and Research, 1994:16-38).

Additionally, they should have the following knowledge, skills and character qualities:

- having a good command of their field of expertise;
- participating in activities related to professional development and research;
- having enthusiasm and good communicative abilities;
- having knowledge about normal and deviant development, being familiar with the general and specific problems of each individual student, not only with respect to learning, but also in relation to social and emotional aspects;
- being aware of their own personality and character, and showing up as mature and robust adults whom students can trust and talk openly (Ibid.:18-22).

These expectations related to the teachers and their work are also mentioned in OECD's documents (Schleicher, 2016), as presented in Chapter 3.

Finally, the document indicates as favorable conditions for the development of teachers' knowledge and skills: the provision of personal development opportunities through in-service training and further education, and supply of effective teaching tools such as textbooks and other teaching aids (Norway, Royal Ministry of Church, Education and Research, 1994: 20;23).

5.4 The Perceived Curriculum

5.4.1 Educational Purposes

The Norwegian teachers interviewed in this study believe that education provides students with the tools they need to succeed in life as professionals and citizens. These purposes are in accordance with the Norwegian formal curriculum and the educational agenda promoted by international organizations (OECD, 1994, 2001, 2005; Delors, 1996).

The NT1 mentions the relevance of basic competences, such as the ability to read, write and count, and advanced ones, such as digital competence, cultural and historical understanding, to the full participation of students in society. To this teacher, the historical knowledge helps students to understand the complexity of the world.

The NT2 says that education allows individuals to develop abilities that are important to the good functioning of society: *"…to have people that execute the right job for the right remuneration. For example, now it is important to have people with pedagogic background in kindergartens, that we have enough nurses, that we have people that can take care of the old people, right?"*.

The NT4 believes that education is important to master the participation in society: *"to adapt, to get a simple life, to be able to make informed decisions and think independently"*.

5.4.2 Definition of Competences

The Norwegian teachers have similar understandings about the meaning of the term. In general, they define competence as the ability to perform something.

The NT1 enumerates different types of competences: write and count, digital competence, the ability to look for information and express oneself orally, cooperative skills. The NT2 mentions the ability to read and understand a complex text. The NT3 gives as examples of competences the ability to calculate and explain it further, digital and cooperative skills.

The NT4 says that understanding is a fundamental competence in today's world. To this teacher, students who *"manage to see relationships and use knowledge from other subjects, that you*

know that they understand the relations and unity" will be more successful in life than those who have only a deep but isolated knowledge of the facts.

The NT4 also explains that this understanding may influence students to engage in social questions, for example, expressing their opinion in newspapers and radio programmes, demanding explanations from State departments, etc.

Table 5.2 shows the types of competences mentioned by the Norwegian teachers, which are similar of those of the OECD framework (OECD, 2005).

Table 5.2 – *Norwegian Teachers' Perceptions on Competences* (Elaborated by the researcher)

OECD Framework (2005)	**Norwegian teachers**
1. Using tools interactively	the ability to write and count, digital competence, the ability to look for information and express oneself orally (NT1) reading and understanding a complex text (NT2) the ability to calculate and express oneself orally, digital skills (NT3)
2. Interacting in heterogeneous groups	cooperative skills (NT1, NT3)
3. Acting autonomously	understanding and engagement in social questions (NT4)

5.4.3 The Role of Teachers in the Adoption of Competences

The Norwegian teachers (NT1, NT2, NT3, NT4) adopt a child-oriented approach to learning (Goodlad, 2001; Taylor & Richards, 1985), promoting group work opportunities which develops students' ability to communicate and collaborate (Norway, Royal Ministry of Church, Education and Research, 1994; Schleicher, 2016). They (NT1, NT2, NT3, NT4) also use ICT tools which builds students capacity to recognize and exploit the potential of new technologies (Schleicher, 2016). Additionally, the NT4 promotes practical work and training which allows students to observe the practical consequences of their choices (Norway, Royal Ministry of Church, Education and Research, 1994; Directorate for Education, 2006).

The teachers also mention as teaching methods that promote active student participation in learning: discussion (NT1, NT4), presentation (NT1, NT4), film-making (NT2), artistic performances (NT2), role play (NT4) and survey (NT4).

To the NT1, the benefits of group work are:

> *I think that they feel that they learn a lot of both help and get help. (...) I think when one talks with other something happens in his head, that in a way is more reflective, and maybe one gets a bit like an 'Ah ha!' in the process (...) They discovered that there are more solutions and feel it such as an 'Ah ha! There is another way of thinking!'*

The child-oriented approach to learning increases students' participation in the classroom. The NT1 says that: *"They appreciate what they learn and feel that they will use it later in life"*. However, in some cases, the teachers still have problems to engage students in the learning activities due to some reasons. Firstly, some students experience difficulties in understanding the subject content:

> *They do not understand completely what it is about. Some struggle with reading and writing problems and have a difficult relationship with the subject since the beginning* (NT2).

> *They think it is difficult. (...) They do not like the subject and struggle to engage themselves. (...) If the teacher does not manage to engage them, it is the teacher's fault, and it is not always that there is this correlation, it is not always that is fun to learn, and they must understand it too* (NT3).

Secondly, some of them have individual or personal order difficulties which affect their involvement in the school (NT2, NT3). In this case, the NT3 adapted the way of teaching to meet students' needs as suggested by the formal curriculum:

> *Some students who have challenges, in the form of restlessness, attention problems, little involved, little understanding of how it is in the classroom, how we act. I, as a teacher, had to get them to work, to show how a classroom works, how the day starts with structure and order. After that, the lessons got better. We began to see results. Many students have had a very nice development.*

The interviewed teachers also work and plan in teams with colleagues from the same and other subjects. This may help to complement their work with different professional and social skills, and promote a more integrated vision of the knowledge (Norway, Royal Ministry of Church, Education and Research, 1994). The NT1 and NT2 take part in projects that relate Natural Sciences and Norwegian:

> *A theme in Natural Sciences is nutrition and health, and they must write a text, but they must write it in Nynorsk[15] and I will correct the scientific content and then the Norwegian teacher will correct the language* (NT1).
>
> *It is about collective work to enable students to become better at writing texts and it has been most articles then, articles or subject specific texts, kind of reasoning texts and articles, not literary text ...* (NT2).

The NT4 has worked together with teachers from Social Sciences, Geography, Natural Sciences, Norwegian, Mathematics and Gymnastic: *"... because, as I mentioned, students' competences they can touch one another, and it might make sense in a way to cooperate"*.

Furthermore, the teachers communicate with parents in their teaching work. However, they do not intentionally involve them in the teaching process as suggested by the Norwegian formal curriculum. The NT1 and NT2 say that parents contact them when their children have low grades or need to be absent in exams. The NT3 and NT4 see parents as very participative in school activities, such as the organization of meetings and events; and, also, in questions related to the social and cognitive development of their children.

To the NT3, this participation has a positive effect on the work in the classroom: *"if parents are close to students, it is easy for them to follow, be more engaged in class"; "being at place for students, and wish that students do their best and want the best for them, we regard that it has a positive effect, clearly".* But, sometimes, the parental engagement may be excessive:

> *Sometimes it becomes too much pressure. If they push to five, six[16] all the time, it may be a bit too much for some students* (NT3).
>
> *It may happen that parents help them, but then they learn more. At least this Fall, I think it is nice. They become involved in school work and I think this is good. But in Spring it was too much (...) Because it is only students' competences that are important. Now it is training, they will make lots of mistakes* (NT4).

5.4.4 Schools' Facilities and Resources

Two of the interviewed teachers are not satisfied with their working conditions regarding schools' facilities and resources. The NT1 complains about the open design of the classrooms, with a lot of glass and almost no walls: *"There is often a lot of noise and stuff, students go*

[15] Nynorsk is one of the two written standards of the Norwegian language, the other being Bokmål.
[16] In Norwegian Secondary Education, a six-point marking scale, from 1 to 6, is used, of which the first is failure (Tveit, 2014). Only whole numbers are used for marking in Norway (OECD, 2011).

through the classroom when we have instruction and then a lot of disturbance". The NT2 wants more help from advisers and special pedagogues to deal with students who have psychological and drug problems and *"only make noise and mass and are unable to do anything"*.

