Chapter 3  Methodology

3.1 Introduction

The previous chapters introduced the information underpinning this research, formulated the research questions and laid out some basic concepts and research project design (Chapter 1). The theoretical review examined five different theories from which ten contextual level ESI factors and some indicators were synthesized and briefly elaborated (Chapter 2). In this chapter, the research model will be described in section 3.2, followed by the research methodology (3.3) which includes the method used in this research and its justification (3.3.1), the data to be studied and how to obtain them (3.3.2), the selection and data collection of the 31 ESI case studies (3.3.3), the approach to be used for analyzing the case studies (3.3.4). A brief summary (3.4) will close the chapter.

3.2 The model for this research

The ten contextual level factors derived from the literature review in Chapter 2 can be divided into three groups, which constitute the basic model for this research:

- National goals
- Pressure
- Support

Figure 2  The model for this research

![The model for this research](image)
This research model indicates that effective school improvement is firmly embedded in its national context. We have chosen a triangle as the most stable framework as it symbolizes the relationship between the three groups: goals, pressure and support. In addition, the cycle (planning → implementation → evaluation → feedback → rewards or sanctions) adds a continuous process element to the model. The study of ESI can never be separated from its educational context. The national context provides goals, pressure and support. In the domain of education, national goals include two types: goals for student outcomes and goals for school improvement. Pressure includes strong centrally steering and empowering effective school improvement, external evaluations and external agents, market mechanism and school accountability. Support includes adequate time, financial and human resource support, local support, offering schools some autonomy and engendering a culture in support of ESI. Although pressure and support are readily reconciled, they are also closely related. For instance, strong centrally steering and empowering ESI, external evaluation and external agents can contain elements of pressure as well as forms of support. The same is true for local support and engendering a culture in support of ESI.

3.3 Research methodology

According to Silverman (2000: 235), “research methodology is a general approach to studying research topics”. In the methodology section of the research, some basic questions need to be answered and described, such as:

- The method to be used in this research and its justification (3.3.1)
- The data to be studied and how to obtain them (3.3.2)
- Selection and data collection of the 31 case studies (3.3.3)
- The approach to be used for analyzing the case studies (3.3.4)

3.3.1 The method used in this research and its justification

The method used in this research is the qualitative method with some features of quantitative method. Our choice is based on the nature of the research problem and the availability of data on ESI. The central focus of our study is the relationship between different national contexts on the one hand and effective school improvement on the other hand. This kind of research topic is vast, complex and difficult to grasp. It can not be quantified easily. Another more pragmatic reason for choosing a qualitative method is that the ESI project is an international project involving eight countries, the selected school improvement programs had been executed before 2000 and written by separate research teams. The availability of the data sources largely depends on these eight participating country teams. In fact, most of the case studies recommended by the eight European countries are in themselves qualitative studies. It is therefore unrealistic and impossible to conduct this research using a purely quantitative research method. Quantitative and qualitative research have to obey the research rules of reliability and validity. In qualitative research, this implies the use of multiple sources of evidence – such as reports, interviews, analysis of meeting protocols – the involvement of key informants who can review drafts (in this case, the national research teams), the development of a case-study database and the use of uniform case study protocols, the constant application of a comparative approach (repeated inspections and analyses to and fro between different parts of the data) and comprehensive data treatment.
3.3.2 The data to be studied and how to obtain them
To answer the four research questions posed in Chapter 1, the following data, which is considered most appropriate and relevant in answering the research questions, has to be studied:
A. The relevant theories and research findings that may contribute to the study
B. Analysis of national educational systems, description of ongoing school improvement projects, of educational reforms and the consultation of background information of these eight European countries
C. Detailed descriptions of the effective school improvement programs in these eight countries.

a. In order to obtain this type of data, the “content analysis method” has been used to critically examine the five relevant theories in Chapter 2. According to Silverman (2000: 78), “models, concepts and theories are self-confirming in the sense that they instruct us to look at phenomena in particular ways. This means that they can never be disproved but only found to be more or less useful”. This can also be applied in this study: we have found that the first type of data is not only useful for research model building but also useful for answering the first two research questions and for national contextual level ESI theory building.