Both teachers complain about the disproportionate use of PCs in class:

> *…what is difficult is that when students have access to PC, they can easily use it for other things as well. And then you get a distraction. It is a pleasure and a hell. (…) They write almost exclusively on the PC. It is probably a bit special for Norway, I think, that we spend so much money on ICT* (NT2)[17].
>
> *I wish that students could spend more time learning it by hand, not only PCs, which often is just entering a line and pressing Enter, but to think. I know that it is important that they learn ICT skills, because it is very few who sit and count by hand in a job. Now, with PC, they can accurately calculate in a second, so it makes more efficient (…) but I wish this were a little more old-fashioned... I think the understanding disappears a bit...* (NT1)

The other two teachers are satisfied with their working conditions. The NT3 is happy with the school's facilities and resources: *"They are very good. It is a brand-new school, everything here is top, brand new and modern… (…) We have always what we need".* The NT4 appreciates the flexibility of the job: *"We work in more free situations than teachers in other schools. (…) It gives me a feeling to be a bit like part of a professional group, such as lawyers and stuff, they can decide their everyday life themselves".*

5.4.5 Teaching Environment

Most of the teachers work and plan in teams which may increase the capacity to adopt (and adapt) new proposals in a way that prolong their effectiveness (Taylor & Richards, 1985; Schleicher, 2016). They also have a good relationship with the school leadership, which may affect their motivation and commitment to implement curricular changes proposed by their seniors (English, 2000) (such as those based on the development of competences). The NT1 and NT3 say that they have a good relationship with their senior colleagues, that they are professionally engaged and supportive to them. The NT2 has been part of the leadership in the

[17] In the Oslo area, all the students in Secondary Education must have a laptop. They can use the computer they already have or buy a new one with state subsidy under certain conditions. The State Government also provides access to internet in all schools and a learning platform which is used to publish teaching material and relevant links, assignments, assessments and other communications (*Elev-PC-ordningen*, Akerhus fylkeskommune).

subject. On the other hand, the NT4 explains that the school leadership does not promote collective work, so this teacher works most of the time alone:

> *I think maybe the school does not invest in it (collective work). The school is a little old. It is not like a new school which is now investing very strategically in it (...) The leaders, they reflect the school as it is. You cannot change what is in the school, what is established (…) We have a little more freedom than in other schools. Some schools run from 8am to 4pm and all the teachers must be in the school. But, maybe here, we come when we give classes and go. I sit a lot at home. So, I probably work as much as teachers from other schools, but not at school. We have more freedom…*

The NT4's school is a very traditional organization, which can make the adoption of new curricular proposals and new ways of working more unlikely to happen (Taylor & Richards, 1985).

5.4.6 Evaluation

The Norwegian teachers use mainly written and oral exams, which may involve different approaches, for example, multiple-choice or explanatory questions, individual or group presentation, discussion, conversation, etc. In some cases, students receive practical tasks which they need to perform, for example: conducting chemical experiments and explaining them orally (NT1); ordering and explaining pictures related to scientific phenomena (NT1); dramatization (NT2); film-making (NT2); simulation of a consultancy firm (NT4), etc. The NT3 and NT4 also employ self-evaluation as a type of assessment:

> *Students evaluate themselves and provide input into what they have accomplished. They have a notebook where they write in each lesson. They should write what they have done, targets for lessons, they also write what task they have been given and why was it important. We evaluate it and see what they have written in the process* (NT3).

> *We have self and fellow assessments, and together they work quite well. So, we have an assessment for learning, right? Then we know where they stand and what we need to do. These assessments also help me with my assessment* (NT4).

These evaluation methods comprise all the key-competences of the OECD framework (OECD, 2005). The use of written and oral exams throws light upon students' ability to analyze and deal with language, symbols and texts (key-competence *"Using tools interactively"*). Group evaluation verifies the ability to relate well with others, cooperate, manage and solve conflicts (key-competence *"Interacting in heterogeneous groups"*). Simulation of real-life situations

gives evidence about students' ability to understand and consider the wider context when acting or taking decisions, the ability to form and conduct plans and projects (key-competence *"Acting autonomously"*). Moreover, this kind of evaluation verifies students' ability to adapt tools to own purposes (key-competence *"Using tools interactively"*). Self-assessment gives evidence about students' ability to realize their own identity, set goals, take responsibility to their actions, understand their environment and its functioning (key-competence *"Acting autonomously"*).

Regarding the impact of PISA on their work, they say that this survey does not affect their practice, which contradicts academics' view that PISA is having a negative effect on the teaching work (Dahle & Sjøberg, 2012). According to they, *"When I studied, I learned a lot about PISA and I remember that I used to think about the result, but now that I work as a teacher, I do not think very much on PISA"* (NT1). *"I have never seen a PISA task ever"* (NT2). *"We learn when we are in school. We have courses that tell about it, but other than that, we do not think so much on it"* (NT3). *"I never think on PISA"* (NT4).

There are other factors that influence teachers' decisions on evaluation processes than the concern with international comparisons, such as practical experience (NT1), students' needs (NT3), competences goals of the subject curriculum (NT4). Nevertheless, there are some indications that the PISA's results impact public opinion, mainly politicians and business people, causing governments to change national curriculum policies (Hálasz & Michel, 2011; Sjøberg, 2014), as the case of the Norwegian curriculum reforms of the 2000s (Imsen & Volckmar, 2014). The NT2 mentions the political dimension of PISA:

> *I do not feel that the PISA survey has something to say directly to my work in the classroom. Clearly politicians think that now, in a way, they will find out how we work. (...) Maybe our authorities could learn of successful experiences as Finland, but that is not what they do. They change the curricula, tests and exams instead of giving us better education and salaries. There they should have begun.*

5.5 Summary

This chapter discussed the adoption of competences in the Norwegian formal curriculum and teaching practices. Regarding the formal curriculum, the Norwegian document combines global demands with national demands (Karseth & Sivesind, 2011). Firstly, this document is very aligned with the international discourse on competences, dealing with all the competences of the OECD framework (OECD, 2005). Secondly, it goes beyond this framework, including also

competences which are linked to the country's tradition. For example, the concern with the *"understanding of fundamental Christian and humanistic values"* dates to the first schools in the country by 1739.

The educational purposes are also connected to global questions, such as the need to prepare students to participate in the global economy, the country's goals of being competitive at the global level and exerting influence internationally through the promotion of a welfare and environmental agenda.

Regarding the teachers' role in the adoption of competences, some behaviors may contribute to implement these common ideas in the schools. For example: the teachers adopt a child-oriented approach to learning (Goodlad, 2001; Taylor & Richards, 1985), promoting group work opportunities (NT1, NT2, NT3, NT4) and practical work and training (NT4). These teaching methods may help students to develop competences as *"Interacting in heterogenous groups"* and *"Acting autonomously"* (OECD, 2005). They also use ICT tools in class, building students' ability to *"Use technology interactively"* (Ibid.).

Regarding schools' facilities and resources, the good provision of teaching tools as PCs facilitates the development of ICT skills.

The teaching environment is another factor that contributes to the adoption (and adaptation) of curricular proposals (Taylor & Richards, 1985) that foster students' competences. The Norwegian teaching environment is characterized by a collective work culture which motivates teachers to examine existing practice critically, becoming committed to implement curricular changes (Taylor & Richards, 1985; Schleicher, 2016). Furthermore, the collective work favors a more integrated vision of the knowledge and brings together different professional and social skills to ensure a quality work (Norway, Royal Ministry of Church, Education and Research, 1994).

Regarding evaluation processes, the Norwegian teachers use different types of assessment which cover different types of competences, as written and oral skills, the ability to work in groups, the ability to use technology to achieve specific goals, scientific thinking, etc. Although the Norwegian teachers are familiar with the term competence, they do not see any impact of PISA on their work. However, there are evidences that this survey affects public opinion and national policies, for example, the curriculum reforms of the 2000s (including one of the formal

curricula being examined in this study) are responses to external demands, such as the OECD's annuals reports and the PISA's results (Hálasz & Michel, 2011; Sjøberg, 2014; Imsen & Volckmar, 2014). The next chapter compares and discusses the Brazilian and Norwegian cases regarding the adoption of competences in the national curriculum.

6 Discussion

The promotion of educational agendas by international organizations is a manifestation of globalization in education (Arnove, 2007; Lauder et al., 2006). The OECD was the international organization chosen to investigate the phenomenon of globalization in education. Firstly, this institution has legitimacy or *"scientific authority"* in the world scenario. This means that its advices, analyses and expert reviews are perceived as scientific, objective, neutral and professional unquestionable by national governments all around the world (Dale, 2000). Secondly, this organization uses this legitimacy as an instrument to spread its educational agenda globally (Waldow, 2012; Sjøberg, 2014).

PISA is one of OECD's products. Basically, this international survey aims to test the skills and knowledge of 15-year-old students to see how prepared they are to participate in the global and modern world (OECD, 2005). Brazil and Norway, the study's cases, have taken part in PISA since the beginning, the year 2000. Norway also contributed to the DeSeCo (Definition and Selection of Competences) project to develop a conceptual framework to this survey (OECD, 2001; 2005).

Considering these facts, the goal of this study was to see the impact of OECD's ideas, more precisely, the competences assessed in PISA, on the national curriculum of Brazil and Norway. What are the similarities and differences in the adoption of competences in the national curricula of both countries?

This study showed that Brazil and Norway adopt OECD's ideas in different dimensions of the curriculum. As defended by the World Institutionalists, the countries are immersed in a *"world culture"*, sharing *"world models"* (Meyer, 2007), as the ideas that individuals should be prepared to face the complex challenges of the globalized and modern world, use knowledge and technology effectively, interact in heterogeneous groups, learning to learn throughout life, etc. On the other hand, the way Brazil and Norway adopt the concept of competences varies conforming to their national contexts, leading to hybridizations and new local particularities (Waldow, 2012), as defended by the Culturalists. The similarities and differences in the adoption of competences in the national curricula of both countries will be explored next.