b. In order to obtain this type of data, it is necessary to know more about the contexts in which these programs function. In order to gain insight into the national educational systems, the following steps have been taken in our study within the ESI project:
1. Descriptions of the eight national systems
2. Discussions on the characteristics of their educational systems during the ESI workshops with the research teams from the eight countries
3. Asking the participants how the context related to the ESI programs functioned in their countries
4. Face-to-face discussions about the written reports on the possible relationships between the national system and the ESI programs of each country respectively
5. The requested feedback and clarifications about the written reports – this work was structured using the theoretical framework consisting of factors fostering or restricting ESI.

Meanwhile, three main qualitative research approaches recommended by Silverman (1997) were used to constantly compare and compress the data in our research. They are the textual analysis method; the audio and video recording method; and the interview method. To flesh out these three “skeletons,” the following should be noted. Although the textual analysis method can still be used as the main approach in getting this type of information from printed media and the Internet, this is insufficient. The audio and video recording methods and interview method were used to strengthen our research from various perspectives. Since we were not experientially acquainted with these eight European countries, we were faced with more obstacles in becoming familiar with their educational systems, backgrounds, national cultures, etc. Therefore, we took every opportunity to collect the data we needed for this study from various sources and using different techniques. As Atkinson and Heritage (1984) and Silverman (2000) point out, the production and use of transcripts (tapes) are essentially research activities. They involve close, repeated listening to recordings, which often reveal previously unnoted recurring features of the organization of talk. In order to get the first hand data and
information from the researchers who came from these eight countries, tape-recorders were used during the 1st ESI workshop in Groningen (July, 1998) and the 2nd workshop in Lisbon (Dec, 1998). We recorded the entire workshop procedure, including discussions, presentations, introductions of the national educational systems and the background information of these countries, as well as the questions and the answers of the members of these eight countries during these two workshop meetings. During the last ESI workshop in Lisbon in 2000, a video-camera was used to record the three-day workshop. The tapes and video tapes were carefully preserved. The audio and video recording method enabled us to listen to or scrutinize the information closely and repeatedly. After close analyses, the data and information derived from these tapes have already been partly used in the ESI research (Sun, 1998) and partly used in this study (in Chapters 4 and 5). In addition to these examples, the recorded discussions of international team insights have enlightened this research in various respects, for instance, “some participants point out that one of the assumptions which underpins improvement is the link between greater autonomy for schools and external accountability. If these two go hand in hand, this creates a broad framework” (Sun, 1998: 250). We also gathered information on the ongoing improvement programs in the eight countries. For instance, the Greek team stated that “teachers in Greece are fighting against centralization and evaluation. Discussion about school effectiveness and school improvement does not exist. At present, there are two major improvement programs: the multimedia program for all students which is related to students’ achievement and the multicultural teaching of the immigrated children” (ib: 244). Surprisingly, the tapes revealed the remarkable progress of the development of ESI theory and the understanding of these theories, particularly when the 1st workshop records are compared with the videotape records of the last workshop. For example, in 1998, most country teams felt it difficult to understand what Organizational Learning and Learning Organization meant (ib:245) and many researchers could not identify the relationship between public choice and ESI (ib:247). The 2000 tapes showed that all the ESI team members had gained clear expertise in ESI and the quality of their research had therefore been enhanced. All these efforts have paved the way to this study. Our understanding of the different theories, the educational systems and the ongoing reforms in these eight countries has been greatly enhanced by listening to these tapes, particularly the discussions, the introduction of educational system of each country and the feedback of the national conferences on the ESI framework in these eight countries. The tapes (audio and video) are thus an essential part of the first-hand data that we have collected for our research.

In addition to the textual analysis method and the audio and video recording method described above, the method of interview was also used. The structured interviews with the research teams permitted the enhancement of both the reliability and the validity of our data. For example, when the case studies were analyzed, a lot of questions emerged. They were put on paper and structured into separate files for each country. During the ESI project workshops, researchers were asked these questions and we received their direct answers and explanations. Besides the ESI teams, unstructured questions were used when talking to or interviewing the international students who came to study in Groningen from Belgium, Finland, Greece, Italy, Portugal, Spain and the UK in 1999, 2000 and 2002. We took the advantage of the fact that we were living in International Student Houses where we had only one big kitchen and one large common room shared by all the foreign students (around 45 each year, most of them from countries within the European Community). Cooking or sitting in the common room was ideal opportunities to investigate the different educational systems and cultural backgrounds and people’s
beliefs. For each country (except the Netherlands), we organized at least one interview (made an appointment beforehand) with students from the seven other countries. This kind of constant comparative approach was reinforced when we moved to another International Student House. According to the Groningen housing company regulations, an international student is allowed to live in an International Student House for no more than one year. When we moved to another International Student House, the data/information we had already obtained were again compared and checked with new foreign students. For the Netherlands, we attended the special Dutch culture and Society courses organized by the University of Groningen in the evenings, we visited two schools, one in Groningen and another in Arnhem. We also had 10 informal discussions with Dutch practitioners, parents and students to check and to recheck the information we had obtained. All these approaches and methods helped us to overcome the criticism that qualitative research too easily and inconsistently jumps to conclusions.

c. Concerning the third type of data/information, the descriptions of the effective school improvement programs in the eight countries were directly contributed by the ESI project international teams. Of the 31 ESI programs, over 90 percent were qualitative in the form of case studies. In school effectiveness research and in school improvement, case studies have always been at the forefront (Reezigt, ed. 2001). The reason for choosing case studies for the main body of the empirical section of this research was based on our research questions, the research problems and the availability of information in these eight countries. In our case, the case study method fulfills a double function: exploratory, in terms of providing evidence for possible contextual factors of influence, and explanatory, in that the materials contain possible answers to research questions formulated beforehand.

Next, a crucial question must be answered – what were the criteria for selecting the case studies and how were they selected and evaluated, especially in such a large international project.

3.3.3 Selection and data collection of the 31 ESI case studies

In order to answer the research questions and to make the case studies comparable across the countries, establishing common criteria for case study selection is rather important. The criteria collectively chosen by the ESI project international team covered both the effectiveness criterion (does the school achieve better student outcomes?) and the improvement criterion (does the school manage to change successfully from old to new conditions that are necessary for effectiveness?). In order to guarantee the availability of the information required, an evaluation framework which outlines key questions and a range of sub-questions was developed. The main components of the framework were programs, the processes of the ESI, the outer layers of the school and the macro context. Once the initial case study selection had been accomplished, the country teams reviewed each other’s evaluations of the programs and compared them with the draft comprehensive ESI theories. After a presentation of the possible projects, the international ESI team finally selected 31 effective school improvement programs. Some programs involved only one school (as in the English case studies) while others involved 15 municipalities (e.g. the 1st Finnish case study). Still others involved all schools in the whole country (e.g. the 3rd Dutch case study, the 3rd Finnish case study and the 2nd Italian case study). The English team created a rating instrument for the evaluation of the selected programs, including a time dimension (before v. now, changed v. unchanged); the extent and nature of change (better v. worse, how much better/worse); a quality
dimension and an importance dimension (in terms of something’s influence on enhancing improvement). The international team as a whole decided that the unit of analysis for the programs would be located at the school level. The exchange of the evaluations of the case studies took place among the ESI international teams.

It was very difficult for most of the participating countries to find programs that matched the criteria of the framework due to lack of student outcome data. The massive amounts of information from the 31 programs consequently focused on the school level; therefore, the availability of data at the national contextual level was rare. The ESI programs differed widely even within the same national context, let alone 31 ESI programs originating in eight totally different national contexts. Some programs were oriented towards change in specific outcomes while others focused on generic outcomes or a range of outcomes. Some programs focused on improving the teaching of a particular subject (e.g. language, mathematics, fire safety, reading) while others focused on improving the whole school (teacher and student behavior, absenteeism, school uniforms, etc.). “More deeply rooted differences may reflect the theoretical orientations of improvement programs, the theoretical notions related to the goals of improvement and the improvement technology used” (Creemers, 2002). Having said that, “comparisons are extremely difficult” (Stoll, et al., 2002). However, there were some features common among the case studies, such as “having the school as target for improvement and as unit of analysis; intention to change or to improve student outcomes; setting intermediate goals for the teacher, the curriculum, the school organization, etc; having information about the process” (De Jong, 2000b).