6.1 The Formal Curriculum

This section seeks to answer how Brazil and Norway adopt competences in their national curricula. The dimension of the curriculum chosen to answer this question is the *"formal curriculum"* or the written document which gained *"official approval by a state and local school boards and adoption, by choice or fiat, by an institution and/or teachers"* (Goodlad et al., 1986:49). Moreover, this dimension reveals the society's interests, that is, the beliefs, values and attitudes which society or some dominant group in society wishes the young to acquire (Ibid.).

Although the Brazilian and Norwegian formal curricula do not explicitly mention PISA as a factor contributing to the adoption of competences, the literature review showed that Brazil and Norway designed new curricular policies focused on the development of competences as responses to globalization and/or the participation in international assessments (mainly PISA) (da Silva, 2010; Gentile & Bencini, 2000; Imsen & Volckmar, 2004; Therrien & Loyola, 2001).

Both countries adopt competences as *"world models"*, but in different ways. The Brazilian formal curriculum does not use the term competence to describe educational purposes, but ideas that relate to it. These ideas correspond to the key-competences in the OECD framework (OECD, 2005). As can be seen in Chapter 4 (Table 4.1), the suggestion that education should *"value reading in all fields of knowledge, develop students' literacy ability"* is like the competence *"use language, symbols and texts interactively"* (key-competence 1). The role of education in *"encouraging ethical behavior and solidarity, recognizing, respecting and accepting each other's identity"* coincides with the competence *"relate well to others"* (key-competence 2). Another example is the proposition that education should *"encourage close reading of the local, regional and global reality, through which students can see horizons, trends and possibilities of development"*, which is like the competence *"form and conduct life plans and personal projects"* (key-competence 3). This document also mentions other competences not included in the OECD framework as curiosity, ecological understanding and the ability to understand the meaning of literature, arts, sports and leisure.

The Norwegian formal curriculum adopts the term competence to discuss educational purposes. It also includes and goes beyond the competences of the OECD framework, describing others such as understanding of Christian and humanistic values, creativity, the ability to appreciate and take part in artistic expressions, environmental and physical awareness. Some of these

competences are common to those in the Brazilian document. Others, as the case of the understanding of Christian and humanistic values, are part of the Norwegian history and heritage, dating to the first schools in the country, in the 18th century.

Additionally, there are other common ideas that follow the adoption of competences in the national curriculum of both countries. The idea that teachers have a significant role in the development of students' competences, and that they should have the following competences:

- The ability to initiate and manage learning processes, using different methods and tools to respond to the learning needs of individual students;
- The ability to teach in multicultural classrooms and emphasize cross-curricular studies;
- The ability to work and plan in teams;
- The ability to build partnerships for learning.

These ideas are included not only in the national curricula of both countries, but also in OECD's documents (Schleicher, 2016).

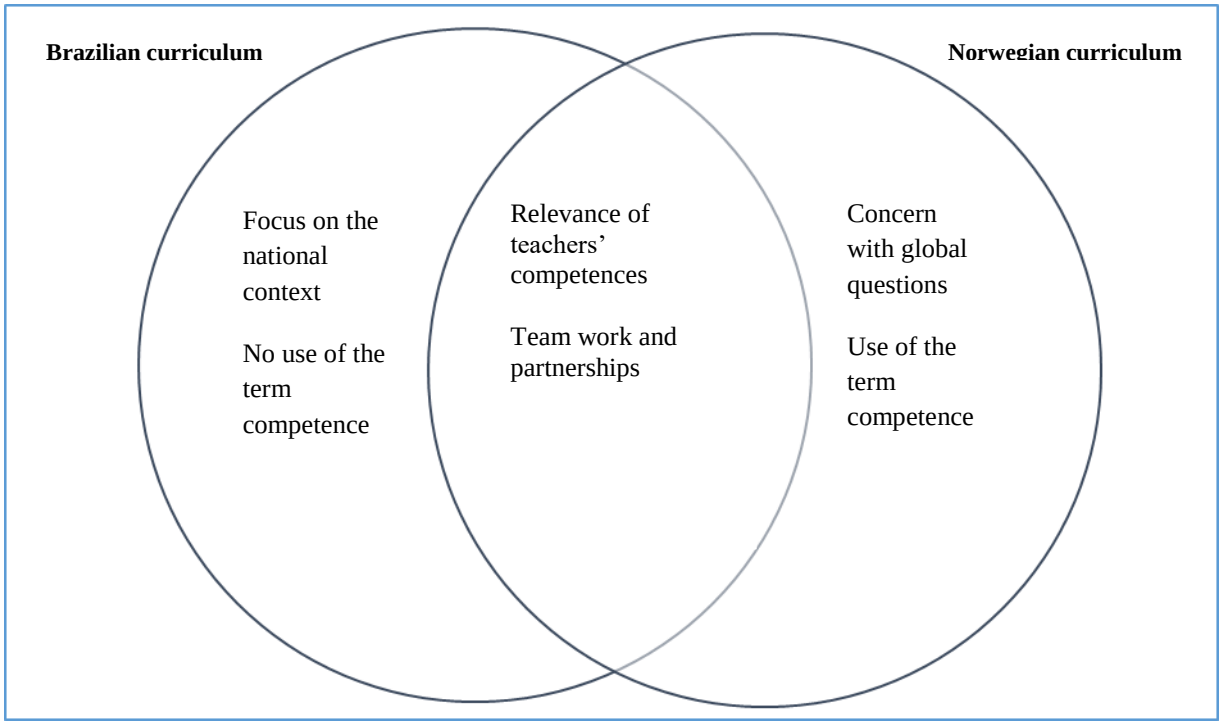

Figure 6.1 – *Comparison between the Brazilian and the Norwegian Formal Curriculum* (Elaborated by the researcher)

Regarding the differences in the formal curriculum of both countries, the educational purposes in the Brazilian document are focused on national questions, as the access and permanence of children and young people in the educational system and inclusion of different social groups.

These educational purposes are linked to the educational situation of the country. As presented in Chapter 4, 15.0% of the young people aged 15 to 17 years-old did not study, totaling about 1.6 million young people out of school in Brazil in 2015. Additionally, the illiteracy rate among people aged 15 years and over was 8% (about 10 million people) in 2015 (IBGE, 2016). The most affected groups are those historically excluded from the educational process, as the indigenous and African-descendants, those from rural areas, the poor and slum residents (IBGE, 2016; UNESCO/Brazil, 2008).

The educational purposes in the Norwegian document are related to global question, such as the goals of preparing students to take part in the global economy, remaining a creative member of the global community and exerting influence through global networks to promote the common welfare and the protection of the environment (Norway, Royal Ministry of Church, Education and Research, 1994). The idea of preparing students to the globalized world is a *"world model"* shared by national governments across the world, including Norway. National governments aim to educate students with common *"key-competences"* so that they can easily navigate through the capitalist system, moving from one country to another, following the needs of the labor market (Halász & Michel, 2011; Hozjan, 2009). They are also concerned with educating people that can grow the economy and make the country competitive globally (Dale, 2007; Dahle & Sjøberg, 2012; Halász & Michel, 2011; Hozjan, 2009; Sjøberg, 2014).

6.2 The Perceived Curriculum

This section seeks to answer how competences are implemented in schools of both countries. The dimension of the curriculum chosen to answer this question is the *"perceived curriculum"* or the teachers' perceptions about curricular issues (Goodlad et al., 1986). To examine teachers' perceptions is crucial because teachers are primary participants in the educational process. They generally work alone and independently in the classrooms, having the best position to adopt and adjust the curriculum in practice (Goodlad et al., 1986; English, 2010; Schleicher, 2016).

Both the Brazilian and Norwegian teachers have educational purposes in accordance with the educational agenda promoted by international organizations like OECD. To them, education should provide students with the tools they need to succeed in life as professionals and citizens. These tools range from basic competences, as the ability to read, write and count, to more

complex ones, as cultural and historical understanding, artistic skills, the ability to think and act autonomously, etc.

The Brazilian teachers do not use the term competence to discuss educational purposes or learning activities, unless when asked by the researcher. On the other hand, the Norwegian teachers seem familiar with the concept of competence. They also use the term several times during the interviews.

Both the Brazilian and Norwegian teachers define competence as the ability to carry out something (this information is presented in Figure 6.2). The Brazilian teachers focus their explanations on the competence *"Using tools interactively"* (OECD, 2005) (Chapter 4), while the Norwegian teachers talk about all the competences of the OECD framework.

As showed in Chapter 5 (Table 5.2), the NT1 mentions as competences *"the ability to write and count, digital competence, the ability to look for information and express oneself orally"*, which corresponds to the key-competence *"Using tools interactively"*. The NT1 and NT3 point out the relevance of *"cooperative skills"* in the students' education, which are equivalent to the key-competence *"Interacting in heterogeneous groups"*. The NT4 explains the importance of competences like *"understanding and engagement in social questions"* in today's world. These competences coincide with the key-competence *"Acting autonomously"*.

Both the Brazilian and Norwegian teachers mention different teaching methods and resources to develop students' competences (this fact is presented in Figure 6.2 as *"Multiple teaching methods and resources"*). Some of these methods and resources relate to a child-centered approach to learning, where the child is at the core of the learning process, being an active participant in the classroom (Taylor & Richards, 1985; Schleicher, 2016), as explained in Chapter 3.