3.3.4 The approach used for analyzing the case studies
For the purpose of answering the four research questions from the 31 case studies, the content analysis approach and the constant comparative approach will be used to look for the similarities or differences in the influence exerted by the ten contextual level factors on ESI within countries (Chapter 4) and across countries (Chapter 5). However, good data analysis is never just a matter of using the right method or techniques but is always based on theorizing about data using a consistent model. Therefore, the research model (mainly the ten contextual level factors) described in the previous sections will be used both as the organizer and the filtering framework for analyzing all the case studies in the coming chapters. With regard to the influence of the factors, we distinguish between a positive and a negative impact. Negative impact is noted for some influential factors, for instance, offering schools some autonomy and exposure to a market mechanism. Although these may have negative influences on ESI, their impact cannot be denied. In fact, they are regarded as important ESI factors. Sometimes the absence of a certain factor is seen as a hindrance for ESI, for example, school accountability and engendering of a culture in support of ESI may not be clearly described in a given case study itself. In such a case, school accountability and engendering of a culture in support of ESI can still be regarded as factors that foster ESI. When the information we needed was not available in the case studies, data and information from other resources were sought (e.g. from the Type A and the Type B data described above). In order to make the comparison more objective and comparable, any information directly derived from the case studies will be quoted first. The information from other sources will follow. To treat the information gathered from the case studies more objectively, we will insert our comments in the discussion section where the findings from all the case studies of a certain country are synthesized. The ten contextual level factors will be discussed separately. Finally, the case study analysis of this dissertation consists of two parts:
• Analyzing the case studies within a country (intra-country-case analysis, Chapter 4 Empirical section – analyzing the 31 ESI programs);
• Analyzing the case studies across the eight participating countries (inter-country-case analysis, Chapters 5 – comparison across the eight European countries).

The countries are analyzed in alphabetical order. As the detailed analyses of the case studies of each country are so long, they have been put in the Appendix at the end of this dissertation. The reader should note the following: please read the detailed analyses of the case studies in the Appendix first because they contain the sources and the evidence that we gathered and selected from the case studies with page numbers and other details. If this is not done and the findings from the case study analysis in Chapter 4 are read first, the link with the “roots” of the findings and the evidence or information from which our statements have been drawn will be missed. In short, each part within the analyses of the case studies of a country in Chapter 4 will be ordered as follows: → background information of the country → a brief introduction to the case studies → a discussion of the findings from the case studies going through the ten contextual level factors → a table summarizing the findings of the case studies of the country. In order to answer the third and fourth research questions of this study, a comparative inter-country case analysis of the ten contextual level factors will be conducted in Chapter 5. Accordingly, each factor forms one section within which the comparison tour will cross the eight countries. The ten factors and indicators derived from different theories will serve as a main standard for comparison (see Chapter 5).

3.4 Summary

In order to answer the four research questions of this study, we need a well-founded model and a clearly thought out methodology. This chapter has tried to present both. Regarding our research model, the three major components are goals, pressure and support, all firmly embedded within the national context. Between them, we insert the cycle planning, implementations, evaluation, feedback and reinforcement (rewards and sanctions) as an ongoing process. In addition to the research model, the research methodology was introduced and elaborated from four aspects – the reasons for selecting the methods of this research, the three types of the relevant data and how to obtain them, the selection and data collection of the 31 case studies, and the approaches to be used for analyzing the case studies in the empirical section. Equipped with our research model, research methodology and the belief that a good data analysis is always based on theorizing about data using a consistent model, we are now ready for the empirical part – analyzing the 31 ESI programs.