Schleicher (2016) draws attention to the fact that nowadays teachers should actively engage students in learning activities to develop competences as creativity, critical thinking, the ability to communicate and collaborate, the ability to use new technologies, etc.

The Norwegian teachers mention that they employ ICT tools and different teaching methods, for example, group work (NT1, NT2, NT3, NT4), discussion (NT1, NT4), presentation (NT1, NT4), film-making (NT2), artistic performances (NT2), field work (NT4), role play (NT4) and survey (NT4). The Brazilian teachers also use ICT tools for teaching, for example, music (BT1),

films (BT1, BT4), short videos (BT2, BT3), internet (BT2, BT3). They also mention group work as a teaching method to engage students in learning activities (BT1, BT3, BT4).

On the other hand, the Norwegian teachers seem to be more like *"interpretation teachers"* (Taylor & Richards, 1985) than their Brazilian counterparts. The latter give more attention to resources than to interactive teaching methods in their explanations, which may reflect a subject-oriented approach to learning. This approach is likely to cause problems such as lack of interest and behavioral problems in the classroom, as discussed in Chapter 4. It would be fruitful, in future research, to study the *"operational curriculum"* or the daily classroom activities (Goodlad et al., 1986) to verify this finding.

Both the Brazilian and Norwegian teachers use different types of evaluation to test students' competences, for example, written and oral exams with multiple-choice or explanatory questions, which can be solved in an individual or collective way. They also use student self-assessment as an evaluation method (BT1, NT3, NT4). Additionally, the Norwegian teachers mention that they encourage students to use ICT tools and scientific equipment to answer the exams' questions (NT1, NT2). This information is displayed in Figure 6.2 as *"Multiple types of evaluation"*.

These evaluation methods can be linked to the key-competences of the OECD framework (OECD, 2005). For example, the use of written and oral exams can provide evidence about the ability to analyze and deal with language, symbols and texts (key-competence *"Using tools interactively"*). Group evaluation may be applied to verify the ability to relate well with others, cooperate, manage and solve conflicts (key-competence *"Interacting in heterogeneous groups"*). The use of ICT tools and scientific equipment may help to assess the ability to adapt tools to own purposes (key-competence *"Using tools interactively"*). Student self-assessment may throw light upon the ability to realize their own identity, set goals, take responsibility to their actions, understand their environment and its functioning (key-competence *"Acting autonomously"*).

Although the teachers evaluate competences that can be related to the OECD framework, most of them do not see any impact of PISA on their practice. If, on the one hand, the Brazilian teachers (BT2, BT3, BT4) base their evaluation processes on the competences assessed in national large-scale programmes (which may have some influence of PISA on their design). On

the other hand, the Norwegian teachers plan their assessments based on their experience (NT1), students' needs (NT3) and the competences described in the subject curriculum (NT4).

In the Norwegian case, there are indications that the curriculum reforms of the 2000s (which include one of the curricula being analyzed in this study) were affected by the PISA's results and OECD's reports (Imsen & Volckmar, 2014; Sjøberg, 2014). Therefore, the experts' view that PISA is affecting curriculum practice (Dahle & Sjøberg, 2012; Ravela, 2011) does not appear so clearly in the study's cases. This finding may be crosschecked in future studies dealing with observations of the daily activities of a classroom.

The figure 6.2 below shows the similarities and differences between the teachers' perceptions on curricular issues in Brazil and Norway.

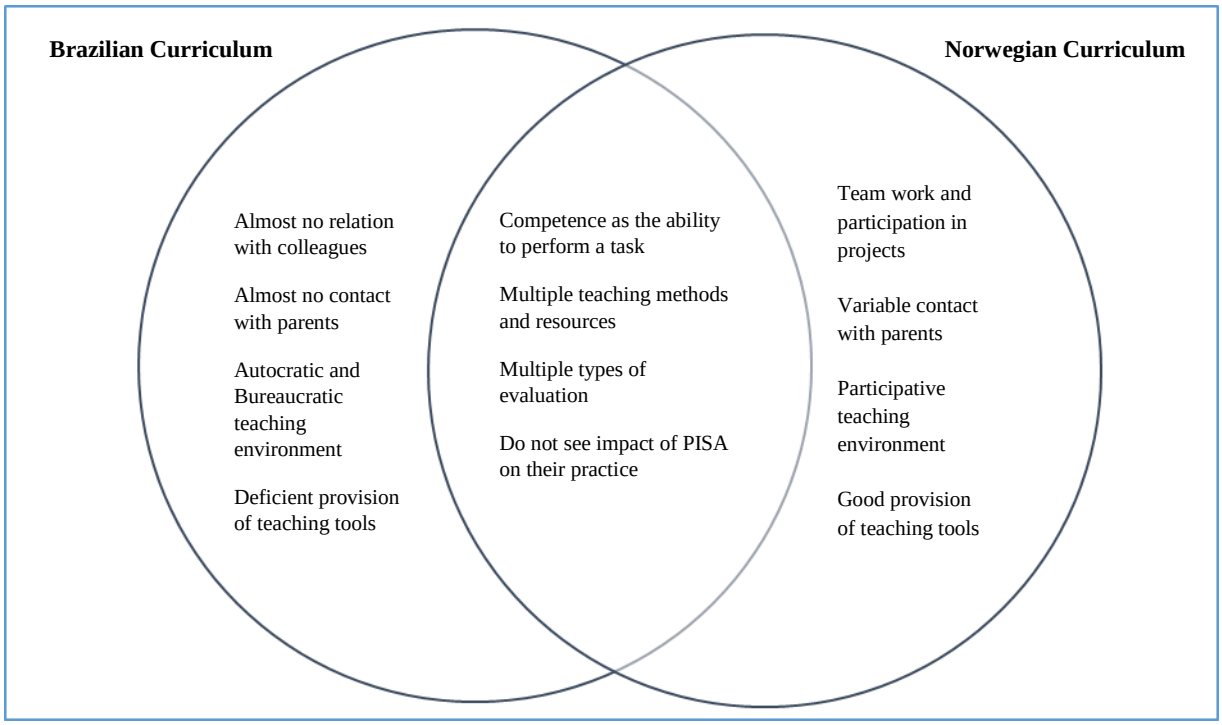

Figure 6.2 – *Comparison between the Brazilian and the Norwegian Perceived Curriculum* (Elaborated by the researcher)

There are some factors that may help teachers to develop a teaching work related to the promotion of students' competences. One factor is team work and the organization of partnerships. Team work has some positive effects on learning. It brings different social and professional skills to the learning process, provides an integrated vision of the knowledge and

relates the knowledge with real-life situations (Brazilian Ministry of Education, 2010; Norway, Royal Ministry of Church, Education and Research, 1994; Schleicher, 2016).

Regarding team work and the organization of partnerships, the Brazilian teachers work mostly alone. Firstly, the teaching environment does not encourage a collective work culture. According to them:

> *We do not have collective planning. We do not meet teachers from other subjects at school. I think that in order to have a collective work, we should all to be at school on the same day, but this is not an institutionalized practice* (BT1).
>
> *We do not have time or space to talk. The collective meeting in the school ends up being just a moment of messages* (BT2).
>
> *In our meetings, no one ever discusses methods, authors, ideas. We only discuss bureaucracy. (...) We are talking all the time in numbers, in paper, how to fill a form, and all these things* (BT4).

Secondly, they see their colleagues as unmotivated and not willing to cooperate. In the words of BT1: *"Lack of motivation, lack of political commitment, lack of opposition to these large-scale tests and the precariousness of work"*. They also explain that the participation of parents is limited to meetings requested by the school leadership when the students show problems of school performance and/or behavior. For example:

> *They only come to me when the students have low grades, when they are going to fail, if they come to talk with me, right? Because sometimes they do not even show up* (BT1).
>
> *The participation is very difficult. We call the parents. We officially ask them to come to a meeting. They do not show up* (BT2).
>
> *The parents have no interest* (BT3).
>
> *Parents who participate are those who the school administration summons, of students who are giving problem. But they do not participate in the political pedagogical project of the school* (BT4).

On the other hand, most of the Norwegian teachers work and plan in teams with colleagues from the same and different subjects. The NT1, NT2 and NT3 explain team work within the same subject:

> *Every Monday all the teachers meet, then we discuss the assignment. I think this is very important because if someone has experienced that they have done a very good teaching, they can tell the others so one can use the same assignment later* (NT1).

> *I have been used to cooperate a lot* (NT2).
>
> *We work a lot together at school. We work very closely (...) Every week we gather all the teachers to talk what we are going to do this week, we do* (NT3).

The NT1 and NT2 also talk about interdisciplinary work: *"In Sciences, we have an interdisciplinary project"* (NT1). *"We have systematically worked with teachers from different subjects"* (NT2). Additionally, they perceive their senior colleagues as committed to the work and supportive to them.

> *I think that is very good, nice leadership, they are very supportive. I feel that they have confidence in me, that they think I do a good job, and I think this is important for me. They trust me, my work* (NT1).
>
> *I always have a good relationship with all leadership. I have been part of the leadership. (...) I have a good relationship with them and I see that leadership is very important for getting a school to be lively, innovative and exciting to work on* (NT2).
>
> *They are very good, very committed (...) my immediate supervisor, I can always go there regardless of whether there is any challenge or... she is available. My immediate supervisor has Mathematics as a major subject, so we talk about Mathematics, different ways to teach. I think this is very good. She has always open door. It is always possible to chat, so it is very good* (NT3).

However, the parental participation is variable. According to the NT1:

> *Last year I was contact teacher and then I had a lot with parents to do, so it was a good relationship, never bad relationship, just fine. But this year, I am not a contact teacher and then I have minimal with parents to do. It is more if students have poor progress or negative progress, when they are struggling a lot in a subject, doing badly on the test, they can send me an email or talk to the contact teacher. Or that parents send me an email that the students are sick and cannot come to the test ...*

The NT3 and NT4 perceive parents as engaged in the school activities: *"Many are engaged, parents who care about student development both socially and academically"* (NT3). *"They help in parent meetings, and staff meetings, and conversations"* (NT4). All this information regarding team work and parental participation is briefly presented in Figure 6.2.

Another factor affecting the work regarding the promotion of students' competences is the teaching environment. In Brazil, the teaching environment may be considered *"autocratic and bureaucratic"*, in line with the categorization developed by Taylor & Richards (1985). As

showed in Chapter 4, the school principals are perceived as authoritarian and pedagogically outdated, likely to suppress creative responses to problems. According to the teachers:

> *Our school leader is very strict, she is very authoritarian (...) she is very bossy* (BT2).
>
> *It is an authoritarian leadership, because she always puts herself in a position of discourse, so those who speak are only there to speak, they are not there to listen, they do not put themselves in a situation of dialogue, right? (...) And in extreme situations, she resorts to screaming, situations of harassment even* (BT4).

On the contrary, the teaching environment in Norway is perceived as *"participative"* by most of the teachers. Most of the Norwegian teachers see their senior colleagues as professionally engaged and ready to give help and encouragement to them as showed before. The participative teaching environment is likely to motivate them to implement curricular changes and improve practice (Schleicher, 2016), as explained in Chapter 3.

The schools' facilities and resources is another factor that may contribute to the teaching work related to the development of students' competences, such as ICT skills. In the Brazilian case, some teachers complain about the lack of basic teaching tools, such as pen to write on the white board and textbooks, and, also, PC, printer and audio-equipment (BT1, BT3).

The BT1 and BT2 say that the intensive workload makes the participation in in-service training and further education programmes difficult. According to Schleicher (2016), the participation in these professional development activities may increase teachers' motivation and sense of self-efficacy and, consequently, contribute to the adoption of curricular changes.

On the other hand, the Norwegian teachers have adequate provision of teaching tools. Some of them complain about the inappropriate use of PCs by the students. They get easily distracted navigating through the internet (NT2) and fail to understand the thinking process behind the resolution of problems (NT1). The NT2 also wants more help from specialized people to deal with students who face personal order difficulties (Chapter 5). These facts are presented in Figure 6.2 as *"Good provision of teaching tools"* (Norwegian perceived curriculum) and *"Deficient provision of teaching tools"* (Brazilian perceived curriculum).

6.3 Summary

The concept of competences and the ideas related to this concept are *"world models"* shared both by the Brazilian and Norwegian cases. Brazil does not explicitly use the term competences, but ideas that refer to it. This applies to both the formal and the perceived curriculum. One hypothesis is that the Brazilian government is focused on the national context, trying to deal with internal issues as the improvement of the quality of education with access and permanence of children and young people in the educational system. The number of children out of school in the country is still large (as shown in Chapter 4), especially among groups historically excluded from the educational process, such as the poor, slum residents, indigenous and African-descendants people (IBGE, 2016; UNESCO/Brazil, 2008).

On the other hand, the Norwegian formal and perceived curriculum use the term competence and others with equivalent meanings, showing familiarity with this concept and ideas related to it. This probably is due to the connectivity of the country with global questions, manifested, for example, in the educational purposes addressed in the Norwegian formal curriculum (Chapter 5). The educational purposes in the Norwegian document are: preparing students to take part in the global economy, remaining a creative member of the global community and exerting influence through networks to join in developing the common welfare in the world and protecting the environment of the earth (Norway, Royal Ministry of Church, Education and Research, 1994). Norway even helped OECD in the process of definition and selection of competences with the aim of building a framework to serve as a theoretical foundation for PISA (OECD, 2001; Knain, 2001).

Another *"world model"* shared by both countries is the relevance that they attribute to the teachers in the adoption of competences (Figure 6.1). Both the Brazilian and Norwegian formal curricula discuss the need of specific competences, as the ability to work in teams and the ability to build partnerships for learning. However, the study's cases differ in the perceived dimension of the curriculum regarding this topic. The Brazilian teachers say that they work mostly alone, that they do not have parental collaboration, and that the school principals are authoritarian and outdated. On the other hand, the Norwegian teachers work in teams. Some of them perceive parents as very engaged in school activities and interested in their children's development. They also have a good relationship with their leaders (Figure 6.2). As explained in Chapter 3, team work and a positive feeling in relation to the teaching environment may increase teachers'

motivation and commitment to critically assess their work and improve practice (Schleicher, 2016), adopting and adapting teaching methods and resources that facilitate learning and the development of students' competences.

The ability to use different teaching methods and resources to respond to the learning needs of individual students is another *"common idea"* shared by both the Brazilian and Norwegian formal and perceived curriculum. Nevertheless, the Norwegian teachers have better provision of teaching resources, as ICT tools, than their Brazilian counterparts. They also mention more interactive teaching methods than the Brazilian teachers. These methods are related to active student participation in learning which facilitates the development of competences as the ability to be creative, think critically, solve problems, work together, communicate and collaborate, use technology (Schleicher, 2016).

The influence of the concept of competences can also be seen in the types of evaluation mentioned by both the Brazilian and Norwegian teachers. The different types of evaluation can be linked to the different types of competences of the OECD framework (OECD, 2005). On the other hand, the impact of PISA on curriculum practice does not appear so clearly in the perceived dimension of the curriculum. Both the Brazilian and Norwegian teachers say that this international survey does not affect their practice, even though this influence can be perceived in their discourses because of the use of the concept of competences and ideas related to it.

As discussed in Chapter 2, the limited number of the interviewed teachers makes the generalization of the findings difficult, representing only constructed subjective meanings about this topic. In future research, it would be interesting to crosscheck these findings using other dimensions of the curriculum, such as the *"operational"* and *"experiential"* (Goodlad et al., 1986). For example, examining the daily activities of a classroom regarding the development of students' competences and/or how the students perceive the work with competences and the relevance of this curricular category to their lives. The next chapter refers to the concluding remarks.

7 Conclusion

This study examined the national curriculum of Brazil and Norway with regards to the incorporation of a set of competences selected and defined by OECD and tested in PISA (OECD, 2001; 2005). The OECD is an influential international organization, and PISA is an example of this influence at the global level.

As showed in Chapter 3, the term competences in Basic and General Academic Education appeared in the 1990s in reports developed by OECD and UNESCO (Delors, 1996; Halász & Michel, 2011; OECD, 1994). In the 2000s, this idea was still powerful in countries members of the European Union, United Nations and OECD because of the *"key-competences"* needed for the individuals to take part in the modern and globalized world (Halász & Michel, 2011; Hozjan, 2009; Voogt & Roblin, 2012).

The literature review showed that the OECD's reports and the PISA's results influenced many countries in the 2000s to implement curricular reforms to promote students' competences (Kennedy, 2007; Mangez, 2010; Yates & Collins, 2010; Ravela, 2011). The literature review related to the study's cases also showed that Brazil and Norway implemented curricular reforms in the same period adopting the idea of competences because of globalization and international assessments like PISA (da Silva, 2010; Gentile & Bencini, 2000; Imsen & Volckmar, 2004; Therrien & Loyola, 2001).

7.1 Purpose of the Study

The purpose of this study was to show the ideas related to the content and design of the PISA tests in today's world, not to examine the PISA survey or to compare the PISA's results. In other words, the purpose was to explain how educational agendas promoted by international organizations like OECD affect curriculum policies and practices in countries with different cultural and economic backgrounds as Brazil and Norway. The educational agenda chosen was the OECD framework for competences, which serves as a theoretical foundation for PISA (OECD, 2001; 2005). The secondary purposes were to relate the adoption of competences in the national curriculum to national contexts, and to access information about the implementation of competences in schools.

7.2 Analytical Framework

This study took into consideration that the promotion of educational agendas by international organizations is a phenomenon of globalization. Accordingly, two main theories regarding the relation between globalization and education were combined: The World Institutionalist and Culturalist theories, which were explained in Chapter 1. The purpose was to present the similarities and differences in relation to the adoption of competences in the Brazilian and Norwegian national curriculum, interpreting the common ideas as *"world models"* and relating the differences to local particularities.

This study used the OECD framework (OECD, 2005) to identify the types of competences in the national curriculum of these two countries. As described in the introductory chapter, the competence framework comprises three main categories that form the basis for others, which are *"Using tools interactively"* (key-competence 1), *"Interacting in heterogeneous groups"* (Key-competence 2) and *"Acting autonomously"* (key-competence 3).

Furthermore, this study focused on two dimensions of the curriculum (Goodlad et al.,1986). The first dimension was the *"formal curriculum"* or the official written document approved by the state; and the second, the *"perceived curriculum"* or teachers' perceptions about curricular issues. In addition, the components of the curriculum created by Tyler (1949) were used to approach these two dimensions. The components are educational purposes, learning experiences, organization of learning experiences and evaluation.

7.3 Methodology

This qualitative multiple-case study (Bryman, 2012; Merriam, 2009; Yin, 2003) employed document analysis and semi-structured interview as research tools. The document analysis enabled to examine the adoption of competences in the official written curriculum. It also enabled to relate the curriculum content to national conditions. Moreover, the semi-structured interview with teachers contributed to capture teachers' perceptions about curriculum practice and the implementation of competences in schools.

7.4 Research Findings

This study showed that the concept of competence is incorporated in both the formal and the perceived curriculum in Brazil and Norway, which points to a wide dissemination of this *"world model"* (Meyer, 2007). However, this concept is adopted in different ways, depending on factors such as the national context and history, as explained by the Culturalists.

This study also showed that both the Brazilian and Norwegian formal and perceived curricula are connected to global questions, although in varying degrees. For example, the Brazilian formal curriculum adopts ideas related to the OECD framework. On the other hand, the focus is on internal issues, as problems of school access and completion due to social, economic and cultural inequalities in the country. The Brazilian teachers also incorporate the idea of competences on their learning activities and evaluation processes, even though their working and pedagogical conditions are likely to hinder the development of a work with competences, as discussed in Chapters 4 and 6.

The Norwegian formal curriculum adopts the term competences to discuss educational purposes. Moreover, the Norwegian document gives attention to the global context and the ambition of Norway to set their welfare model and environmental agenda globally. The Norwegian teachers seem familiar with the concept of competence and ideas related to it. Additionally, their working and pedagogical conditions are likely to help them developing students' competences, as presented in Chapters 5 and 6.

This study also revealed that although the teachers use the OECD competence framework in their evaluation processes, they do not see any influence of PISA on their work. Most of the Brazilian teachers base the evaluation processes on the competences assessed in national large-scale tests (which may have some influence of PISA on their design). The Norwegian teachers plan their assessments based on their experience, students' needs and the competences described in the subject curriculum. Therefore, the view that PISA is affecting curriculum practice (Dahle & Sjøberg, 2012; Ravela, 2011) does not appear so clearly in the teachers' interviews, probably because of the subjectivity involved in this type of research tool.

7.5 Scope and Limitations of the Study

The scope of this study was the OECD framework (OECD, 2005) tested in the PISA survey. Teachers from public schools who work with 15 years-old students were selected as research participants. This selection was because PISA assess the knowledge and skills of a randomly selected amount of 15 years-old students all around the world. Brazil and Norway were chosen as research sites because they represent countries with different cultural and economic conditions, serving the study's purpose.

Nevertheless, this study would have benefited greatly from other research tools and sources of information, for example: observations, interviews with policy-makers and students, as discussed in Chapter 1.

Other limiting factors were the number of teachers interviewed in this study (eight in total, four in each country), and the fact that the researcher could not find a Mathematics teacher to interview in Brazil (Mathematics is one of the subjects assessed in the PISA's tests). The number of teachers certainly makes the generalization of the findings difficult.

7.6 Quality Assurance Strategies

This study adopted some strategies to assure its quality. The first one was the use of *"triangulation"* to confirm findings (Bryman, 2012; Merriam, 2009; Yin, 2003). This strategy entails the use of multiple sources of evidence, such as different documents, teachers, subjects, schools and countries. The second was the provision of a *"thick description"* of the findings with the adequate evidence presented in the form of quotes from participant interviews and documents. This strategy allows other researchers to judge about the possible transferability of the findings to other contexts (Merriam, 2009; Bryman, 2012). The third was the *"development of a database"* with complete records of all phases of the research process. This strategy is important to show that other researchers may be able to produce the same results if the same procedures are followed (Yin, 2003; Merriam, 2009; Bryman, 2012).

7.7 Significance of the Study

This study built knowledge in the realm of Comparative and International Education, combining theories that address the relation between globalization and education. It also applied

these theories to analyze the current national curriculum of Brazil and Norway. Additionally, the analysis of different dimensions and elements of the curriculum contributed to the field of Curriculum Inquiry, showing how curriculum theories can be applied to study real-cases. Pragmatically, this study presented the teaching conditions that are favorable to develop students' competences, also revealing what can be improved in both study's cases.

7.8 Concluding Remarks

Therefore, one may argue that some ideas, values and standards as the OECD framework (OECD, 2005) are *"world models"* adopted by countries with different cultural and economic backgrounds. On the other hand, these *"world models"* are adapted to the national contexts. It would be interesting, in further studies, to study the operationalization of these ideas in the reality of the classroom, and, also, the students' perceptions about the use of competences in the lessons and the relevance of this concept to their lives.

References

Akerhus fylkeskommune. *Elev-PC-ordningen* (Pupil-PC scheme). Available online at: http://www.akershus.no/Ansvarsomrader/Opplering/Videregaende-skole/IKT-og-elev-PC/Elev-PC-ordningen/?page=0, accessed 12 October 2016.

Arnove, R. F. (2007). Introduction: Reframing Comparative Education: The Dialectic of the Global and the Local. In: Arnove, R. F., C. A. Torres & S. Franz (Eds.), *Comparative Education.* The Dialectic of the Global and the Local. Lanham: Rowman & Littlefield Publishers, 1-20

Arnove, R. F., S. Franz & C. A. Torres (2007). Education in Latin America: Dependency, Underdevelopment, and Inequality. In: Arnove, R. F., C. A. Torres & S. Franz (Eds.), *Comparative Education.* The Dialectic of the Global and the Local. Lanham: Rowman & Littlefield Publishers, 277-294

Brazil, Ministry of Education. *Lei de Diretrizes e Bases da Educação Brasileira 9394/1996* (Law of Guidelines and Bases of the Brazilian Education). Available online at: https://www.planalto.gov.br/ccivil_03/Leis/L9394.htm, accessed 25 January 2016.

Brazil, Ministry of Education. *Diretrizes Curriculares Nacionais da Educação Básica 2010* (National Curriculum Guidelines for the Basic Education). Available online at: http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=15548-d-c-n-educacao-basica-nova-pdf&category_slug=abril-2014-pdf&Itemid=30192, accessed 17 May 2017.

Bryman, A. (2012). *Social Research methods.* (4th ed.) Oxford: Oxford University Press.

Costa, T. A. (2005). A nocão de competência enquanto princípio de organizacão escolar (The notion of competence as principle for curricular organization). *Revista Brasileira de Educacão*, 29, 52-62

Dahle, D.Y. & Sjøberg, S. (2014). *Som professor i naturfagdidaktikk og ekspert på læring, mener Svein Sjøberg at norsk skole i altfor sterk grad lar seg styre av Pisa-undersøkelsen* (As a professor of science studies and an expert in learning, Svein Sjøberg believes that Norwegian school is largely ruled by the Pisa survey). Profilen, *Teknisk Ukeblad* 3712, 40-42

Dale, E.L.; Engelsen, B.U. & Karseth, B. (2011). *Kunnskapsløftets intensjoner, forutsetninger og operasjonaliseringer:* en analyse av en læreplanreform (Knowledge promotion's intentions, assumptions and operationalizing: an analysis of a curriculum reform.). Sluttrapport. Universitet i Oslo, Pedagogisk forskningsinstitutt, Forskningsprojektet ARK med støtte fra Utdanningsdirektoratet.

Dale, R. (2000). Globalization and Education: Demonstrating a "Common World Educational Culture" or locating a "Globally Structured Educational Agenda"? *Educational Theory*, 50 (4), 427-448

_____ (2007). Specifying Globalization Effects on National Policy. In: Lingard, Bob and J. Ozga, *The Routledge Falmer Reader in Education Policy and Practice*. London: Routledge, 48-64

Da Silva, M.R. (2010). Currículo e competências: a reforma do Ensino Médio e as apropriacões pelas escolas (Curriculum and competences: the reform of the Secondary Education and the appropriation by the schools). *Educacão Unisinos*, 14(1), 17-26

Delors J. (1996). *Learning: The Treasure Within*. Report to UNESCO of the International Commission on Education for the Twenty-first Century - Highlights. Paris: UNESCO.

Engelien et al. (2009). *TPACK Analysis of Communities of Practice:* The Context of the Norwegian Knowledge Promotion Curriculum Reform (7p).

English, F.W. (2000). *Deciding What to Teach and Test:* Developing, Aligning, and Auditing the Curriculum. Thousand Oaks, California: Corwin Press, Inc.

Gentile, P. & Bencini, R. (2000). Para aprender (e desenvolver) competências (To learn and develop competences). *Revista Nova Escola*, São Paulo, Sept., 12-17

Goodlad, J. I. et al. (1986). The Domains of Curriculum and Their Study. In: Gundem, B.B. *Om Læreplanpraksis og Læreplanteori.* Kompendium 3. Det pedagogiske studiet, Pedagogisk Forskningsinstitutt, Universitetet i Oslo.

Goodlad, J. I. (2001). Curriculum as a field of educational study. *International Encyclopedia of Social & Behavioral Sciences*, Elsevier Ltd., 3187-3191

Halász, G. & Michel, A. (2011). Key competencies in Europe: interpretation, policy formulation and implementation. *European Journal of Education*, Vol. 46, No. 3, Blackwell Publishing Ltd., 289-306

Hozjan, D. (2009). Key competences for the development of lifelong learning in the European Union. *European Journal of Vocational Training*, Vol. 1, no. 46, 196-207

IBGE (2016). *Síntese de indicadores sociais:* uma análise das condições de vida da população brasileira (Synthesis of social indicators: an analysis of the living conditions of the Brazilian population), Rio de Janeiro. Available online at: http://biblioteca.ibge.gov.br/visualizacao/livros/liv98965.pdf, accessed 21 Mars 2017.

Imsen, G. & Volckman, N. (2014). The Norwegian School for All: Historical Emergence and Neoliberal Confrontation. In: V. Blossing, G. Imsen & L. Moos (Eds.), *The Nordic Education Model:* 'A School for All' Encounters Neo-Liberal Policy. Dordrecht: Springer, 35-55

Knain, E. (2001). *Summary report for Norway on the DeSeCo Country Contribution Process.* Prepared as part of the Country Contribution Process (CCP) conducted by the DeSeCo Project. Available online at: http://deseco.ch/bfs/deseco/en/index/05.parsys.6214.downloadList.54568.DownloadFile.tmp/sfsodesecoccpnorway19122001.pdf , accessed 18 November 2016.

Karseth, B. & Sivesind, K. (2011). Conceptualizing Curriculum Knowledge Within and Beyond the National Context. In L. Yates, M. Grumet (Eds.), *Curriculum in Today's World:* Configuring Knowledge, Identities, Work and Politics. London & New York: Routledge, 58-76

Kennedy, K. (2007). Curriculum Reforms and Instructional Improvement in Asia. *International Handbook of School Effectiveness and Improvement*, 807-822

Lauder, J. et al (2006). *Education, Globalization and Social Change*. Oxford University Press. 1-63

Macedo, E. (2011). Curriculum Policies in Brazil: The Citizenship Discourse. In: L. Yates, M. Grumet (Eds.), *Curriculum in Today's World:* Configuring Knowledge, Identities, Work and Politics. London & New York: Routledge, 44-57

Mangez, E. (2010). Global Knowledge-based Policy in Fragmented Societies: the case of curriculum reform in French-speaking Belgium. *European Journal of Education*, 45 (1), Part I, 60-73

Marçal Ribeiro, P.R. (1993). História da Educação Escolar no Brasil: notas para uma reflexão (History of School Education in Brazil: notes for reflection). *Paidéia*, FFCLRP-USP, Rib. Preto, 4, 15-30

Mceneaney, E. H. & Meyer, J. W. (2000). The Content of Curriculum: An Institutionalist Perspective. In: M. T. Hallinan (Ed.), *Handbook of the Sociology of Education.* New York: Kluwer Academic/Plenum Publishers, 189-271

Merriam, S. B. (2009). *Qualitative Research.* A Guide to Design and Implementation. San Francisco: Jossey-Bass.

Meyer, J. W. (2007). World Models, National Curricula, and the Centrality of the Individual. In: A. Benavot, C. Braslavsky (Eds.), *School Knowledge in Comparative and Historical Perspective*. Dordrecht: Springer Netherlands, 259-271

Meyer, J. W. et al. (1997). World Society and the Nation-State. *American Journal of Sociology*, 103 (1), 144-181

Moore, R. & Young, M. (2001). Knowledge and Curriculum in the Sociology of Education: towards a reconceptualisation. *British Journal of Sociology of Education*, Vol. 22, No. 4, 445-461

Morrow, R. A. & C. A. Torres (2007). The State, Social Movements, and Educational Reform. In: Arnove, R. F., C. A. Torres & S. Franz (Eds.), *Comparative Education*. The Dialectic of the Global and the Local. Lanham: Rowman & Littlefield Publishers, 89-112

Norway, Directorate for Education (2006). *National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training.* The Quality Framework. Available online at: https://www.udir.no/globalassets/upload/larerplaner/fastsatte_lareplaner_for_kunnskapsloeftet/prinsipper_lk06_eng.pdf, accessed 07 May 2017.

Norway, Directorate for Education and Training (2011). *OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes.* Country Background Report for Norway. Available online at: http://www.oecd.org/edu/school/47088605.pdf, accessed 18 February 2016.

Norway, Royal Ministry of Church, Education and Research (1994). *Core curriculum for primary, secondary and adult education in Norway.* Available online at: https://www.udir.no/globalassets/filer/lareplan/generell-del/core_curriculum_english.pdf

Norway, Ministry of Education and Research (2007). *Education:* from Kindergarten to Adult Education. Available online at: http://www.udir.no/upload/brosjyrer/5/education_in_norway.pdf?epslanguage=no, accessed 15 February 2016.

Norway, The Royal Ministry of Education (2016). *Fag - Fordypning - Forståelse. En fornyelse av Kunnskapsløftet* (Subjects - Specialization - Understanding. A renewal of the Knowledge Promotion). Available online at: https://www.regjeringen.no/contentassets/e8e1f41732ca4a64b003fca213ae663b/no/pdfs/stm201520160028000dddpdfs.pdf, accessed 10 May 2017.

'OECD and Pisa tests are damaging education worldwide – academics' (2014). The Guardian.

Organization for Economic Co-operation and Development (OCDE) (1994). *Redéfinir le curriculum:* un enseignement pour le XXIème siècle (Redefining the curriculum: teaching for the 21st century). Paris: OECD.

_____ (2001). *Definition and Selection of Competencies: Theoretical and Conceptual Foundation (DeSeCo).* Background paper. Available online at: http://www.oecd.org/edu/skills-beyond-school/41529556.pdf, accessed 24 November 2015.

_____ (2005). *The definition and selection of key competencies* (Executive Summary). Available online at: http://www.oecd.org/dataoecd/47/61/35070367.pdf, accessed 27 October 2015.

_____ (2011). *OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes*. Country Background Report for Norway. Available online at:

http://www.udir.no/Upload/Rapporter/2011/5/OECD_country_report_norway.pdf?epslanguage=no, accessed 23 Mars 2017.

_____ (2013). *PISA 2012 Assessment and Analytical Framework:* Mathematics, Reading, Science, Problem Solving and Financial Literacy. OECD Publishing. Available online at: http://www.oecd.org/pisa/pisaproducts/PISA%202012%20framework%20e-book_final.pdf, accessed 24 November 2015.

_____ (2015), Norway in *Education at a Glance 2015:* OECD indicators. Paris: OECD Publishing. Available online at: http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2015/norway_eag-2015-73-en#page5, accessed 18 February 2016.

_____ (2016), *Education at a Glance.* OECD Indicators. Paris: OECD Publishing, Available online at: http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2016_eag-2016-en#.V9vweY9OLa0, accessed 16 September 2016.

Payne, J. (2002). A Tale of Two Curriculums: Putting the English and Norwegian curriculum models to the test of the 'high skills' vision, *Journal of Education and Work*, (15) 2, 117-143

Ravela, P. (2011). ¿Qué hacer con los resultados de PISA en América Latina? (What to do with PISA results in Latin America?) Chile: *Serie Documentos de PREAL*, no.58.

Scachetti, A. L. (2013). De onde vem e para onde vai a escola brasileira (Where does the brazilian school come from and where is it going). *Revista Nova Escola*, Ed. 263.

Schleicher, A. (2016). *Teaching Excellence through Professional Learning and Policy Reform:* Lessons from Around the World, International Summit on the Teaching Profession, OECD Publishing, Paris. Available online at: http://dx.doi.org/10.1787/9789264252059-en, accessed 08 April 2016.

Sjøberg, S. (2014). *"Pisafiseringen" av norsk skole* («Pisafization» of Norwegian school). *Utdanning* n.10/23. mai.

Svendsen, P. M. (2014). *83 akademikere advarer mot PISA* (83 academics warn against PISA). *Utdanning* n.10/23. mai.

Taylor, P. H. & Richards, C. M. (1985). *An Introduction to Curriculum Studies.* Windsor: NFER-Nelson Publishing Company Ltd.

Therrien, J. & Loiola, F (2001). Experiência e competência no ensino: pistas de reflexões sobre a natureza do saber-ensinar na perspectiva da ergonomia do trabalho docente (Teaching experience and competence: reflecting over the nature of knowledge of teaching in the ergonomics perspective of teacher's work). *Educação & Sociedade*, 12 (73), 143-160

Tveit, S. (2014). Educational assessment in Norway, *Assessment in Education:* Principles, Policy & Practice, 21:2, 221-237

Tyler, R.W. (1949). *Basic Principles of Curriculum and Instruction.* University of Chicago.

UNESCO (2015). *EFA Global Monitoring Report.* Education for All 2000-2015: Achievements and Challenges. Available online at: http://unesdoc.unesco.org/images/0023/002322/232205e.pdf, accessed 15 February 2016.

UNESCO/Brazil (2008). *Relatório de monitoramento de educação para todos Brasil 2008:* educação para todos em 2015: alcançaremos a meta? (EFA Brazil Monitoring Report 2008). Brasília.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, 44 (3), 299-321

Waldow, F. (2012). Standardization and Legitimacy. Two Central Concepts in Research on Educational Borrowing and Lending. In: Steiner-Khamsi, G. and F. Waldow (Eds.). *Policy Borrowing and Lending in Education*. London: Routledge, 441-423

Yates, L., & Collins, C. (2010). The Absence of Knowledge in Australian Curriculum Reforms. *European Journal of Education*, 45 (1), Part I, 89-102

Yin, R.K. (2003). *Case Study Research:* Design and Methods (3rd ed.) Thousand Oaks, London, New Delhi: Sage Publications, Inc.

Young, M. F. D. (2000). Rescuing the Sociology of Educational Knowledge from the Extremes of Voice Discourse: towards a new theoretical basis for the sociology of the curriculum. *British Journal of Sociology of Education*, Vol.21, No. 4, 523-536

_____ (2008). From Constructivism to Realism in the Sociology of the Curriculum. *Review of Research in Education*, Vol. 32, 1-28

_____ (2010). *From the 'new sociology of education' to a 'realist sociology of knowledge'*, or, why educators must differentiate knowledge from experience, Lecture given at the School of Critical Studies in Education, Faculty of Education, University of Auckland

_____ (2011). The return to subjects: a sociological perspective on the UK Coalition government's approach to the 14–19 curriculum, *Curriculum Journal*, Vol. 22, No. 2, 265-278

OECD webpage: www.oecd.org

PISA webpage: http://www.oecd.org/pisa/home/

Appendixes

I - Interview Guide English version

Brief presentation about the research and interview's purpose: First, I would like to thank you for your time and availability to contribute to this research. The research's purpose is to investigate the adoption of competences in national curriculum policies and schools in Brazil and Norway. In order to gain information on the implementation of this concept in the classrooms, I am planning to interview secondary teachers working in public schools in these two countries. The interview is anonymous and the participants will not be identified in any occasion. For more information about the research project, you can contact me or my supervisor as you wish. You can also choose not to participate or withdraw your participation at any time.

	Questions	**Categories being assessed**
1	What is your opinion about the role of education in the young people's lives?	Educational purposes, teacher's values and beliefs
2	How would you define the term competence? Please give an example of competence.	Definition of competence
3	Please describe one learning activity that you often use in your lessons. Why do you use this type of activity? What aspects of life are included in this activity? Are there alternative learning activities? Why did you decide not using them?	Organization of educational experiences, teacher's values and beliefs
4	What is the best part of teaching competences to the students? Why? What do you do to enhance the positive aspects of it? What is the worst part of teaching competences to the students? Why? What do you do to reduce the negative aspects of it?	Definition of competence, meaning attributed to the term
5	What types of assessment do you use with the students? Why? Are there alternative types of assessment? Why did you decide not using them?	Evaluation processes, teacher's values and beliefs
6	What is the impact of tests like PISA on your work? What is your opinion about this impact? Do you do something to counterbalance this impact?	PISA, teacher's values and beliefs
7	How do you feel the students' perception about what is being taught to them? What is your opinion about the work of your colleagues? And of the school leadership? How do you feel your colleague's perception about your work?	Educational experiences, teacher's values and beliefs, teaching environment
8	Please tell me about the last time that you worked with other teachers to create an activity for the students. What subjects were part of this activity? Why? How was the activity? What did happen? Did it work? Why/why not?	Teaching environment
9	How is the participation of parents in the school? And in your work in the classroom?	Teaching environment
10	Please describe your work conditions in relation to school's facilities and resources. Do you have any suggestion about the provision of facilities and resources to facilitate your work? What suggestions?	Educational experiences, school's facilities and resources
11	What would be the ideal school like?	Educational experiences, school's facilities and resources, teaching environment, teacher's values and beliefs

II - Interview Guide Portuguese version

Apresentação: Em primeiro lugar, eu gostaria de agradecê-lo(a) pelo seu tempo e disponibilidade de contribuir com essa pesquisa. O propósito da pesquisa é investigar a adoção de competências em políticas curriculares e nas escolas no Brasil e na Noruega. De modo a obter informação sobre a implementação do conceito de competências nas salas de aula, eu estou planejando de entrevistar professores do ensino médio trabalhando em escolas públicas desses dois países. A entrevista é anônima e os participantes não serão identificados em nenhuma ocasião. Para obter mais informações sobre o projeto de pesquisa, você pode me contactar ou contactar minha orientadora quando desejar. Você também pode escolher não participar ou retirar sua particapação da pesquisa em qualquer momento.

1. Qual é sua opinião sobre o papel da educação na vida dos jovens estudantes?

2. Como você definiria o termo competência? Por favor, dê um exemplo de competência.

3. Por favor, descreva uma atividade de ensino que você geralmente usa nas suas aulas. Por que você usa esse tipo de atividade? Quais aspectos da vida são trabalhados nessa atividade?

4. Quais seriam as atividades de ensino alternativas? Por que você escolheu não trabalhar com essas atividades?

5. Qual é a melhor parte de ensinar competências para os estudantes? Por que? O que você faz para aumentar os aspectos positivos do ensino de competências?

6. Qual é a pior parte de ensinar competências para os estudantes? Por que? O que você faz para reduzir os aspectos negativos do ensino de competências?

7. Que tipos de avaliação você usa com os estudantes? Por que? Quais seriam as formas de avaliação alternativas? Por que você decidiu não trabalhar com elas?

8. Qual é o impacto de testes como o PISA no seu trabalho? Qual é a sua opinião sobre esse impacto? Você faz alguma coisa para contrabalancear esse impacto?

9. Como você sente a percepção dos estudantes sobre aquilo que é ensinado para eles?

10. Qual é a sua opinião sobre o trabalho dos seus colegas de trabalho? E dos seus superiores?

11. Por favor, descreva a última vez que você trabalhou com outros colegas com o objetivo de criar uma atividade para os estudantes. Quais disciplinas eram parte dessa atividade? Por que? Como foi a atividade? O que aconteceu? Deu certo? Por que/por que não deu certo?

12. Como é a participação dos pais na escola? E no seu trabalho em sala de aula?

13. Por favor, descreva suas condições de trabalho em relação a infraestrutura e recursos escolares. Você tem alguma sugestão para melhorar a infraestrutura e os recursos escolares de modo a facilitar o seu trabalho? Quais?

14. Como seria a escola ideal, na sua opinião?

III - Interview Guide Norwegian version

Først det første vil jeg gjerne takke deg for din tid og tilgjengelighet for å bidra til denne forskningen. Forskningen formål er å undersøke bruk av begrepet kompetanse i nasjonale læreplaner og skoler i Brasil og Norge. For å få informasjon om gjennomføringen av dette begrepet i klasserommene, planlegger jeg å intervjue lærere som arbeider i offentlige skoler i disse to landene. Intervjuet er anonym og deltakerne vil ikke bli identifisert. For mer informasjon om forskningsprosjektet, kan du kontakte meg eller min veileder om du ønsker. Du kan også velge å ikke delta eller trekke din deltakelse når som helst.

1. Hva er din mening om utdanningens rolle i de unges liv?
2. Hvordan definerer du begrepet kompetanse? Vennligst gi et eksempel på kompetanse.
3. Beskriv en læringsaktivitet som du bruker ofte i klasserommet. Hvorfor bruker du denne type aktivitet? Hvilke aspekter av livet er inkludert i denne aktiviteten?
4. Hva er de alternative læringsaktivitetene? Hvorfor valgte du ikke å bruke dem?
5. Hva er den beste av å lære kompetanse til elevene? Hvorfor? Hva gjør du for å forbedre de positive sidene ved det?
6. Hva er den verste av å lære kompetanse til elevene? Hvorfor? Hva gjør du for å redusere de negative sidene ved det?
7. Hvilke typer prøver bruker du med elevene? Hvorfor?
8. Hva er de alternative måtene til å teste elevenes ferdigheter? Hvorfor valgte du ikke å bruke dem?
9. Hva er effekten av tester som PISA i ditt arbeid? Hva er din mening om denne effekten? Gjør du noe for å motvirke denne effekten?
10. Hva er elevenes forhold med hva er lært opp til dem?
11. Hva tenker du om arbeidet av dine kolleger? Og av dine sjefer?
12. Hva kollegaene dine tenker om ditt arbeid?
13. Fortell meg om den siste gangen du har jobbet med andre lærere for å skape en aktivitet for elevene. Hvilke fag var med i denne aktiviteten? Hvorfor? Hvordan var aktiviteten? Hva skjedde? Virket det? Hvorfor?
14. Hvordan er deltakelse av foreldre i skolen? Og i ditt arbeid i klasserommet?
15. Beskriv dine arbeidsvilkår i forhold til skolens fasiliteter og ressurser. Har du noen forslag for å forbedre arbeidet ditt? Hvilke forslag?
16. Hva ville være den drømmeskolen til deg?